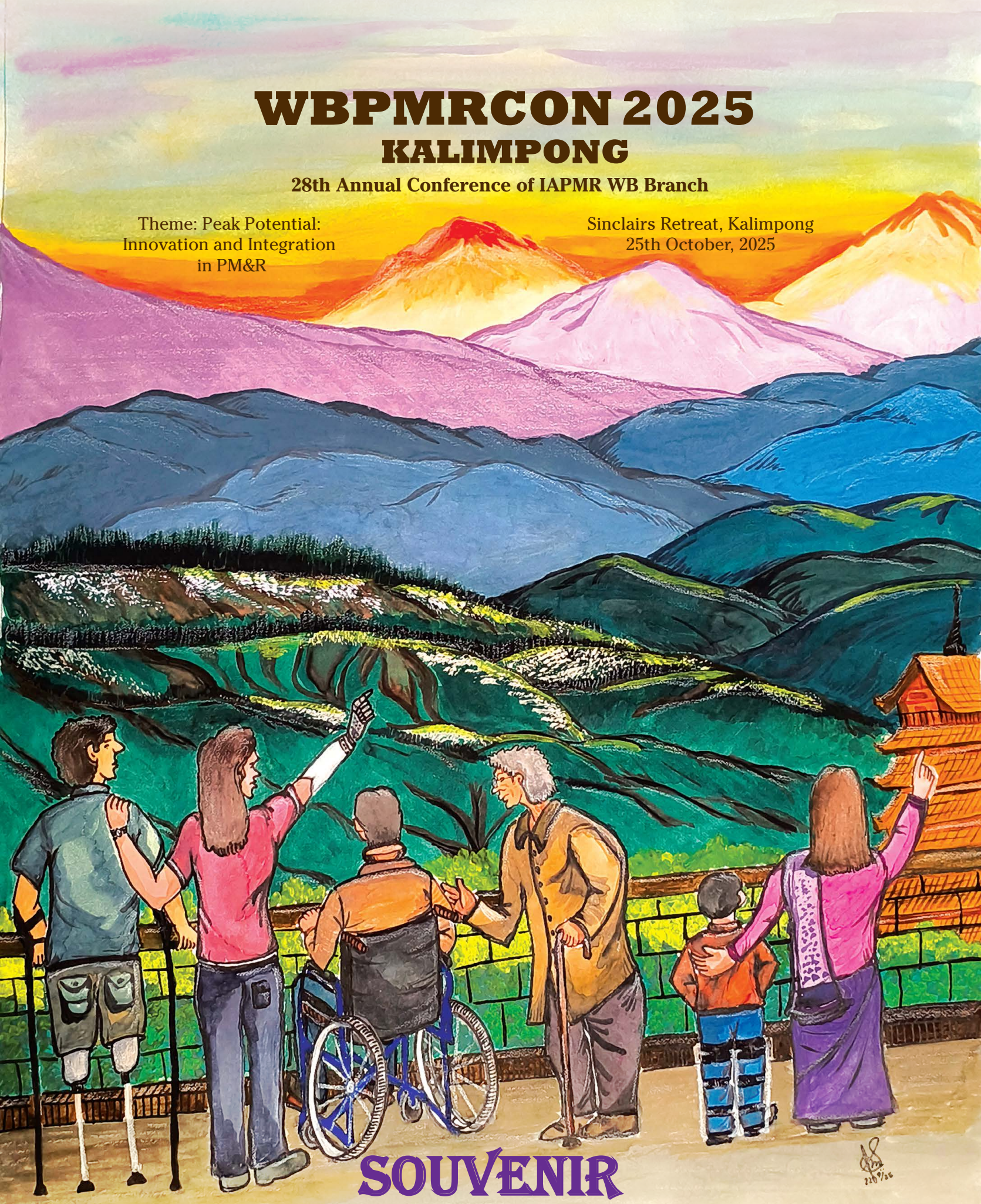
WBPMRCON 2025

KALIMPONG

28th Annual Conference of IAPMR WB Branch

Theme: Peak Potential:
Innovation and Integration
in PM&R

Sinclairs Retreat, Kalimpong
25th October, 2025



SOUVENIR

INTAS

Exploring possibilities for better Mental Healthcare

PREDICTABLY POTENT

BUPOXONE

Buprenorphine Transdermal Patch 5 mcg/hr & 10 mcg/hr

Tolperitas-P

Tolperisone HCl 150 mg + Paracetamol 325 mg Tablet

Rapid and Reliable pain relief

Tolperitas-D

Tolperisone HCl 150mg + Diclofenac Sodium 50mg Tablet

Combats Pain & Spasm

Tolperitas-SR 450

Tolperisone HCl 450mg Sustained Release Tablets

Regain Functional Freedom... Conveniently

First line treatment

Duvanta

Duloxetine 20/30/40/60 mg Tablets

Rebuilding Relationships

Felicita-OD

Benfotiamine 150mg, Mecobalamin 1500mcg, Alpha Lipoic Acid 100mg, Inositol 150mg, Chromium picolinate 200mcg

Felicitates Relief ... Beyond pain control.





WBPMRCON 2025
KALIMPONG
28th Annual Conference of IAPMR WB Branch

Theme:
Peak Potential: Innovation and Integration in PM&R

Sinclairs Retreat, Kalimpong
25th October, 2025



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Cover Illustration:
Dr Swarnali Mandal



Message from

President

Indian Association of Physical Medicine and Rehabilitation

Dear Colleagues,

I am happy to note that the West Bengal branch of IAPMR is organizing the annual state conference on October 25 at Kalimpong. It is with great pleasure that I extend my warmest greetings to the West Bengal branch of IAPMR on this occasion. This conference is not only a celebration of academic excellence but also a testament to the collective commitment of our fraternity towards advancing the field of Physical Medicine and Rehabilitation.

In an era where the role of PMR is expanding rapidly—be it in neurorehabilitation, musculoskeletal disorders, pain management, or community-based rehabilitation—platforms like these serve as vital opportunities for learning, sharing innovations, and fostering new partnerships. The theme of the conference, "Peak Potential: Innovation and Integration in PMR", is both timely and inspiring. As our specialty continues to evolve, embracing innovation and fostering integration across disciplines has become crucial in achieving optimal functional outcomes for our patients.

The West Bengal branch has consistently demonstrated leadership in academic excellence and clinical practice, and this conference stands as another milestone in their journey.

I applaud the organizing committee for their dedication in putting together a scientific program that reflects the future of rehabilitation medicine.

May this conference be a source of new knowledge, inspiration, and a memorable experience for all. I wish the conference every success.

Long live IAPMR

Dr Muralidharan PC
President
Indian Association of Physical Medicine
and Rehabilitation (IAPMR)



Message from

Vice President

Indian Association of Physical Medicine and Rehabilitation

Dear Delegates,

On behalf of the Indian Association of Physical Medicine and Rehabilitation (IAPMR), it is my distinct honour to extend a warm welcome to each and every one of you attending our WBPMRCON 2025.

Our shared vision at IAPMR is to **advance the field of Physical Medicine and Rehabilitation across India**, ensuring that every individual must attend maximum levels of functioning. This year's Conference , aptly themed **"Peak Potentials :Innovation &Integration in PMR,"** is a direct reflection of that commitment.

Organised by the West Bengal chapter of IAPMR this vital event will take place from October 25, 2025, at the Kalimpong. We have designed a comprehensive program featuring distinguished speakers, and paper presentations, all aimed at fostering knowledge exchange, skill enhancement, and professional networking.

Your active participation is essential to the success of this Conference and, more importantly, to the realisation of our collective vision.

Thank you for being a part of this journey toward excellence and collaboration.

Warm regards,

Prof. (Dr.) Sanjay Kr Pandey
Vice President
Indian Association of Physical Medicine
and Rehabilitation (IAPMR)



Message from

Hon. Secretary

Indian Association of Physical Medicine and Rehabilitation

It gives me immense pleasure to learn that the West Bengal Chapter of the Indian Association of Physical Medicine and Rehabilitation (IAPMR) is organizing its annual conference WBPMRCON 2025 on 25th October 2025 at Kalimpong West Bengal. This academic gathering is a commendable platform that brings together physiatrists and young post graduate trainees to exchange knowledge, showcase research, and deliberate on the advances and challenges in the ever-evolving field of Physical Medicine and Rehabilitation.

The theme of the conference is “Peak potential: innovation and integration in PMR”. The role of PMR is becoming increasingly significant in today’s healthcare scenario, where the focus is shifting from survival alone to holistic recovery, functional independence, and quality of life. The new innovations in the field of PMR, assistive technology and AI shall be a game changer in near future. Regional conferences such as this one strengthen the academic fabric of our specialty and provide opportunities for networking and collaboration.

I congratulate the organizing committee of the West Bengal Chapter for their dedicated efforts in putting together this scientific program. I am confident that the deliberations will inspire and enrich all participants, and contribute towards the growth of our specialty both regionally and nationally.

I extend my best wishes for the grand success of the conference.

With warm regards,

Dr Harshanand Popalwar
Hon. Secretary
Indian Association of Physical Medicine
and Rehabilitation (IAPMR)
Mobile:+919424917696



Message from

President

IAPMR, West Bengal Branch

Dear Esteemed Faculties and Delegates,

As the President of IAPMR WB Branch, it is my profound privilege to extend a warm welcome to each of you at this pivotal gathering. Our conference stands as a beacon for advancing Physical Medicine and Rehabilitation (PMR), a field that thrives at the intersection of compassionate care and cutting-edge science. In an era of rapid medical evolution, WBPMRCON 2025 is dedicated to championing innovation and seamless integration of PMR with other medical specialties and emerging technologies.

Innovation is the lifeblood of PMR. From pioneering regenerative therapies to advanced prosthetic designs, we are redefining recovery and quality of life for patients with disabilities, chronic conditions, and post-trauma challenges. Yet, true progress demands collaboration. Integrating PMR with specialties like orthopedics, neurology, cardiology, and oncology ensures holistic patient outcomes. For instance, interdisciplinary teams combining PMR's rehabilitative expertise with surgical precision in orthopedics can accelerate mobility restoration, while partnering with neurologists enhances stroke rehabilitation through shared protocols. Such synergies not only optimize resources but also foster evidence-based practices that transcend silos.

Moreover, embracing newer technologies is imperative for PMR's future. Artificial intelligence-driven diagnostics, robotic-assisted therapies, virtual reality for pain management, and telemedicine platforms are revolutionizing accessibility and efficacy. Imagine AI algorithms predicting rehabilitation trajectories or wearable sensors enabling real-time monitoring—integrating these with traditional PMR methods can personalize care, reduce costs, and extend services to underserved regions. At WBPMRCON, our sessions, will delve into these integrations, showcasing case studies and research that highlight their transformative impact.

This conference is more than an event; it is a catalyst for change. I urge you to engage actively—share insights, forge partnerships, and ignite discussions that propel PMR forward. Together, let us innovate boldly, integrate wisely, and harness technology to build a more inclusive healthcare landscape.

Thank you for your dedication. Wishing you an enriching experience at WBPMRCON.

Warm regards,

Dr. Mouli Madhab Ghatak
President, WBPMR



Message from

Hon. Secretary

IAPMR, West Bengal Branch

Dear Esteemed Delegates, Colleagues and Friends

It gives me immense pleasure to welcome you all to the 28th Annual State Conference 2025 on Physical Medicine and Rehabilitation, organized by WBPMR in Kalimpong, West Bengal. I am both honoured and excited to witness the gathering of distinguished professionals, researchers and students who are at the forefront of advancing rehabilitation medicine.

This year's theme, "Peak Potential: Innovation and Integration in Physical Medicine and Rehabilitation" reflects our collective aspiration to push our boundaries of what is possible in patient care and recovery and regeneration. We stand at a pivotal time in our speciality- where science, technology and interdisciplinary collaboration converge to unlock new possibilities for those we serve.

I extend my deepest gratitude to all the speaker, participants, sponsors and organizing members whose hard work and dedication have made this event possible. We hope this conference will not only enrich your professional knowledge but also inspire new ideas and collaborations.

Wishing you a productive, enlightening and memorable experience.

Warm regards,

Dr. Premesh Kumar Sarkar
Hon. Secretary, WBPMR



Message from

Chairman Academic Committee

IAPMR, West Bengal Branch

Dear Esteemed Faculties, Delegates, and Students,

It is an honor and privilege to welcome you to WBPMRCON 2025, nestled in the picturesque hills of Kalimpong. This conference is a celebration of our shared passion for Physical Medicine and Rehabilitation—a specialty that seamlessly blends scientific innovation with compassionate care to transform patients' lives.

This year, we gather under the theme "Peak Potential: Innovation and Integration in PMR," highlighting our commitment to pushing boundaries, fostering collaboration, and harnessing the power of innovation to elevate patient care and outcomes. Our scientific sessions are designed to encourage a dynamic exchange of ideas, debate the latest advancements, and bridge the gap between clinical practice, cutting-edge technologies like AI, and holistic rehabilitation. From musculoskeletal pain management and neurorehabilitation to innovative interventions and community-based care, our program reflects the evolving landscape of PMR in modern healthcare.

I encourage all participants to engage actively, pose thought-provoking questions, and leave with not only knowledge but also the inspiration to enhance the quality of life for those we serve. On behalf of the Academic Committee, I extend a warm welcome to each of you. Together, let us make this conference a significant milestone in the journey of PMR, unlocking new potentials and shaping the future of our specialty.

We invite all participants to contribute to the conference's success by actively engaging in discussions, sharing their expertise, and collaborating with others. Together, let us advance the field of PMR and improve patient outcomes.

Thank you for joining us in Kalimpong. We look forward to a fruitful and enriching knowledge and experience.



Prof. (Dr) Rajesh Pramanik
MBBS, MD, MRCP (UK), FRCP (London), FRCP (GLAS)
Professor & Head, Department of PMR
IPGMER SSKM Hospital Kolkata
Chairman Academic Committee

IN MEMORIAM

It is with deep sorrow and heavy hearts that we mourn the demise of our beloved and respectful teachers, seniors, colleagues and fellow professionals who have left for their heavenly abode. Their commitment to our subject and compassion for others has left an indelible mark on our profession. Their absence will be deeply felt. May their legacy continue to inspire us and show us the path. We pray for their soul to rest in peace.

Sl No	Iapmr WB Branch Membership Number	Name	Iapmr Membership Number
1	Honorary	Dr Debapriya Banerjee	LM 21
2	Honorary	Dr Sudhir kumar Banerjee	LM 46
3	Honorary	Dr Pradip Kumar Mallick	LM 180A
4	Honorary	Dr Sanat Kumar Sarkar	LM 200
5	LB 04	Dr Ambar Ballav	LM 11
6	LB 08	Dr Soumyajit Guha	LM 91
7	LB 15	Dr Pranab Kumar Bagchi	LM 185
8	LB 19	Dr Himadri Biswas	LM 261

Committees

Executive Committee

President	**Dr Mouli Madhab Ghatak**
Vice Presient	**Prof (Dr) Partha Pratim Pan**
Hony Secretary	**Dr Premesh Kumar Sarkar**
Asst Secretary	**Dr Keshab Mondal**
Treasurer	**Dr Amalesh Basak**

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Dr Vasundhara Ghosal **Dr Debangshu Bhakat**
Dr Mohit Kataruka **Dr Siddhartha Sinha Ray**
Dr Saurav Kanti Sinh **Dr Subhasish Pati**
Dr Ambar Konar **Dr Nabarun Gupta**

Co-Opted Member
Prof (Dr) Firdaus Kamal

Chairman Academic Committee
Prof (Dr) Rajesh Pramanik

Immediate Past President
Dr Abhishek Biswas

Immediate Past Secretary
Prof (Dr) Dilip Kumar Khatua

Advisors
Dr Asim Palit
Dr Manomohan Biswas
Dr Rathindra Nath Haldar
Dr Pallab Das

Committees

28th Annual Conference of IAPMR West Bengal Branch

Organising Committee



Dr Mouli Madhab Ghatak
Chairman



Prof (Dr) Partha Pratim Pan
Vice Chairman



Dr Premesh Kumar Sarkar
Hony Secretary



Dr Keshab Mondal
Asst Secretary



Dr Amalesh Basak
Treasurer



Prof (Dr) Rajesh Pramanik
Chairman Academic Committee

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Scientific Committee
Dr Vasundhara Ghosal
Dr Aniketa Banerjee
Dr Mohit Kataruka
Dr Arupratan Ghosh

Registration Committee
Dr Siddhartha Sinha Ray
Dr Saurav Kanti Sinha
Dr Ushnish Mukherjee
Dr Nabarun Gupta

Venue Committee
Dr Keshab Mondal
Dr Tuhin Ray
Dr Annada Sankar Mohes
Dr Saurav Kanti Sinha
Dr Subhasish Pati

Transport Committee
Prof (Dr) Partha Pratim Pan
Dr Debangshu Bhakat
Dr Keshab Mondal
Dr Tuhin Ray
Dr Ushnish Mukherjee

Finance Committee
Prof (Dr) Partha Pratim Pan
Prof (Dr) Dilip Kumar Khatua
Prof (Dr) Firdaus Kamal
Dr Amalesh Basak
Dr Debangshu Bhakat

Souvenir Committee
Dr Aniketa Banerjee
Dr Pradip Kumar Mallick
Dr Siddhartha Sinha Ray
Dr Swarnali Mandal
Dr Ambar Konar
Dr Pranesh Mondal

Members

IAPMR West Bengal Branch Honorary Life Member List

Sl. No	Name	IAPMR Life Membership Number	Remark
1	Dr Binayendra Nath Sur	LM 15	
2	Dr Debapriya Banerjee	LM 21	Deceased
3	Dr Sudhir kumar Banerjee	LM 46	Deceased
4	Dr Bijan Bhusan Sarkar	LM 134	
5	Dr Chittaranjan Gupta	LM 158	
6	Dr Pradip Kumar Mallick	LM 180A	Deceased
7	Dr Sanat Kumar Sarkar	LM 200	Deceased

IAPMR West Bengal Branch Life Member List*

***Old Serial Number up to 37 (updated in 2011); **Deceased**

WB Branch Life Member-ship Number (LB)	NAME	IAPMR Life Member-ship Number (LM)
LB 01	Dr Rathindra Nath Haldar	LM 86
LB 02	Dr Nityananda Kar	LM 31
LB 03	Dr Bhabani Kumar Choudhury	LM 17
LB 04	Dr Ambar Ballav**	LM 11
LB 05	Dr Ranen Ghatak	LM 85
LB 06	Dr Nanigopal Sarkar	LM 142
LB 07	Dr Deb Kumar Majilya	LM 113
LB 08	Dr Saumyajit Guha**	LM 91
LB 09	Dr Jayanta Saha	LM 95
LB 10	Dr Abhishek Biswas	LM 276
LB 11	Dr Sunil Kumar Basu	LM 88
LB 12	Dr Sankar Prasad Sinha	LM 242
LB 13	Dr Anjan Kumar Ghosh	
LB 14	Dr Pankaj Kumar Mandal	LM 340
LB 15	Dr Pranab Kumar Bagchi**	LM 185
LB 16	Dr Mouli Madhab Ghatak	LM 227
LB 17	Dr Subrata Haldar	LM 201
LB 18	Dr Manomohan Biswas	LM 29
LB 19	Dr Himadri Biswas**	LM 261

WB Branch Life Member-ship Number (LB)	NAME	IAPMR Life Member-ship Number (LM)
LB 20	Dr Asim Kumar Palit	LM 02
LB 21	Dr Kamal Kumar Sinha	LM 278
LB 22	Dr Asish Kumar Kundu	LM 258
LB 23	Dr Dilip Kumar Khatua	LM 291
LB 24	Dr Jayanta Roy	LM 255
LB 25	Dr Premesh Kumar Sarkar	LM 346
LB 26	Dr Rajesh Pramanik	LM 370
LB 27	Dr Pallab Das	LM 308
LB 28	Dr Sabyasachi Ghosh	LM 292
LB 29	Dr Tapan Kumar Pal	LM 369
LB 30	Dr Rakesh Jhalani	LM 65
LB 31	Dr Ratnesh Kumar	LM 241
LB 32	Dr Kshetra Madhab Das	LM 350
LB 33	Dr Ashim Kumar Biswas	LM 72
LB 34	Dr Partha Pratim Pan	LM 288
LB 35	Dr Koustubh Chakraborty	LM 365
LB 36	Dr Ameed Equebal	LM 372
LB 37	Dr Sourav Ishwarari	LM 381
LB 38	Dr Suparna Gangopadhyay	LM 376

WB Branch Life Membership Number (LB)	NAME	IAPMR Life Membership Number (LM)
LB 39	Dr Asoke Kumar Middya	LM 368
LB 40	Dr Sanjay Kumar Pandey	LM 380
LB 41	Dr Apurba Barman	LM 423
LB 42	Dr Ahana Chatterjee	LM 419
LB 43	Dr Partha Pratim Das	LM 407
LB 44	Dr Firdaus Kamal	LM 408
LB 45	Dr Swapan Kumar Mishra	LM 448
LB 46	Dr Pampa De	LM 418
LB 47	Dr Dibyendu Das	
LB 48	Dr Sudip Dan	
LB 49	Dr Mausumi Sen	LM 449
LB 50	Dr Tanvir Ahmed	LM 462
LB 51	Dr Saumen Kumar de	LM 463
LB 52	Dr Aniketa Banerjee	LM 495
LB 53	Dr Amalesh Basak	LM 461
LB 54	Dr Vasundhara Ghosal	LM 492
LB 55	Dr Mohit Kataruka	LM 474
LB 56	Dr Debangshu Bhakat	LM 500
LB 57	Dr Pradip Kumar Mallick	LM 504
LB 58	Dr Debayan Ghorai	LM497
LB 59	Dr Prabir Mandal	LM 868
LB 60	Dr Soumyadipta Ghosh	LM 496
LB 61	Dr Sucheta Saha	LM 508
LB 62	Dr Annada Sankar Mohes	
LB 63	Dr Siddhartha Sinha Ray	LM 493
LB 64	Dr Tuhin Ray	LM 494
LB 65	Dr Chirasree Bhattacharya	LM 527
LB 66	Dr Piyali Mondal Basak	LM 544
LB 67	Dr Arup Ratan Ghosh	LM 521
LB 68	Dr Md Anwar Sadat Halder	LM 526
LB 69	Dr Saurav Kanti Sinha	LM 539
LB 70	Dr Swarnali Mandal	LM 538
LB 71	Dr Ushnish Mukherjee	LM 737
LB 72	Dr Labani Biswas	LM 633
LB 73	Dr Subhasish Pati	
LB 74	Dr Keshab Mondal	LM 796
LB 75	Dr Sandipan Hazra	LM 589
LB 76	Dr Kaustav Basu Thakur	LM 576
LB 77	Dr Ambar Konar	LM 692
LB 78	Dr Ishita Dey	LM 690

WB Branch Life Membership Number (LB)	NAME	IAPMR Life Membership Number (LM)
LB 79	Dr Subhadeep Batabyal	PGT 255
LB 80	Dr Nahid Reza	LM 853
LB 81	Dr Nabarun Gupta	LM 860
LB 82	Dr Subhendu Pramanik	
LB 83	Dr Pranesh Mondal	LM 609
LB 84	Dr Dibyendu Dutta	
LB 85	Dr Sibasish Sasmal	LM 656
LB 86	Dr Anurug Biswas	LM 622
LB 87	Dr Arnab Roy	LM 849
LB 88	Dr Dipon Maschatak	
LB 89	Dr Sariful Islam	
LB 90	Dr Arka Dey	LM 710
LB 91	Dr Raktim Swarnakar	LM 626
LB 92	Dr Sagnik Mukherjee	LM 732
LB 93	Dr Anindya Basu	
LB 94	Dr Panchatapa Bhattacharyya	LM 738
LB 95	Dr Ayan Ghosal	LM 643
LB 96	Dr Sudipto Haldar	LM 713
LB 97	Dr Shubhajit Chakraborty	LM 727
LB 98	Dr Arindam Mitra	
LB 99	Dr Md Abdul Mokit	
LB 100	Dr Swati Saha	LM 679
LB 101	Dr Rezwana Parvin	
LB 102	Dr Suvadeep Bose	
LB 103	Dr Siddhertha Adhikary	
LB 104	Dr Sankha Subhra Roy	LM 691
LB 105	Dr Debarghya Chattopadhyay	
LB 106	Dr Rishabh Sharma	LM 767
LB 107	Dr Prasenjit Chowley	LM 810
LB 108	Dr Souvik Bhattacharjee	LM 759
LB 109	Dr Ankita Singha Roy	LM 818
LB 110	Dr Soumadip Mandal	LM 723
LB 111	Dr Arkadeb Saha	PGT 13/2023
LB 112	Dr Indrajit De	PGT 394
LB 113	Dr Rhitushree Biswas	PGT 25/2023
LB 114	Dr Krishnendu Dey	PGT 396
LB 115	Dr Swarupananda Mandal	LM 839
LB 116	Dr Subhajyoti Ghosh	PGT 409
LB 117	Dr Munmun Mandal	PGT 383

Members

IAPMR West Bengal Branch Post Graduate Trainee Member List

IAPMR WB Branch PG Membership Number	NAME
WBPG 1	Dr Ankit Sarkar
WBPG 2	Dr Anoovab Saha
WBPG 3	Dr Prasenjit Ghata
WBPG 4	Dr Aleesha Shahjahan
WBPG 5	Dr Laiphrakpam Ishwarlal Singh
WBPG 6	Dr Subrata Pahari
WBPG 7	Dr Nibedita Malik
WBPG 8	Dr Abhirup Sen
WBPG 9	Dr Soumen Kumar Biswas
WBPG 10	Dr Souvik Mandal
WBPG 11	Dr Hari Vignesh
WBPG 12	Dr Sheezan Perwez
WBPG 13	Dr Bhaskar Mazumdar
WBPG 14	Dr Basudeb Gorai
WBPG 15	Dr Zainul Abidheen A
WBPG 16	Dr Soumya Dutta
WBPG 17	Dr Apurbalal Sarkar
WBPG 18	Dr Surya Sobhan Kundu
WBPG 19	Dr Sanjana Prakash Deshmukh
WBPG 20	Dr Nityananda Sardar
WBPG 21	Dr Menhaj Ahmed
WBPG 22	Dr Sambhuraj Sanjay Jagadale

IAPMR WB Branch PG Membership Number	NAME
WBPG 23	Dr Arnab Halder
WBPG 24	Dr Krishnendu Roy
WBPG 25	Dr Bina Kisku
WBPG 26	Dr Ayan Baur
WBPG 27	Dr Poulami Ghosh
WBPG 28	Dr Kishan Debbarma
WBPG 29	Dr Kousik Roy
WBPG 30	Dr Sayantan Mukherjee
WBPG 31	Dr Saikat Paine
WBPG 32	Dr Moslem Mahaldar
WBPG 33	Dr Thajuna Shervin KH
WBPG 34	Dr Namrata Nand
WBPG 35	Dr Koel Kundu
WBPG 36	Dr Vivek Barman
WBPG 37	Dr Samriddhi Keshkar
WBPG 38	Dr Rajib Ghosh
WBPG 39	Dr Bhakti Singh
WBPG 40	Dr Premi Sapam
WBPG 41	Dr Shibabrata Mukherjee
WBPG 42	Dr Albin Justin
WBPG 43	Dr M Kai Sian Khai Haokip
WBPG 44	Dr Ribhu Bhattacharya

THEME
Peak Potential: Innovation and Integration in PM&R



Prof (Dr) Rajesh Pramanik
Professor & Head, Dept. of PMR
IPGMER, Kolkata
Chairman Academic Committee,
WBPMR



Dr Vasundhara Ghosal
Associate Professor, Dept of PMR,
IPGMER, Kolkata
Member Academic Committee,
WBPMR

Physical Medicine and Rehabilitation (PM&R) has evolved significantly over the years, driven by advances in medical technology, shifting patient needs, and the pursuit of optimal outcomes. As the healthcare landscape continues to evolve, PM&R specialists are poised to play a crucial role in shaping the future of rehabilitation care. This article explores the current landscape of PM&R, highlighting key innovations and integrative approaches that are transforming patient care.

Innovations in PM&R

1. Technological Advancements: Technological advancements have revolutionized rehabilitation therapies, enabling patients to engage in intensive, task-specific training. Some notable examples include
   i. Robotics: Robotic devices, such as exoskeletons and robotic arms, are being used to enhance motor recovery and improve functional outcomes. These devices provide repetitive, task-specific training, which can help patients regain motor function and independence
   ii. Exoskeletons: Exoskeletons are wearable devices that provide support and stability for patients with mobility impairments. They enable patients to stand and walk, promoting rehabilitation and independence.
   iii. Neuromodulation: Employing techniques like spinal cord stimulation, peripheral nerve stimulation, and transcranial magnetic stimulation to modulate pain signals.
2. Biologics and Regenerative Medicine: The integration of biologics and regenerative medicine in PM&R has opened new avenues for treating musculoskeletal and neurological conditions. These innovative approaches promote tissue repair, reduce inflammation, and improve patient outcomes.
   i. Platelet-Rich Plasma (PRP) Therapy: PRP therapy involves injecting platelet-rich plasma into damaged tissues to promote healing and regeneration. PRP has been shown to be effective in treating conditions such as osteoarthritis and tendonitis.
   ii. Stem Cell Therapy: Stem cell therapy involves using stem cells to repair or replace damaged tissues. Stem cells have the potential to differentiate into various cell types, making them a promising treatment option for a range of conditions, including spinal cord injuries and neurodegenerative diseases.
   iii. BMAC (Bone Marrow Aspirate Concentrate): BMAC is obtained by extracting bone marrow from the patient, which reduces inflammation, pain, and restores joint and tendon function; promotes tissue regeneration and used in conditions like Osteoarthritis, chronic tendon injuries, and other musculoskeletal conditions.
   iv. MFAT (Microfragmented Fat): MFAT involves breaking down fat tissue into small fragments, which contain abundant stem cells that promote tissue regeneration. It is used in Osteoarthritis, musculoskeletal conditions, and tissue repair

   The integration of biologics and regenerative medicine in PM&R has opened new avenues for treating musculoskeletal and neurological conditions. These innovative approaches promote tissue repair, reduce inflammation, and improve patient outcomes.

3. Wearable Technologies: Wearable devices, such as smart gloves and exoskeletons, are enabling patients to track their progress, receive real-time feedback and monitoring of patients' physiological and kinematic data, providing valuable insights into their functional ability, mobility, and overall health status and engage in personalized rehabilitation programs.
4. Artificial Intelligence and Machine Learning: The integration of artificial intelligence (AI) and machine learning (ML) in PM&R is revolutionizing patient care. AI-powered algorithms can analyse large datasets, identify patterns, and predict patient outcomes, enabling clinicians to make informed decisions.
5. Virtual Reality and Augmented Reality: Virtual reality (VR) and augmented reality (AR) are being used to create immersive rehabilitation experiences. These technologies enhance patient engagement, improve and motor function
6. Pain Management in PM&R: Tailoring treatment plans to individual patient needs and preferences using multimodal approach of combining pharmacological, non-pharmacological, and interventional therapies to address pain. Incorporating the latest research and guidelines into pain management strategies (Evidence-Based Practice)

Integrative Approaches in PM&R

1. Patient-Centered Care: Patient-centered care is a key principle of PM&R. By prioritizing patient needs, preferences, and values, clinicians can create personalized treatment plans that optimize patient outcomes.
2. Transdisciplinary Care: Collaboration between healthcare professionals from various disciplines is crucial in PM&R. Multidisciplinary care teams ensure comprehensive treatment plans, addressing the complex needs of patients with multiple comorbidities.
3. Holistic Rehabilitation: Incorporating holistic approaches, such as mindfulness, yoga, and cognitive-behavioral therapy, into rehabilitation programs can enhance patient well-being, reduce pain, and improve functional outcomes.
4. Community-Based Rehabilitation: Community-based rehabilitation programs facilitate seamless transitions from hospital to home, promoting patient independence, social reintegration, and long-term recovery

Benefits of Innovation and Integration

Innovation and integration in PM&R can lead to improved patient outcomes, including enhanced functional ability, reduced pain, and improved quality of life. Technologies such as VR, AR, and wearables can enhance patient engagement, motivation, and participation in rehabilitation programs. Evidence based practice together with Artificial Intelligence and Machine Learning can streamline clinical decision-making, reducing administrative burdens and improving care coordination.

As PM&R continues to evolve, future research should focus on:

1. Personalized Rehabilitation: Investigating the use of AI, ML, and genomics to create personalized rehabilitation programs tailored to individual patient needs.
2. Outcome-Based Research: Investigating the effectiveness of innovative treatments and integrative approaches in improving patient outcomes.
3. Technology-Driven Rehabilitation: Developing and refining innovative technologies, such as VR, AR, and wearables that enhance rehabilitation therapies and patient engagement.
4. Promoting Community-Based Rehabilitation: Developing and implementing community-based rehabilitation programs that facilitate seamless transitions from hospital to home and promote long-term recovery

Conclusion

In conclusion, the field of Physical Medicine and Rehabilitation (PM&R) is rapidly evolving, driven by technological advancements, shifting patient needs, and the pursuit of optimal outcomes. By embracing innovation and integration, PM&R specialists can provide cutting-edge care that addresses the complex needs of patients. From biologics and regenerative medicine to wearable technologies and artificial intelligence, the future of PM&R holds much promise. As we continue to push the boundaries of rehabilitation care, it is essential to prioritize patient-centered care, transdisciplinary collaboration, and holistic approaches that promote overall well-being. By working together, we can unlock the peak potential of PM&R and improve the lives of patients worldwide.

Scientific Programme

Registration 8:00 am - 8:30 am

Breakfast

PEARL OF CASES: (5+1 MINS) 8:30 am – 9:10am

Chairpersons:

Dr Aniketa Banerjee, Associate Professor, Dept. of PMR, Midnapore MCH, Midnapore

Dr Vasundhara Ghosal, Associate Professor, Dept. of PMR, IPGME & R, Kolkata

Dr Soumyadipta Ghosh, Assistant Professor, Dept. of PMR, RGKARMCH, Kolkata

Presenters:

Dr Ribhu Bhattacharya, PGT, RGKMCH	**Rhupus Syndrome is a Rare Overlap of Rheumatoid Arthritis (RA) and Systemic Lupus Erythematosus (SLE), Posing Diagnostic and Therapeutic Challenges.**
Dr Sanjana Prakash Deshmukh PGT, SNPH, IPGME&R and SSKM Annex-2	**Extramedullary Hematopoiesis in Beta Thalassemia- A Rare Cause of Compressive Myelopathy**
Dr Namrata Nand, PGT, IPGME&R	**Pure Sensory Guillain-Barre Syndrome Mimicking Radiculopathy without Motor Weakness**
Dr Shayantan Mukherjee PGT, IPGME&R	**Bilateral Upper Limb Post Traumatic Trans-Radial Amputation Managed with Myoelectric Prostheses: A Case Report on Functional Rehabilitation and Quality of Life Improvement**
Dr Surya Sobhan Kundu PGT, IPGME&R	**A Rare Case Of Neuro-Sjögren's Syndrome Presenting as Seronegative Autoimmune Encephalitis in An Adolescent: A Multidisciplinary Management and Rehabilitation Approach**
Dr Nibedita Malik PGT, NRSMCH	**A Case of Congenital Monoparesis with Foot Deformity in a 3 Years old Child**

PGT AWARD SESSION: (6+1 MINS) 9:10 am - 10.30 am

Chairpersons:

Prof. (Dr) Sanjay Pandey, Professor and HOD, Dept. of PMR, AIIMS, Patna

Prof. (Dr) Jayanta Roy, Professor and HOD, Dept. of PMR, CMC, Kolkata

Prof. (Dr) Dilip Kumar Khatua, Professor and HOD, Dept. of PMR, BSMC, Bankura

Presenters:

Dr Ayan Baur, PGT, RGKMCH	**A Diagnostic Accuracy Study Exploring Artificial Intelligence As A Diagnostic Substitute For Nerve Conduction Study In Carpal Tunnel Syndrome**
Dr Samriddhi Keshkar, PGT, AIIMS Kalyani	**Correlation Of Self Reported Neuropathic Pain Questionnaire And Nerve Conduction Study In Patients With Chronic Non-Traumatic Unilateral Lumbo-Sacral Radiculopathy**
Dr Basudeb Gorai, PGT, IPGME&R	**Comparative Study On Improvement of Bladder Function After Pudendal Nerve Block in Detrusor Sphincter Dyssynergia**
Dr Bhaskar Mazumdar PGT, IPGME&R	**Randomized Controlled Trial to Assess the Efficacy of Electromyography Biofeedback in Management Of Unilateral Partial Anterior Cruciate Ligament Tear**
Dr Zainul Abidheen, PGT, IPGME&R	**Efficacy Of USG Guided Cluneal Nerve Block in Case of Low Back Pain due to Cluneal Nerve Entrapment: A Randomized Control Trial**
Dr Thajuna Shervin K H, PGT, IPGME&R	**Efficacy of USG Guided Saphenous Nerve Block in Anteromedial Knee Pain Due to Osteoarthritis: A Randomized Control Trial**
Dr Koel Kundu, PGT, IPGME&R	**Hemifacial Spasm: Clinical Presentation And Outcomes-A Case Series**

Dr Subrata Pahari, PGT NRSMCH	**Extending Relief: Alcohol Ablation in Refractory Facet Joint Pain" - Case Series**
Dr Soumya Dutta PGT, IPGME&R	**Efficacy of Combining Axillary Nerve RFA with Suprascapular Nerve RFA in Glenohumeral Osteoarthritis**

Inauguration 10: 30 am - 11:00 am

Session I: Integration in PM&R I 11.00 am – 11:30 am

Chairpersons:

Prof. (Dr) Rajesh Pramanik, Professor and HOD, Department of PMR, IPGME & R, Kolkata | **Dr Suparno Ganguly**, Director & HOD, Neuro-Rehabilitation Institute of NeuroScience, Kolkata | **Dr Saurav Kanti Sinha**, Assistant Professor, Dept. of PMR, Malda MC&H, Malda

Speakers:

Dr Pranesh Mondal, Assistant Professor, Dept. of PMR, College Of Medicine & Sagore Dutta Hospital, Kolkata	**Integration of newer intervention in pain management**	**(12+2 mins)**
Dr Mohit Kataruka, Associate Professor, Dept. of PMR AIIMS Kalyani, Kolkata	**Integration of newer Technique in Neurorehabilitation**	**(12+2 mins)**

Session II: Innovation in PMR 11:30 am – 12:00 noon

Chairpersons:

Dr Mouli Madhab Ghatak, Consultant Physiatrist, Director, MRC, Kolkata | **Dr Amalesh Basak**, Associate Professor, Dept. of PMR, IPGME & R, Kolkata | **Dr Siddhartha Sinha Ray**, Assistant Professor, Dept. of PMR, IPGME & R, Kolkata

Speakers:

Dr Subhasish Pati, Assistant Professor, Dept. of PMR, North Bengal MCH	**From Data to Decisions: Advanced Data Science in PMR Part 2 – Turning Insights into Action**	**(12+2 mins)**
Dr Ambar Konar, Interventional Physiatrist, Rehabana	**Intelligence is the inducer of Rehabilitation: Natural or Artificial?**	**(12+2 mins)**

Tea Break 12:00 noon-12:15 am

PARALLEL POSTER PRESENTATION 12:15 onwards

Presenters:

Dr Saikat Paine, PGT, IPGME&R	**Correlation of ultrasound and nerve conduction study parameters in diagnosis of carpal tunnel syndrome: a pilot cross-sectional study**
Dr Soumen Kumar Biswas, PGT, SNPH, IPGME&R and SSKM Annex-2	**A Comparative Study of the Efficacy of Ultrasound Trerapy Against Dry Needling and Against Corticosteroid Topical Injection in Cervical and Periscapular Myofascial Pain Syndrome**
Dr Poulami Ghosh, PGT, RGKMCH	**Ganglion Cyst of Achilles Tendon: A Rare Case Report**
Dr Menhaj Ahmed, PGT, RGKMCH	**Complex Regional Pain Syndrome (CRPS) in a Young Adult Post-Traumatic Ankle Fracture: A Case Report**
Dr Albin Justin, PGT, RGKMCH	**Beyond the Age Bracket: Irritable Hip in A 9-Year-Old – A Rare Case Report**

Dr M. Kai Sian Khai Haokip, PGT, RGKMCH	**A Rare Case of Klippel-Feil Syndrome With Sprengel's Deformity and Hypothyroidism Presenting as Chronic Inflammatory Back Pain Mimicking Ankylosing Spondylitis**
Dr Souvik Mandal, PGT, IPGME&R	**Cockayne Syndrome A Rare Neurodegenerative Disorder as a Differential of Cerebral Palsy**
Dr Bhaskar Mazumdar, PGT, IPGME&R	**Postural Instability and Gait Difficulty Variant of Parkinsonism: A Rare Case Report From A Rehabilitation Perspective**
Dr Bhakti Singh, PGT NRSMCH	**Unique Case of Floppy Child**
Dr Premi Sapam, PGT NRSMCH	**Multi modal pain management in HLA B27 Associated Oligoarthritis with Advanced Knee and Ankle Osteoarthritis**
Dr Aleesha Shajahan, PGT NRSMCH	**Botulinum Toxin vs. Surgery: Can 'Elastography' Predict the Right Choice?**
Dr Rajib Ghosh, PGT NRSMCH	**Rapidly Progressive Sensory Motor Deficiency-A Clinical Conundrum**

Session III: Intervention In PMR — 12:15 am – 12:40 pm

Chairpersons:

Prof. (Dr) Chittaranjan Gupta, Ex HOD, Dept. of PM&R, North Bengal MCH

Dr Debangshu Bhakat, HOD and Assistant Professor, Dept. of PMR, Malda MC&H, Malda

Dr Tuhin Ray, Assistant Professor, Dept. of PMR, IPGME & R, Kolkata

Speakers:

Dr Subhajyoti Ghosh, Senior Resident, Department of PMR, NRSMCH, Kolkata	**Efficacy of Gray Rami Communicantes Block in Chronic Low Back Pain**	**(10+2 mins)**
Dr Arka Dey, Senior Resident, NILD, Kolkata	**Erector Spinae Plane Block For Chronic Lumbosacral Pain: A Case Series**	**(10+2 mins)**

Session IV: Pediatric Rehabilitation — 12: 40 pm -1:10 pm

Chairpersons:

Prof. (Dr) Firdaus Kamal, Professor, Dept. of PMR IPGME & R, Kolkata

Dr Sudip Dan, Assistant Professor, Dept. of PMR, Midnapore MCH, Midnapore

Prof. (Dr) Ushnish Mukherjee, Assistant Professor, Dept of PMR IPGMER, Kolkata

Speakers:

Prof. (Dr.) Partha Pratim Pan, Professor and HOD, Dept. of PMR, North Bengal MCH	**Arthritis in children - Assessment and Rehabilitation**	**(12+2 mins)**
Dr. Arupratan Ghosh, Assistant Professor, Dept. of PMR, Calcutta Medical College	**Pediatric Rehabilitation -Medical Rehabilitation in JIA and Myositis**	**(12+2 mins)**

Session V: Regenerative Medicine in PMR — 1: 10 pm -1:40 pm

Chairpersons:

Dr Premesh Kumar Sarkar, Consultant Physiatrist, Centre for Medical Rehabilitation

Dr Mausumi Sen, Associate Professor, Dept. of PMR, CNMC, Kolkata

Dr Saumen Kumar De, Associate Professor, Dept. of PMR, NRSMC, Kolkata

Speakers:

Dr Piyali Basak, Consultant Physiatrist and Pain Physician, ESI Maniktala	**Replacement to regeneration: The game changer**	**(12+2 mins)**
Dr Kaustav Basu Thakur, Consultant Physiatrist, Rehabana	**Golden Drops of Healing: Is GOLDIC the Future of Regenerative Medicine?**	**(12+2 mins)**

LUNCH — 1.40 pm - 2:20 pm

Session VI: Medical Ethics and Education 2:20 pm- 2: 40 pm

Chairpersons:

Prof. (Dr) Swapan Kumar Mishra, Professor and HOD, Dept. of PMR, CNMC, Kolkata

Dr Jayanta Saha, Senior Specialist Medical Officer, SNPH, Kolkata

Dr Rakesh Jhalani, Ex Deputy Director, NILD, Kolkata

Speaker:

Prof. Dr. Subhra Mandal. Professor & HOD, Dept. of Anatomy, RG Kar Medical College & Hospital	**Bioethics**	**(20 mins)**

Session VII: Integration in PMR II 2:40 pm- 3: 10 pm

Chairpersons:

Dr. M. M. Biswas, Senior Consultant Physiatrist, Ex Senior DNB Faculty, SNPH, Kolkata

Prof. (Dr) Pallab Das, Professor and HOD, ESI-PGIMSR, Joka, Kolkata

Dr Keshab Mondal, Assistant Professor, Dept. of PMR, NRS Medical College, Kolkat

Speakers:

Dr. Abhishek Biswas, Former Director, NILD, Kolkata	**Integration of NGOs and GOs in Vocational settlement of Rehab Patients**	**(12+2 mins)**
Dr Ishita Dey, Assistant Professor, Dept. of PMR, Prafulla Chandra Sen Govt. MCH, Arambag	**Knowledge and practice of nursing staffs in early rehab of stroke patients**	**(12+2 mins)**

Session VIII: Interface in PMR 3:10 pm- 3: 40 pm

Chairpersons:

Prof. (Dr) Pankaj Kumar Mandal, Professor and HOD, Dept. of PMR, RGKARMCH, Kolkata

Prof. (Dr) Asoke Kumar Middya, Professor and HOD, Dept. of PMR, MidnaporeMCH, Midnapore

Dr. Pradip Kumar Mallick, Associate Professor, Dept. of PMR, BSMC, Bankura

Speakers:

Dr Madhusree Sengupta, Consultant Physiatrist, Dept of PMR and Neuro Rehabilitation, Narayana RN Tagore Hospital	**Psychiatry and physiatry**	**(12+2 mins)**
Dr Labani Biswas, Assistant Professor, Department of PMR, AIIMS Deoghar	**Oncology and Physiatry interface: Routine management**	**(12+2 mins)**

Session IX: Integrated Pain Management- Recent Update 3:40 pm- 4:10 pm

Chairpersons:

Dr. Tapan Kumar Pal, Senior Consultant Physiatrist, IPGME & R, Kolkata

Dr Prabir Mandal, M.O.I.C., Dept. of PMR, M.R Bangur Super Speciality Hospital

Dr Annanda Sankar Mohes, Associate Professor, Dept. of PMR, North Bengal MCH

Speakers:

Dr Sandipan Hazra, Assistant Professor, Department of PMR, NRSMCH, Kolkata	**Recent advances in Osteoarthritis Management**	**(10+2 mins)**
Dr Anindya Basu , Consultant Physiatrist	**MRCAR :A New Paradigm in Body manipulation for Low back pain with Radiation**	**(10+2 mins)**

INTER COLLEGE PMR PGT QUIZ 4:10 pm - 4:45 pm

QUIZ MASTER: **Dr Nabarun Gupta,** Assistant Professor, IPGME&R, Kolkata

Tea Break 4:15 pm – 4:30 pm

GB meeting 4:15 pm – 5:00 pm

Cultural program 6.30 pm onwards

DINNER 7.30 pm onwards

ABSTRACTS

Pearl of Cases

1. RHUPUS SYNDROME IS A RARE OVERLAP OF RHEUMATOID ARTHRITIS (RA) AND SYSTEMIC LUPUS ERYTHEMATOSUS (SLE), POSING DIAGNOSTIC AND THERAPEUTIC CHALLENGES.

Presenter: Dr. Ribhu Bhattacharya 1

Co Author: Dr. Poulami Ghosh 2 , Dr. Piu Dhua 3 , Dr. Soumyadipta Ghosh 4 ,Dr. Pankaj Kumar Mandal 5

Post Graduate Trainee 1,2 Senior Resident 3 , Assistant Professor 4 , Professor 5 .

Department of Physical Medicine and Rehabilitation, R. G. Kar Medical College and Hospital, Kolkata

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Phone Number: 9062538354

Background: A 45-year-old female with hyperuricemia presented with polyarthritis involving bilateral hand, wrist, and elbow joints for 4 months, along with fatigue, fever, hair loss, and weight loss.

Method: Examination revealed synovitis in small joints of the hands and wrists. Laboratory investigations showed anemia, raised ESR and CRP, positive rheumatoid factor, anti-CCP, and ANA. ANA profile demonstrated anti-dsDNA positivity. Radiographs of the hands revealed marginal erosions, joint space narrowing, and periarticular osteopenia. Differential diagnoses of mixed connective tissue disease and Sjögren's overlap were excluded. The patient was treated with methotrexate, sulfasalazine, hydroxychloroquine, folic acid, and short-course corticosteroids, with symptomatic improvement.

Result: The patient showed reduction in joint pain and swelling, improvement in fatigue, and normalization of inflammatory markers on follow-up after initiation of therapy. No new systemic manifestations were observed during short-term follow-up.

Conclusion: This case emphasizes the importance of considering Rhupus in RA patients presenting with systemic features and positive lupus serology, as timely recognition helps to prevent severe joint deformities and systemic complications.

2. EXTRAMEDULLARY HEMATOPOIESIS IN BETA THALASSEMIA- A RARE CAUSE OF COMPRESSIVE MYELOPATHY

Presenting Author: Dr. Sanjana Prakash Deshmukh (Pgt, Pm&R Dept)
Co-Authors: Dr. Jayanta Saha (Senior Consultant, Snph, Kolkata)
Institute: Sambhunath Pandit Hospital, Ipgme&R And Sskm Annex-2, Kolkata
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Phone No: 9822970616

Introduction: Extramedullary hematopoiesis(EMH) represents formation of hematopoetic tissue outside bone marrow as compensatory mechanism in chronic ineffective erythropoesis. Epidural location of EMH lesions predisposes to cord compression, presenting clinically with progressive paraparesis, spasticity, sphincter dysfunction. Overall prevalence of EMH in thalassemia is 11-15%, whereas spinal involvement is extremely rare (<1%), making early recognition challenging.

Case Presentation: A 34 years old female, known case of beta thalassemia (Hb E trait) presented with gradually progressive, insidious onset of weakness, tightness, decreased sensation in B/L lower limbs, tingling and numbness over B/L feet, along with insidious onset, gradually progressive, non- radiating, moderate dull aching mechanical low back pain for last 6 months. No bowel-bladder incontinence or girdle like sensation. Previous history of convulsion and hypertension due to pre-eclampsia during childbirth 5 years ago.Cholecystectomy and splenectomy was done 12 years ago. General examination show chipmunk facies, icterus and pallor. Hematological investigations showed chronic microcytic anemia (Hb-4.8), anisopoikilocytosis, nucleated RBCs and elevated reticulocyte count. Neuroimaging revealed diffused nodular epidural soft tissue mass like lesion extending from D5 to D11 level causing moderate to severe cord compression with cord ischemia.

Discussion: Significant neurological recovery was seen after low dose Radiotherapy in adjunct to oral Dexamethasone and Hydroxyurea therapy. Routine blood count monitoring and blood transfusions were done in between sessions. Patient's Hb level remained stable throughout therapy. Over 6 months, patient showed significant improvement in FIM score, after low resistance strengthening exercise, gait training with orthotic support, ADL training, and psychosocial counselling.

Conclusion: Extramedullary hematopoiesis leading to spinal cord compression is a rare complication in transfusion dependent Beta Thalassemia. Delayed diagnosis have high morbidity. Thus, early evaluation and management with proper rehabilitation program is utmost important to avoid severe neurological impairment in future.

3. PURE SENSORY GUILLAIN-BARRE SYNDROME MIMICKING RADICULOPATHY WITHOUT MOTOR WEAKNESS

Presenting Author : Dr. Namrata Nand (PGT)
Co-Author: Prof Dr. Rajesh Pramanik, Prof Dr. Swarnali Mandal
Institute: Dept of PM&R, IPGME&R and SSKM Hospital, Kolkata.
Contact: 8340534145, Email: nandnamrata123@gmail.com

ABSTRACTS

Background: Guillain-Barre Syndrome (GBS) is an acute immune mediated neuropathy that typically presents with motor weakness. However, rare sensory variants may occur, where the primary deficits are tingling, numbness and ataxia without motor involvement. Such cases may be under-recognized, especially when they initially present with pain or radiculopathy-like features. Early diagnosis and treatment with intravenous immunoglobulin (IVIG) are important to prevent disability.

Case Presentation: A previously healthy patient, normal one month back, initially presented with low back pain radiating to both lower limbs. Conservative management was done, but within 48 hours he developed sudden severe localized pain which later became diffuse. Despite analgesics, symptoms progressed to tingling, numbness and marked sensory deficits in both lower limbs. Importantly, there was no motor weakness, but due to profound sensory ataxia he was unable to stand and walk. Nerve conduction study (NCS) confirmed features of sensory variants of GBS. The patient was started on IVIG 300mg per day for 25 days.

Outcome: Follow up NCS after treatment showed clear improvement. Clinically, the patient regained the ability to stand, walk independently and perform fine motor tasks like writing. Sensory symptoms reduced significantly, confirming both functional and electrophysiological recovery.

Conclusion: This case highlights a rare sensory variant of GBS where the inability to stand or walk was due to sensory ataxia rather than motor weakness. Recognition of such atypical presentations is crucial, as early diagnosis with NCS and timely IVIG therapy can lead to excellent recovery. Increased awareness may help in avoiding delay and ensuring better outcomes in such rare presentations.

4. BILATERAL UPPER LIMB POST TRAUMATIC TRANS-RADIAL AMPUTATION MANAGED WITH MYOELECTRIC PROSTHESES: A CASE REPORT ON FUNCTIONAL REHABILITATION AND QUALITY OF LIFE IMPROVEMENT

Presenting Author: Dr Shayantan Mukherjee (PGT)
Co-Author: Prof Dr. Rajesh Pramanik,
Institute: Dept of PM&R, IPGME&R and SSKM Hospital, Kolkata.
Contact: 9474528060

Background: Bilateral upper limb amputation poses a profound challenge to functional independence, especially in young individuals. Myoelectric prostheses offer promising rehabilitation outcomes by enhancing upper limb function and quality of life. This case report presents the rehabilitation journey of a 28-year-old male who underwent bilateral upper limb amputation due to severe electrical injury and subsequent graft rejection.

Case Presentation: A 28-year-old male sustained high-voltage electrical burns resulting in extensive tissue damage to both upper limbs. Despite multiple reconstructive attempts, including skin grafting, the patient experienced graft rejection, ultimately necessitating bilateral upper limb amputation. Following surgical recovery, the patient was enrolled in a comprehensive rehabilitation program aimed at restoring functional independence through prosthetic integration.

Intervention and Outcome: The patient was fitted with custom myoelectric prostheses for both upper limbs following appropriate residual limb preparation and EMG signal testing. Rehabilitation included intensive occupational therapy for activities of daily living (ADLs), prosthetic training, and psychological support. Over a six-month period, the patient demonstrated substantial improvement in the ability to perform self-care tasks independently. Functional outcome measures showed increased prosthetic control and user satisfaction. The patient also reported improved confidence and social reintegration.

Conclusion: This case highlights the effectiveness of myoelectric prostheses in restoring functional independence in patients with bilateral upper limb trans-radial amputations. A multidisciplinary rehabilitation approach was key to achieving meaningful improvement in quality of life and daily functioning.

Keywords: Electrical injury, Bilateral upper limb amputation, Graft rejection, Myoelectric prosthesis, Rehabilitation, Functional recovery, Quality of life.

5. A RARE CASE OF NEURO-SJÖGREN'S SYNDROME PRESENTING AS SERONEGATIVE AUTOIMMUNE ENCEPHALITIS IN AN ADOLESCENT: A MULTIDISCIPLINARY MANAGEMENT AND REHABILITATION APPROACH

Presenting Author: Dr. Surya Sobhan Kundu
Co-Author: Prof and HOD (Dr.) Rajesh Pramanik
Institute: Dept of PM&R, IPGMER and SSKM Hospital
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Background: Sjögren's syndrome is a chronic autoimmune disorder that primarily affects exocrine glands but may also involve the central nervous system, leading to rare but severe neurological manifestations. It can mimic seronegative autoimmune encephalitis, and requires high clinical suspicion for diagnosis.

ABSTRACTS

Case Presentation: We report a 17-year-old female who initially presented with persistent high-grade fever, altered mental status, and recurrent seizures. Her course was complicated by aspiration pneumonia requiring mechanical ventilation, severe anaemia, dyselectrolytemia, sacral grade IV pressure sore, and deep vein thrombosis. CSF neurovirology was positive for HSV-2, but autoimmune encephalitis panel was negative. Further workup revealed Anti-Ro/SS-A positivity, Schirmer test <5mm, and MRI showing mesial temporal T2 hyperintensities. A diagnosis of Neuro-Sjögren's syndrome presenting as seronegative autoimmune encephalitis was considered.

Management and Outcome: The patient received high-dose corticosteroids, intravenous immunoglobulin, plasmapheresis, and later mycophenolate mofetil. Seizures were managed with multiple antiepileptic drugs. Complications including pneumonia, dyselectrolytemia, grade IV sacral pressure soreDVT, anaemia, and psychosis were addressed systematically. Following stabilization, a multidisciplinary neuro-rehabilitation program was initiated. Physiotherapy focused on strengthening, balance, and gait training; occupational therapy emphasized activities of daily living. Nutritional support and oral feed retrials enabled successful removal of the Ryle's tube. Over time, the patient demonstrated functional recovery with improved orientation, mobility, and independence in daily activities.

Conclusion: This case highlights the diagnostic challenges of seronegative autoimmune encephalitis, where underlying Neuro-Sjögren's syndrome should be suspected in young patients with refractory seizures and systemic features. Early immunomodulatory therapy combined with comprehensive multidisciplinary rehabilitation is crucial for favourable outcomes in such complex cases.

6. A CASE OF CONGENITAL MONOPARESIS WITH FOOT DEFORMITY IN A 3 YEARS OLD CHILD.

Presented by: Dr. Nibedita Malik,
PGT, PMR, NRSMC&H)
Contact- 6294785683, dr.nibeditamalik@gmail.com

A 3 year old boy presented with left lower limb monoparesis with partialy absent left foot since birth causing standing and gait difficulty. Parents complained of ocassional dribbling of urine more in night. History of Right CTEV, which was corrected by serial casting. On examination gross atrophy and shortening of left lower limb (2 inch short and midcalf circumference 1.5 inches less). Hypoplastic left foot with absence of all toes. Only rudimentary great toe is present with subcutaneous nodule over calcaneous.Gross power of Lt lower limb 3/5, sensory not determined. DTR- 1+ on LT LL, Plantar NR, superficial abdominal reflex and creamesteric reflex present.

Routine blood examinations- NAD. X RAY OF LEFT FOOT- TALUS PRESENT,TWO PHALANX PRESENT, rest of the bones absent.

Provisional diagnosis of Amniotic band syndrome was made.

Conclusion: Therapeutic exercise with provision of shoe modification is being done

PGT Award Paper (Platform)

1. A DIAGNOSTIC ACCURACY STUDY EXPLORING ARTIFICIAL INTELLIGENCE AS A DIAGNOSTIC SUBSTITUTE FOR NERVE CONDUCTION STUDY IN CARPAL TUNNEL SYNDROME

Presenting Author: Dr. Ayan Baur1
Co-Authors: Dr. Soumyadipta Ghosh2 , Dr. Pankaj Kumar Mandal3
Post Graduate Trainee,1 , Assistant Professor2 , Professor & Hod3
Dept. of Physical Medicine and Rehabilitation, R. G. Kar Medical College & Hospital, Kolkata1, 2, 3
Email: Bumbaa0002@gmail.com;
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Introduction: Carpal Tunnel Syndrome (CTS) is caused by median nerve compression, leading to ischemia, nerve damage, and functional impairment.

Aim: To evaluate the effectiveness of AI as a diagnostic tool for Carpal Tunnel Syndrome in the absence of nerve conduction studies.

Methods: A Diagnostic Accuracy Study was conducted on 68 patients at R.G.KAR MCH, Kolkata, clinically suspected of Carpal Tunnel Syndrome (Phalen's test positive). AI-generated diagnostic outputs were compared against standard NCS findings to evaluate the tool's sensitivity, specificity, and overall diagnostic performance.

Results: In this study involving 68 patients with suspected Carpal Tunnel Syndrome(Phalen's test positive), the AI diagnostic tool demonstrated high diagnostic accuracy compared to standard nerve conduction studies. It achieved a sensitivity of 81% and specificity of 83%, indicating strong ability to correctly identify both positive and negative cases. The positive predictive value

ABSTRACTS

was 75%, and the negative predictive value was 88%, reflecting reliable performance in clinical settings. These results highlight AI's potential as an effective alternative diagnostic method, particularly in environments where traditional diagnostic tools are unavailable or inaccessible.

Conclusion: Conclusion: AI demonstrates strong potential as a reliable diagnostic adjunct for Carpal Tunnel Syndrome, especially in resource-limited settings lacking NCS, enabling timely and accurate clinical decision-making.

2. CORRELATION OF SELF REPORTED NEUROPATHIC PAIN QUESTIONNAIRE AND NERVE CONDUCTION STUDY IN PATIENTS WITH CHRONIC NON-TRAUMATIC UNILATERAL LUMBO-SACRAL RADICULOPATHY

Presenting Author: Dr. Samriddhi Keskar, Academic JR
Institute: DEPT OF PM&R, AIIMS, Kalyani
Contact: 7980459809

Background: Low back pain (LBP) with radicular symptoms is a common clinical problem, and accurate localization of nerve involvement is crucial for diagnosis and management. Clinical examination remains the first-line approach, but it may be subjective and limited by examiner variability. MRI is the gold standard but time consuming and expensive. Nerve Conduction Studies (NCS) provide an objective measure of peripheral nerve function.It's a humble attempt to find out the relationship between Lumbosacral radiculopathy and NCS.

Aim: To evaluate the correlation between lower limb NCS findings and clinical examination parameters in patients presenting with chronic lumbosacral radiculopathy.

Methods: After ethical clearancea cross-sectional observational study was conducted in PMR department on 30 patients with chronic low back pain with radicular symptoms. Detailed clinical examination and NCS was carried out for major motor and sensory lower limb nerves (peroneal, tibial, sural, saphenous).

Results : The mean age was 59.8 ± 6.27 years, with average duration of pain 4.17 ± 1.2 years. The mean tibial nerve and peroneal nerve amplitude was found to be 5.84 ± 0.7 and 1.42 ± 0.7.The mean ODI score was 62.83 ± 14.97 and for LANSS score the mean was 14.63 ± 2.67.Tibial nerve amplitude and common peroneal nerve distal latency showed significant correlationwith LANSS Pain Scale (Leeds Assessment of Neuropathic Symptoms and Signs) ($p < 0.05$).

Conclusion: The results suggest that NCS can serve as an effective initial screening tool although the sample size was small. Patients with abnormal NCS findings may be prioritized for MRI to confirm diagnosis and guide further management.

3. COMPARATIVE STUDY ON IMPROVEMENT OF BLADDER FUNCTION AFTER PUDENDAL NERVE BLOCK IN DETRUSOR SPHINCTER DYSSYNERGIA.

Presenting Author: Dr. Basudeb Gorai (Pgt)
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Introduction: Detrusor sphincter dyssynergia (DSD) is the bladder outlet obstruction from detrusor muscle contraction with concomitant involuntary urethral sphincter activation. DSD is associated with neurologic conditions such as spinal cord injury, multiple sclerosis, and spina bifida and some of these neurogenic bladder patients with DSD may be at risk for autonomic dysreflexia, recurrent urinary tract infections, or upper tract compromise if the condition is not followed and treated appropriately. It is diagnosed most during the voiding phase of urodynamic studies using EMG recordings and voiding cystourethrograms. There are few validated oral pharmacologic treatment options for this condition, but USG guided bilateral pudendal nerve block with 6% phenol has better outcome in detrusor sphincter dyssynergia in case of traumatic spinal cord injury.

Aims and objectives: In this study we would try to compare outcomes between patients treated with conservative therapy only Vs bilateral pudendal nerve block in case of detrusor sphincter dyssynergia due to spinal cord injury as adds on.

Method: Parallel group, open label, Randomized controlled trial done with 50 patients selected from OPD and IPD Neuro-rehab ward in IPGMER and SSKMH with detrusor sphincter dyssynergia due to traumatic spinal cord injury excluding urinary Tract Infection, painful bladder syndrome, non-traumatic SCI, SCI in AIS stage C, D, Indwelling catheter, bladder stone, BHP or Prostatic cancer, bleeding diathesis. Randomized in two groups-conservative treatment vs Usg guided pudendal nerve block as add on therapy. Parameters were Overactive Bladder Symptom Score (OABSS), Maximum cystometric capacity (MCC), Post-void residual urine volume (PVR), Frequency of Incontinence. The assessment was done at baseline, 2 weeks, 3 months following the intervention. Excluding dropouts, data is summarized by mean and standard deviation, analysed by ANOVA for intragroup and unpaired T-test for intergroup comparison using SFSS software.

Results: Group received pudendal nerve block as add on therapy has decreased OABSS, increased maximum cystometric ca-

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pacity (MCC), decreased post-void residual urine volume (PVR), decreased Frequency of Incontinence than who received conservative treatment.

Conclusion: Bilateral pudendal nerve block as add on therapy has better outcome than conservative management in detrusor sphincter dyssynergia due to spinal cord injury

4. A RANDOMIZED CONTROLLED TRIAL TO ASSESS THE EFFICACY OF ELECTROMYOGRAPHY BIOFEEDBACK IN MANAGEMENT OF UNILATERAL PARTIAL ANTERIOR CRUCIATE LIGAMENT TEAR

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Introduction: Conservative treatment with rehabilitative exercises is the primary treatment for partial ACL tears, outcomes can be variable, and long-term pain relief is not guaranteed. Electromyography biofeedback shows promise as a non-surgical option enhancing muscle strength, improving knee stability, and facilitating a return to pre-injury activity levels.

Aim & Objective: Compare the effects of conservative treatment alone with conservative treatment combined with electromyography biofeedback on the isokinetic parameters of the quadriceps femoris muscles in patients with partial ACL tears.

Method: A parallel-group, open-label, randomized controlled trial was conducted involving 79 patients attending the PMROPD at IPGME&R SSKM Hospital over 9 months. Inclusion criteria: age between 18 and 40 years, moderate pain (VAS≥5) MRI-confirmed partial ACL tear. Exclusion criteria: Multi-ligamentous, meniscal knee injury, motor weakness of the knee joint (power < 3/5). Patients were randomized into two groups. Both received same conservative management, group 1 received additional EMG Biofeedback for 4 weeks. The primary outcome measures were Peak Torque to Body Weight ratio (PT/BW) and the Classic H/Q ratio of quadriceps femoris muscles, and the secondary outcome measure was VAS scoring for pain. These parameters were measured pre-procedure, at 4 weeks, and at 8 weeks post-procedure. Statistical analysis was performed using Student's independent samples t-test for between-group comparisons and paired t-tests for pre- and post-procedure comparisons within each group. Data analysis of 74 patients was conducted using Graph Pad software as there were 5 dropouts.

Result: Statistically significant ($p<0.05$) improvement of PT/BW, Classic H/Q ratio and VAS from baseline are seen in both groups. For all parameters, EMG biofeedback training with conservative treatment sows statistically more significant improvement than Conservative treatment alone at 8 weeks ($p<0.05$).

Conclusion: In comparison to conservative treatment alone, the addition of EMG biofeedback training demonstrates greater effectiveness in improving isokinetic parameters and reducing pain in long-term

5. EFFICACY OF USG GUIDED CLUNEAL NERVE BLOCK IN CASE OF LOW BACK PAIN DUE TO CLUNEAL NERVE ENTRAPMENT: A RANDOMIZED CONTROL TRIAL.

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Introduction: Cluneal Nerve Entrapment is one of the cause of Low Back Pain, which is characterised by a triad of pain, tender point over iliac crest or caudal to PSIS and relief with local anaesthetic injections.

Aims & Objectives: To determine the effect of USG guided Cluneal Nerve Block in low back pain .

Method: Parallel group, open labelled, randomized control trail done with 45 patients selected from PMR OPD in IPGME&R and SSKMH with Cluneal Nerve Entrapment, VAS > 5 and excluding patients with facet or SI joint pathology, inflammatory and lumbar radicular pain or any contraindication to procedure. Randomized into two groups – Cluneal Nerve Block done under USG guidance and anatomical landmark injection. Parameters were Visual Analog Scale (VAS) for pain and Oswestry Disability Index (ODI) for disability taken at pre-intervention, 10 minutes, 2 and 4weeks post-intervention. Excluding the dropouts (n=3), Data summarized by mean and standard deviation, analysed by ANOVA for intra-group comparison and unpaired T-test for intergroup comparison using SFSS software.

Results: VAS of USG guided block group decreased from 7.03+0.7 to 3.08+0.84 whereas anatomical landmark injection decreased from 6.97+0.74 to 3.58+0.97. ODI of USG guided block group decreased from 33.22+1.53 to 25.92+1.13 whereas that of anatomical landmark injection decreased from 33.47+1.4 to 23.83+1.76. Hence, USG guided block group showed statistically significant improvement in Pain control and disability improvement than anatomical landmark group.

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Conclusion: Cluneal nerve block provides pain relief and reduction in disability in low back pain due to cluneal nerve entrapment refractory to conservative management. The USG guided block provides better pain relief than that of anatomical landmark injection.

6. EFFICACY OF USG GUIDED SAPHENOUS NERVE BLOCK IN ANTEROMEDIAL KNEE PAIN DUE TO OSTEOARTHRITIS:A RANDOMIZED CONTROL TRIAL.

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Background: Osteoarthritis of knee is most common joint disorder worldwide, can lead to disability and decreased quality of life. The saphenous nerve, a purely sensory branch of the femoral nerve, supplies the anteromedial knee, making it a potential target for interventional pain management.

Aims & Objectives: This study is to evaluate the efficacy of ultrasound guided saphenous nerve block in anteromedial knee pain due to knee osteoarthritis.

Method: Parallel group, open labelled, randomized control trail done with 40 patients selected from PMR OPD in IPGME&R and SSKMH with anteromedial knee pain due to osteoarthritis of knee with VAS > 5,grade II to III on digital X-RAY and excluding patients with inflammatory arthritis,prior knee injury and surgery. Randomized into two groups - saphenous nerve block done under USG guidance along with conservative management and conservative management alone. Parameters were Visual Analog Scale (VAS) for pain and WOMAC (Western Ontario and McMaster Universities Osteoarthritis index)for functional assessment. Patient will be assessed at the interval 1 week, 4 weeks, 12 weeks after the procedure. Data summarized by mean and standard deviation, analysed by ANOVA for intra-group comparison and unpaired T-test for intergroup comparison using SFSS software.

Results: Preliminary findings indicate that patients in the saphenous nerve block group showsstatistically significant($p<0.05$) improvement in VAS scores and notable improvement in WOMAC scores compared to controls.

Conclusion: Ultrasound-guided saphenous nerve block is an effective, safe, and minimally invasive technique for relieving anteromedial knee pain due to osteoarthritis.

7. HEMIFACIAL SPASM: CLINICAL PRESENTATION AND OUTCOMES-A CASE SERIES

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Contact:

Background: Hemifacial spasm (HFS) is a chronic movement disorder characterized by involuntary, irregular contractions of muscles innervated by the facial nerve. It can cause significant functional and psychosocial distress. Pharmacological therapies often provide limited benefit, while Botulinum toxin (type A) injections have emerged as the treatment of choice due to their efficacy and safety.

Objective: To describe the clinical profile and outcomes of patients with hemifacial spasm managed in PMR department

Methods: Patients with a clinical diagnosis of HFS attending the outpatient clinic between May to Augusts were included. Demographics, clinical presentation, laterality, and treatment response were analyzed. All received botulinum toxin injections in the affected muscles with individualized doses.

Results: We studied 10 patients. The most common initial symptom was periocular twitching, with progression to involve lower facial muscles in some cases. Right-sided involvement was slightly more common. All patients showed significant symptomatic improvement following injections, with mean duration of benefit 3-4 months. Adverse effects were mild and transient, including ptosis and localized weakness, with no major complications.

Conclusion: Hemifacial spasm is a distressing but treatable condition. Botulinum toxin therapy is safe, effective, and improves quality of life, supporting its role as standard management in PMR practice.

8. EXTENDING RELIEF: ALCOHOL ABLATION IN REFRACTORY FACET JOINT PAIN - CASE SERIES

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Background: Facet joint-mediated pain is recognized as a major contributor to chronic low back pain, accounting for nearly one-third of cases. This pain is typically aggravated by spinal extension and rotation and can severely impair quality of life. Conventional treatments–such as pharmacological therapy, physiotherapy, lifestyle modification, and intra-articular steroid injections–often provide only transient or inadequate relief. In patients with refractory symptoms, alcohol ablation of the medial branch nerves offers a minimally invasive neurolytic option designed to provide prolonged pain reduction and functional improvement.

Objective: To evaluate the efficacy and safety of alcohol ablation of the medial branch nerves in patients with refractory lumbar facet joint pain through a descriptive case series.

Methods: Four patients (aged 48–70 years) with chronic axial low back pain of ≥2 years' duration were selected. All had failed to achieve meaningful benefit from medications, physiotherapy, and lifestyle modifications. Pain was localized to the lumbar spine, exacerbated by extension and rotation, and significantly interfered with activities of daily living. Diagnostic medial branch blocks produced temporary but reproducible relief, confirming facetogenic origin. Alcohol ablation was performed under fluoroscopic guidance, targeting the medial branch nerves supplying the symptomatic facet joints. Procedural safety was monitored, and patients were followed for 6–10 months.

Results: All patients demonstrated marked improvement in pain, with mean VAS scores reduced from 8/10 pre-procedure to 2–3/10 post-procedure.
Functional recovery was evident across cases: improved sitting tolerance at work, increased walking endurance, and enhanced independence in daily living.
Sustained pain relief persisted throughout follow-up (minimum 6 months, maximum 10 months).
No immediate or delayed adverse effects, including neurological deficits or procedure-related complications, were reported.

Discussion: This case series illustrates that alcohol ablation of the medial branch nerves can be a safe and durable interventional strategy in carefully selected patients with facet joint-mediated pain. Compared with repeated intra-articular injections or radiofrequency ablation, alcohol neurolysis may provide longer-lasting relief at lower cost, though direct comparative data are limited. While encouraging, these findings are limited by small sample size and observational design, underscoring the need for larger controlled studies to confirm efficacy, safety, and durability.

Conclusion: Alcohol ablation of medial branch nerves represents a valuable therapeutic option for patients with chronic, refractory facet joint pain. In our series, it consistently provided sustained analgesia and functional recovery without complications, reinforcing its potential role in the interventional pain management armamentarium.

9. EFFICACY OF COMBINING AXILLARY NERVE RFA WITH SUPRASCAPULAR NERVE RFA IN GLENOHUMERAL OSTEOARTHRITIS.

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Introduction: Radiofrequency ablation (RFA) is being increasingly used now a days to provide satisfactory results in managing osteoarthritic shoulder pain, particularly by targeting different sensory supplies of shoulder joint. However, comparative efficacy of different nerves targeted by Pulsed RFA while managing these cases are still under trial.

Aims & Objectives: To assess the efficacy of combining Axillary Nv RFA &Suprascapular RFA with Suprascapular Nv RFA in Glenohumeral OA.

Method: A parallel, single-blinded, randomized controlled trial was conducted with 33 patients selected from the PMR OPD in IPGME&R and SSKMH, all diagnosed with Glenohumeral osteoarthritis and a procedure. The participants were randomized into two groups,Gr1: Managed with Pulsed RFA of Axillary Nv with Suprascapular Nv and Gr2:Managed with Suprascapular Nv Pulse RFA. The parameters assessed were the Visual Analog Scale (VAS) for pain and the Shoulder Pain and Disability Index (SPADI) for disability, measured at pre-intervention, and at 0, 4, 8, and 12 weeks post-intervention. Excluding the dropouts (n=3), data were summarized by mean and standard deviation and analysed by ANOVA for intragroup comparison and unpaired T-test for intergroup comparison using GraphPad Prism software.

Results: At 12 weeks follow up, Mean VAS score of Gr-1: decreased from 6.7±0.7 to 2.4±0.84, whereas IN Gr-2 VAS decreased from 7±0.74 to 3.58±0.97($p<0.05$). Mean SPADI score of decreased from 70.78±1.53 to 19.58±1.13 in Gr-1 whereas that of Gr-2 decreased from 71.77±1.4 to 33.85±1.76($p<0.05$).

Conclusion: Combining Axillary Nv & Suprasacpular Nv Pulsed RFA provide statistically better & prolong pain relief as well as reduction in disability compare to Suprascapular Nv Pulsed RFA in Glenohumeral Osteoarthritis.

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Poster Presentation

1. CORRELATION OF ULTRASOUND AND NERVE CONDUCTION STUDY PARAMETERS IN DIAGNOSIS OF CARPAL TUNNEL SYNDROME: A PILOT CROSS-SECTIONAL STUDY

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Background: Carpal tunnel syndrome (CTS) is the most common entrapment neuropathy due to compression of the median nerve at the wrist. Nerve conduction studies (NCS) are the diagnostic gold standard but are invasive and resource dependent. High resolution ultrasound (USG) offers a simple, non invasive alternative by measuring median nerve morphology. Correlating USG and NCS parameters may improve diagnostic accuracy and accessibility.

Aims & Objectives: To assess the correlation between ultrasound cross-sectional area (CSA) of the median nerve and NCS parameters in patients with clinically suspected CTS.

Methods: This pilot cross-sectional study was conducted in the PMR OPD at IPGMER and SSKM hospital. Ten patients (20 wrists) with clinical features of CTS were enrolled. Exclusion criteria included diabetes, hypothyroidism, prior wrist trauma or surgery, and systemic neuropathies. USG was performed to measure CSA at the carpal tunnel inlet (CSAc), proximal forearm (CSAp), and the difference (ΔCSA). NCS parameters assessed were distal motor latency (DML), sensory conduction velocity (SCV), and sensory nerve action potential (SNAP). Correlation between USG and NCS parameters was analyzed using Pearson's correlation coefficient.

Results: Preliminary findings from 20 wrists demonstrated a positive correlation between ΔCSA and NCS severity grades. Increased CSAc and ΔCSA were associated with prolonged DML and reduced SCV.

Conclusion: USG parameters, particularly ΔCSA, show promising correlation with NCS findings in CTS. This supports USG as a feasible adjunct diagnostic tool. Larger studies are needed to validate these findings

2. A COMPARATIVE STUDY OF THE EFFICACY OF ULTRASOUND TRERAPY AGAINST DRY NEEDLING AND AGAINST CORTICOSTEROID TOPICAL INJECTION IN CERVICAL AND PERISCAPULAR MYOFASCIAL PAIN SYNDROME

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Background: Myofascial pain syndrome (MPS) is a major cause of musculoskeletal pain in the shoulder-neck region in modern era.The aim of the study is to - 1) Compare the outcome of 3 different treatment modalities and 2) Early rehabilitation.

Method: In random parallel group open level prospective study 30 patients of MPS were taken randomly divided into 3 groups. Group A received UST, Group B received dry needling and Group C received corticosteroid injection at trigger points. They were followed up after initial visit at 2nd, 6th and 12th week. Pain were assessed with VAS Scores, number of trigger points, and neck disability index (NDI) questionnaire method.

Result:

GROUP	Parameter	Pre Procedure	2nd Week	6 week	12 week
Gr. A	VAS	7.4 ±0.49	2.4±0.49	3.1±0.54	3.7±0.9
	No. of Trigger Point	3.5±0.92	2.3±0.78	2.6±0.8	2.9±0.7
	NDI	50.85±5.79	13.30±3.37	14.65±2.88	20.75±5.34
Gr. B	VAS	7.6±0.66	2.4±0.66	2.7±0.9	4.8±0.75
	No. of Trigger Point	3.9±0.8	2.1±0.7	2.3±0.64	3.2±0.75
	NDI	60.50±4.3	17.40±7.05	34.6±5.73	20.45±6.85
Gr. C	VAS	7.2±0.87	1.4±0.49	1.8±0.6	2.5±0.67
	No. of Trigger Point	3.6±0.66	1.3±0.9	1.4±0.92	1.9±0.83
	NDI	51.90±7.41	10.26±3.92	12.22±4.69	16.87±4.9

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Conclusion: MPS can be effectively managed by trigger point injection containing corticosteroid than UST and Dry Needling.

3. GANGLION CYST OF ACHILLES TENDON: A RARE CASE REPORT

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Background: Ganglion cysts are fluid-filled soft tissue masses commonly associated with joints or tendons, frequently seen in the wrist, followed by the knee and foot. Symptoms may include pain, swelling, joint effusion, limited motion. This case report presents a rare instance of a ganglion cyst located in the achilles tendon. A 54-year-old male presented with right ankle pain and swelling over the posterior aspect of the ankle along the tendo achilles for 1 month. The swelling is soft, cystic, immobile, 15x30 mm in size on palpation. There is a history of injury to the tendo achilles 5 months ago. Method: Ultrasonography revealed a well-defined intratendinous ganglion cyst measuring 15 × 35 mm, which was confirmed on MRI.

Result: Conservative management, including NSAIDs and physical therapy, proved effective in alleviating symptoms. Plans to introduce guided aspiration with triamcinolone injection or surgical excision can be considered if swelling increases in size.

Conclusion: While intratendinous cysts are commonly reported in the extensor tendons of digits, and occasionally in the peroneus longus tendon, their occurrence in the Achilles tendon is rare. This case highlights the importance of advanced imaging in diagnosing atypical presentations of ganglion cysts, particularly in patients with prior tendon injury

4. COMPLEX REGIONAL PAIN SYNDROME (CRPS) IN A YOUNG ADULT POST-TRAUMATIC ANKLE FRACTURE: A CASE REPORT

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Background: Complex Regional Pain Syndrome (CRPS) is a rare but disabling chronic pain disorder that may develop after trauma or immobilization. It presents with disproportionate pain, autonomic changes, trophic alterations, and motor dysfunction. This report describes CRPS in the lower limb of a young adolescent following an ankle injury and inappropriate immobilization by a traditional bone setter.

Case Presentation: A 14-year-old boy developed severe pain, edema, toe deformity, and trophic changes after striking his right ankle against a wooden chair. Symptoms worsened following tight bandaging by a bone setter. Clinical examination revealed hyperalgesia, allodynia, fixed dystonia, and brittle toenails, consistent with CRPS features. Management and Result: Treatment involved a multidisciplinary approach. Pharmacological therapy included Deflazacort, Baclofen, and Gabapentin. Nonpharmacological interventions included Transcutaneous Electrical Nerve Stimulation (TENS), systemic desensitization, psychological evaluation, mirror therapy, nerve blocks, and Botox injections. This multimodal regimen provided significant symptomatic relief, reduced pain sensitivity, and improved functional outcomes.

Conclusion: Early recognition and intervention in CRPS are vital to prevent transition to the chronic phase and long-term disability. Management should be individualized and multimodal, integrating medications, physical rehabilitation, psychological support, and interventional procedures. This case highlights the importance of prompt diagnosis and comprehensive management in pediatric CRPS, particularly following trauma and inappropriate treatment practices.

5. BEYOND THE AGE BRACKET: IRRITABLE HIP IN A 9-YEAR-OLD – A RARE CASE REPORT

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Background: Transient synovitis of the hip (TSH) is a benign, self-limiting condition most commonly affecting children aged 3-8 years. Diagnosis is by exclusion, as more serious conditions such as septic arthritis, osteomyelitis, Perthes disease, slipped capital femoral epiphysis (SCFE), tuberculosis, or neoplasms must be considered. TSH in older children is rare, warranting a structured diagnostic approach.

Case Presentation: A 9-year-old boy presented with a 1-week history of right-sided limp and mild hip pain on weight bearing. There was no trauma or constitutional symptoms. On examination, the right hip was held in flexion and external rotation with a fixed abduction deformity of 10° and apparent limb lengthening of 1 cm. Radiographs were normal. Ultrasonography demonstrated hip joint effusion, while MRI ruled out bony or intra-articular pathology. ESR and CRP were normal. Management and Rehabilitation: The patient was treated conservatively with bed rest, nonweight-bearing precautions, and gradual mobilization. Rehabilitative management included activity modification, protected ambulation with walking aids, and gentle range-of-motion exercises as pain subsided. At 7-day follow-up, pain and deformity had resolved with no residual limb length discrepancy or hip restriction.

Conclusion: Although uncommon beyond 8 years of age, TSH should remain a differential diagnosis in older children presenting with acute hip pain. A multidisciplinary approach combining careful exclusion of serious pathology, conservative treatment, and early rehabilitation ensures symptom resolution, functional recovery, and return to normal activity.

6. A RARE CASE OF KLIPPEL-FEIL SYNDROME WITH SPRENGEL'S DEFORMITY AND HYPOTHYROIDISM PRESENTING AS CHRONIC INFLAMMATORY BACK PAIN MIMICKING ANKYLOSING SPONDYLITIS

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Background: Chronic low back pain with early morning stiffness in young adults often suggests Ankylosing Spondylitis (AS). However, congenital vertebral anomalies and endocrine disorders may present with overlapping features. Klippel-Feil syndrome (KFS) is a rare congenital condition characterized by cervical vertebral fusion, frequently associated with Sprengel's deformity. Hypothyroidism may further exacerbate stiffness and musculoskeletal pain, mimicking spondyloarthropathy.

Methods: A 24-year-old male with a 10-year history of chronic back pain and morning stiffness relieved within 1 hour was evaluated. Examination revealed decreased cervical mobility, modified Schober's test-17.5 cm, chest expansion test 4 cm, lumbar spine deviation to right and restricted right shoulder abduction/flexion (90°). A high-riding right scapula indicated Sprengel's deformity. Cervical radiographs and MRI demonstrated block vertebrae at C6-C7-T1; lumbar spine radiographs and MRI showed L1-L2 block vertebrae and scoliosis with convexity towards right, while sacroiliac joints were normal. Laboratory investigations revealed HLA-B27 negativity, normal ESR/CRP, normal renal and liver function, but markedly elevated TSH (67 µIU/ml), confirming hypothyroidism.

Results: The constellation of vertebral fusion, Sprengel's deformity, absence of sacroiliitis, normal inflammatory markers, and hypothyroidism pointed towards KFS with Sprengel's deformity and hypothyroidism rather than AS. Management involved patient education, thyroid hormone replacement therapy, physiotherapy, and long-term follow-up.

Conclusion: KFS with Sprengel's deformity and hypothyroidism may mimic AS in young patients especially males with chronic back pain. Careful clinical, radiological, and laboratory evaluation is vital to differentiate congenital and endocrine disorders from inflammatory spondyloarthropathies, preventing misdiagnosis and inappropriate therapy.

7. COCKAYNE SYNDROME: A RARE NEURODEGENERATIVE DISORDER AS A DIFFERENTIAL OF CEREBRAL PALSY

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Background: Cerebral palsy (CP) is a non-progressive motor disorder of childhood. However, several progressive neurogenetic syndromes can present with CP-like features in early life, leading to diagnostic confusion. Cockayne syndrome (CS), an autosomal recessive disorder of DNA repair, is one such condition that may mimic CP due to overlapping clinical features such as developmental delay, microcephaly, and spasticity.

Case Presentation: Here a 8 yr old boy, born to consanguineous marriage, presented with delayed developemental milestones, severe growth retardation, absent speech,triangular facies, loss of facial adipose tissue, photosenstivity. O/E there was hyper-

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tonia in all 4 limb,DTR 3+ except right biceps 2+.There was history of delayed cry. Investigations shows raised ast,alt and alp. EEG shows normal study.Onmri multiple T2 hyperintensities noted in b/l periventricular and subcortical region. Whole exome sequencing confirms Cockayne syndrome.

Conclusion: This case underscores the importance of considering Cockayne syndrome in the differential diagnosis of cerebral palsy, especially when there is progressive deterioration or associated systemic features. Early recognition facilitates appropriate genetic counseling, prognosis estimation, and tailored multidisciplinary management.

8. POSTURAL INSTABILITY AND GAIT DIFFICULTY VARIANT OF PARKINSONISM: A RARE CASE REPORT FROM A REHABILITATION PERSPECTIVE

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Background: Physiatrists face several patients withcommon complaints of chronic low back pain(LBP),varying from mechanical, inflammatory, or mixed components. As each patient tells a different story, so does their story's main villain may not be entitled to a generalized category-wise entity of chronic LBP. Even movement disorders like Parkinsonism can present as Chronic LBP. In this regard, let's delve into the following case.

Case Summary: A 53 years old female presented with Chronic non-inflammatoryLBP,generalized fatigue, slowness in basic ADLs, with multiple fall history& forgetfulness for last 7months. She developed gradually progressive bradykinesia, and mild tremorsin B/L hands asymmetrically without any resting tremors, seen in typical Parkinson's disease (PD), alongside simultaneous development of gradually progressive axial back pain, making her ADLs very difficult. O/E – short stride gait with mild stooping and without reciprocal arm-swing, no resting tremors/bradykinesia under the effects of drugs, but evident during medication intervals, nogross sensorimotordeficit, no typical cog-wheel rigidity; B/L SI joint stress test-(+), B/L L3-L4-L5 QLT(+), Paraspinal muscle tenderness(+), No atrophy, wasting, polyarthralgia, swelling.

So, from history & clinical examinations,our provisional diagnosis was SI joint pain syndrome in a case of PD. On Investigations - MRI LS Spine - Facet arthropathy,mild sclerosis in left SI joint,HLA-B27 Neg, CRP - NR, also IGRA Neg, so both inflammatory and infective Sacroiliitis were ruled out. But ANA profile - AntiJO-1(++) was found incidentally, which created dilemma about myositis, which was again ruled out by Normal EMG.

So, all these clinical examinations & investigations can confuse us in establishing a proper diagnosis.

Finally,MRI brain was done, showing hyperintensity in basal ganglia, which can be suggestive of a special variant of PD, Postural Instability and Gait Disorder(PIGD) variant which was matching clinically.

So, she was started on Levodopa Carbidopa after proper dose titration and intervenedfor SI joint & Facet arthropathy pain with significant but transient improvement of pain as the disease course itself, attributing to persisting axial muscle rigidity.

Conclusion: This case illustrates the importance of early diagnosis and comprehensive rehabilitative management of PIGD Parkinsonism, where a holistic approach through pharmacological, nonpharmacological and intervention can optimize the quality-of-life of patients.

9. UNIQUE CASE OF FLOPPY CHILD

Presented by : Dr Bhakti Singh(1ST YEAR PGT, DEPT OF PM & R, NRSMCH)
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Sign and symptoms : A 1 years 8 month boy presents with motor delayed milestone since 6monthof age. Patient was unable to hold neck and trunk alongwith four limbs weakness.Generalised hypotonia with gross muscle power 3/5.Speech, hearing ,vision social development apparently normal withoutany others gross congenital anomaly or any history of delayed birth cry. No significant family history.

Blood investigation increase CPK. EMG myopathic pattern with reduced amplitude.

MRI brain shows mild hyperintensity in periventricular region .

MRI of shoulder and hip girdle muscle showed muscle atrophy with fatty infiltration.

Genetic report shows homozygous mutationof SMN1 on chromosome5.

Conclusion : Likely a case of Spino Muscular Atrophy.

Rehabilation: advise for neck holding, trunk balanace along with submaximalstrengthening of hip and shoulder girdle muscles. Liying to sitting ,sitting to standing advise.

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10. MULTIMODAL PAIN MANAGEMENT IN HLA-B27-ASSOCIATED OLIGOARTHRITIS WITH ADVANCED KNEE AND ANKLE OSTEOARTHRITIS

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Background: Spondyloarthropathy commonly involves peripheral joints, but advanced ankle osteoarthritis is rare. Coexisting peri-articular pathology, such as ruptured Baker's cyst, can further complicate diagnosis as it often mimics deep vein thrombosis (DVT). Multimodal management combining pharmacological, interventional, and rehabilitative approaches plays a pivotal role in such complex cases.

Case Presentation: A 42-year-old male presented with 2 years of progressive pain and swelling in both knees and ankles, aggravated by weight-bearing and stair climbing, with morning stiffness <30 minutes. Suddenly, he developed acute right calf pain and became bed-ridden. Examination revealed effusion in bilateral knees and right ankle, tenderness, and restricted flexion/dorsiflexion of the right leg more than the left, along with quadriceps wasting. Radiographs showed bilateral grade IV osteoarthritis of knees and ankles. Laboratory tests revealed elevated ESR, CRP, and HLA-B27 positivity, consistent with spondyloarthropathy with secondary OA. Ultrasound demonstrated suprapatellar bursitis with synovial thickening and a ruptured Baker's cyst, a condition that can clinically mimic DVT and pose diagnostic dilemmas.

Intervention: Initial conservative management was started with NSAIDs (with PPI cover) and antibiotics, given elevated total leukocyte count. The patient showed dramatic pain relief. Following normalization of counts and confirmation of HLA-B27 positivity, methotrexate and sulfasalazine were initiated. After 2 weeks, aspiration yielded 20 ml of straw-coloured fluid from the right knee and 15 ml from the left knee. Subsequently, ultrasound-guided interventional procedures were performed:

Genicular nerve blocks and intra-articular corticosteroid injections for both knees.

Intra-articular hyaluronic acid and corticosteroid injections for knees and ankles.

Rehabilitation included joint protection techniques, proper footwear, knee bracing discontinued post injection (which was used initially), and a structured physiotherapy program with knee isometrics followed by progressive strengthening exercises.

Outcome: At baseline, the patient was bed-ridden due to severe pain and joint restriction. After stepwise multimodal management, his pain improved markedly (VAS 10 → 2), joint mobility increased, and he regained independent ambulation without support. He was able to resume all activities of daily living without assistance.

Conclusion: This case highlights the unusual presentation of advanced ankle osteoarthritis in HLA-B27-associated spondyloarthropathy. The coexistence of ruptured Baker's cyst as a DVT mimic underscores the importance of imaging in evaluation. A stepwise multimodal approach—spanning pharmacological therapy, joint aspiration, targeted interventional pain procedures, and rehabilitation—provided significant symptom relief and restored functional independence.

11. BOTOX VS. SURGERY: CAN ELASTOGRAPHY PREDICT THE RIGHT CHOICE?

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Introduction: Post-traumatic brain injury (TBI) patients often develop spasticity, which can progress to joint contractures. Differentiating between spastic contracture (due to overactive muscles) and structural contracture (due to fibrosis, poor positioning, or tendon shortening) is clinically challenging. This distinction is crucial, as botulinum toxin is beneficial for dynamic spasticity but ineffective for fixed contractures, which may instead require surgical release. Traditional clinical examination (Modified Ashworth Scale, palpation, ROM testing) is often inconclusive, especially in the presence of comorbidities such as depression or reduced patient cooperation. Elastography, by quantifying tissue stiffness, offers a promising adjunct to guide management.

Case Presentation: A 16-year-old male, 5 months post-TBI, presented with right elbow flexion contracture. Clinical findings:

- Muscle bulk: symmetric bilaterally
- Range of Motion (ROM): 60°–150°
- Modified Ashworth Scale (MAS): Grade 2
- Palpable biceps tendon tightness on the affected side

Diagnostic dilemma: It remained unclear whether the limitation was due to spastic overactivity (potentially responsive to botu-

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linum toxin) or structural tendon contracture (better suited for surgical intervention). Elastography Findings:

• Shear-wave elastography (SWE):

• Biceps muscle stiffness: no significant difference between affected and unaffected side

• Biceps tendon stiffness: markedly increased on affected side

• Cross-sectional area: reduced compared to contralateral tendon

These findings suggested a predominant structural tendon contracture rather than dynamic spasticity.

Intervention & Outcome: Based on elastography, botulinum toxin injection was deemed unsuitable. The patient underwent biceps tendon Z-plasty. At 3-month follow-up, ROM improved significantly, with functional gains in daily activities.

12. A CASE OF LUMBAR SYMPATHETIC BLOCK IN CRPS

Rajib Ghosh , PGT, NRS medical College

Background: Following a trauma, fracture or nerve injury, a debilitating chronic pain follows in few cases, one of which is complex regional pain syndrome leading to poor quality of life and is often missed.

Case Presentation: A 50 year old post menopausal female without any comorbidities presented with a history of severe right lower limb pain since 3 months without any history of trauma. Hyperalgesia, tenderness and cold skin was found extending from the toes to gluteal area, which was refractory to high dose medications, other modalities and therapies. X ray revealed reduced BMD when compared to other side.

Method: A lumbar sympathetic block was carried on at the third and fourth lumbar vertebral level, under C arm guidance. After block, VAS improved from 8 to 4, with rise of skin temperature, with improvement in quality of life.

Conclusions: Lumbar sympathetic blocks can significantly improve pain and life quality in CRPS

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Faculty Abstracts



INTEGRATION OF NEWER TECHNIQUES IN REHABILITATION

Dr Mohit Kataruka
Associate Professor, PMR, AIIMS Kalyani

The integration of new techniques in rehabilitation, particularly technology-driven approaches, offers more personalised, engaging, and effective patient care by enhancing telehealth, VR/AR, wearables, AI, and robotics. These advancements also include refined traditional methods like robotic-assisted therapy, non-invasive brain stimulation, and the use of biocompatible materials in tissue engineering to improve functional recovery, accessibility, and patient outcomes in physical and neurorehabilitation.

Virtual Reality (VR) & Augmented Reality (AR): Immersive environments improve patient engagement, motivation, and adherence to treatment programs. VR is particularly useful for neurological conditions, enhancing balance and coordination.

Wearable Devices & Sensors: Allow for real-time monitoring of patient progress, movement patterns, muscle activity, and joint function, providing valuable data for informed treatment decisions and remote progress tracking.

Robotics & Exoskeletons: Provide precise, controlled, and repetitive movement support, aiding in muscle memory and functional recovery for individuals with mobility impairments.

Digital Health & Mobile Health (mHealth): Platforms, apps, and wearable devices empower patients to manage their treatment, monitor progress, and communicate with providers remotely.

Telehealth & Telerehabilitation: Extend care beyond clinical settings, making rehabilitation more accessible and enabling continuous monitoring and adjustments to programs.

Artificial Intelligence (AI) & Machine Learning: Can be used for personalised treatment plans, precise exercise design through motion tracking analytics, and predictive modelling of disease progression and outcomes.

Bioprinting& Tissue Engineering: Revolutionise rehabilitation for debilitating injuries by promising custom implants and scaffolds that integrate seamlessly with the body.

Non-Invasive Brain Stimulation (NIBS): Techniques like transcranial stimulation can enhance neurorehabilitation, improve brain plasticity, and modulate brain excitability.

Blood Flow Restriction (BFR) Training: A low-load, high-volume technique using a tourniquet cuff to occlude venous return, promoting muscle growth and strength similar to high-load training.

Evidence-Based Manual Therapy: Refined and integrated with complementary modalities such as ultrasound, electrical stimulation, and hydrotherapy to enhance effectiveness and safety.

Diagnostic tools can help rehab therapy providers set measurable goals from the ground up. Literally. Instrumented insoles show great promise as a diagnostic tool to analyse gait, for example. Instrumented insoles can provide real-time feedback so patients can make adjustments during the activity. They can also improve movement quality and increase lower limb loading, as well as improve patient adherence to weight-bearing restrictions.

Force plates: can measure a patient's center of pressure, helping therapists assess balance deficits or postural instability. These instabilities may be aftereffects of treatments of surgery, such as hip osteoarthritis surgery, or the result of a condition such as Parkinson's disease, stroke, or diabetic neuropathy.

Weight-bearing can be very challenging for patients with musculoskeletal injuries or disabilities. These patients may need to be gradually introduced to bearing their limbs and body weight during exercise programs. Innovative technologies in unweighting help reduce the risk of injury or falls during rehabilitation and physical therapy treatment.

Aquatic therapy is a great option, but not every clinic has the space or budget for an entire pool. Anti-gravity treadmills stand out among recent trends in medical tech, used to improve patient outcomes in walking and running injury recovery. These treadmills surround and support the lower half of the patient's body to provide similar motion stimuli as running on the ground. By removing up to 80% of a patient's body weight, the treadmill can minimise impact and prevent soft tissue injury.

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Conclusion

Integration of newer techniques will help in more effective rehabilitation in a shorter time and can be reached at remote places.

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INTEGRATION OF NEWER INTERVENTIONS IN PAIN MANAGEMENT

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Abstract

Effective pain management requires an interdisciplinary collaboration, combining pharmacological, non pharmacological therapies and interventional procedures to achieve optimal patient outcomes. Traditional therapies and basic interventions achieve partial relief for a limited number of patients and pharmacological therapies carry dose-limiting adverse effects, driving interest in advanced interventional pain management techniques for enhanced efficacy and reduced opioid exposure within comprehensive care models . Despite guideline recognition, advanced procedures remain underused due to poor case selection, limited awareness, and logistical barriers, particularly in postoperative spine, cancer pain and some under-diagnosed pain syndromes.

Emerging techniques of Radiofrequency ablation like gasserian ganglion RFA in trigeminal neuralgia, sphenopalatine ganglion RFA in chronic headache and neuralgia, dorsal root ganglion RFA in chronic radicular pain, ganglion impar RFA in pelvic and perineal pain are the advanced techniques in chronic pain management. Vertebral augmentation like Vertebroplasty is a minimally invasive procedure to treat painful vertebral compression fractures by injecting bone cement into the fractured vertebrae to stabilize it and relieve pain. Caudal adhesiolysis with Racz catheter is a minimally invasive procedure for failed back surgery syndrome that uses a steerable catheter inserted via the caudal epidural space to mechanically or chemically break up scar tissue (adhesions) and reduce nerve root compression. Allogeneic mesenchymal stem cells offer potential advantages over autologous cells and can effectively reduce pain, improve joint function, and promote cartilage thickness in knee osteoarthritis.

While the integration of new interventional procedures has improved pain management, there are still challenges to be addressed. Interventional tool like Racz catheter, vertebroplasty kit, RFA kit are not widely available, and their cost can be a barrier to access. Further research is needed to establish the efficacy and safety of new procedures and to fill knowledge gaps. Physiatrists require ongoing education and training to stay up-to-date with the latest techniques and technologies.

In conclusion, the integration of new interventional procedures in pain management has transformed the field, offering innovative solutions for patients with chronic pain. As research continues to advance, we can expect even more effective and targeted treatments to emerge, improving the lives of patients worldwide.

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FROM DATA TO DECISIONS: ADVANCED DATA SCIENCE IN PMR PART 2 – TURNING INSIGHTS INTO ACTION

Dr Subhasish Pati
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Abstract

In Physical Medicine and Rehabilitation (PMR), data is no longer a by-product of clinical practice—it is becoming the foundation of better decision-making. Patient encounters, prescriptions, therapy progress, and follow-up outcomes generate vast amounts of information, yet much of this remains underutilized. Advanced data science offers a bridge between raw clinical records and meaningful insights, transforming the way rehabilitation medicine is practiced.

This second installment of "From Data to Decisions" focuses on turning insights into action. While the first step is systematic data capture, the greater value lies in converting those records into patterns that clinicians can directly use to improve patient care. For example, analyzing prescription frequencies across different practice settings can reveal brand preferences, adherence gaps, or even early indicators of community-level deficiencies (such as Vitamin D or calcium use trends). Similarly, tracking follow-up visits provides visibility into recovery rates, defaulting patients, and chamber-specific caseload dynamics—information that can guide both clinical and administrative planning.

Artificial intelligence (AI) and analytics tools are now capable of recognizing trends in musculoskeletal pain, rehabilitation adherence, and long-term outcomes from datasets as simple as patient logs and prescription snapshots. By embedding these insights into everyday practice, clinicians can:

- Identify early red flags in chronic pain or musculoskeletal conditions.
- Evaluate treatment effectiveness through real-world recovery patterns.
- Optimize chamber-wise resource allocation and workflow.
- Strengthen patient engagement by mapping adherence and communication needs.

Ultimately, advanced data science does not demand a radical change in practice style—it enhances existing workflows by quietly organizing, analyzing, and visualizing what is already being generated. The result is a more empowered physician who can see beyond the individual prescription pad into broader trends that shape population health.

PMR as a specialty stands at a unique junction: its holistic, long-term approach naturally produces layered datasets on function, pain, and rehabilitation outcomes. Harnessing this information through data-driven platforms transforms isolated encounters into continuous learning loops—closing the gap between clinical intuition and evidence-backed decisions.

This session will illustrate how everyday clinical data, when structured and analyzed intelligently, can be the most powerful resource for PMR physicians. From the rehabilitation chamber to the community level, the future of PMR lies in moving beyond documentation and into actionable insight—where every patient record contributes not just to treatment, but to transformation.



"INTELLIGENCE IS THE INDUCER OF REHABILITATION: NATURAL OR ARTIFICIAL?

Dr Ambar Konar, MD
Interventional Physiatrist, Rehabana

The essence of Rehabilitation Medicine is to deliver maximum effort to ensure the optimal functional outcome of the patients by any ethical means. With incorporation of Artificial intelligence in health care in last decades, Rehab Medicine has also started including this super power in its armoury worldwide including India.

Across all dimensions - from diagnostic medicine, acute medical care to community reintegration and long-term support - AI is acting as a transformative force in Rehabilitation. It provides precision in treatment, personalization in care plans, prediction of outcomes, and participation for patients in ways previously not possible. Global examples show AI-driven improvements

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in recovery times, patient engagement, and quality of life, and many of these innovations are finding their way into India's healthcare landscape, adapting to local needs.

In the next two years, we expect AI to transition from pilot projects to standard practice in many rehab settings: rehab clinicians will routinely harness predictive models for decision-making, team therapists will use AI tools to enhance therapy intensity and reach, and patients will increasingly interact with AI companions and coaches as part of their rehabilitation journey. This human-AI partnership in Rehab Medicine holds immense promise.

However, success requires careful integration – validating algorithms clinically, safeguarding patient data, and ensuring technology complements human care, not replace the empathy and expertise professionals provide. With those guardrails, AI stands to significantly broaden the impact of neurorehabilitation, making it more effective, inclusive, and responsive.

Patients in India and around the world can look forward to rehabilitation programs that not only aim to restore their abilities but do so in a way that is smartly tailored to their unique life and aspirations – truly embodying the principle of "Rehabilitation for the whole person and comprehensive functionality."



ARTHRITIS IN CHILDREN - ASSESSMENT AND REHABILITATION

Prof. (Dr) Partha Pratim Pan
Professor and HOD, Dept of PMR, NBMCH

Juvenile Idiopathic Arthritis (JIA) is the most prevalent chronic rheumatic disease of childhood, characterized by arthritis of unknown cause with onset before 16 years of age and persisting for more than six weeks. It encompasses several subtypes under the ILAR classification, including systemic JIA, oligoarthritis, polyarthritis (RF-positive and RF-negative), psoriatic arthritis, enthesitis-related arthritis, and undifferentiated arthritis. The disease is immunologically mediated, with aberrant T- and B-cell activation, overproduction of cytokines such as IL-1, IL-6, and TNF-α, and genetic predisposition often triggered by environmental factors.

Clinically, JIA presents with joint swelling, stiffness, and pain, often more pronounced in the morning or after rest. Systemic forms may manifest with fever, rash, hepatosplenomegaly, or uveitis. All form of JIA may lead to growth disturbances and disability if not treated early. Diagnosis relies primarily on careful clinical evaluation, supported by laboratory investigations (ESR, CRP, ANA, RF, anti-CCP, HLA-B27) and imaging modalities to exclude infectious, malignant, or metabolic mimics.

Management strategies include NSAIDs, corticosteroids, conventional DMARDs, and biologic agents targeting specific immune pathways. Biologics, particularly TNF inhibitors and IL-1/IL-6 blockers, have greatly improved outcomes. Equally important is multidisciplinary rehabilitation, which focuses on pain control, preservation of joint mobility, strengthening, correction of deformities, and ensuring functional independence. Exercise therapy, orthotic support, assistive technologies, and occupational therapy contribute significantly to long-term quality of life.

Beyond JIA, other forms of paediatric arthritis include septic and tubercular arthritis, rheumatic fever, reactive arthritis, haemophilic arthropathy, and malignancy-associated joint disease. Septic arthritis is a medical emergency requiring urgent antibiotics and surgical drainage, while tubercular arthritis demands prolonged anti-tubercular therapy with rehabilitation.

Early recognition, individualized treatment, and continuous follow-up are essential for reducing long-term morbidity. With modern therapies and integrated rehabilitation, children with JIA and related arthropathies can achieve near-normal growth, functional independence, and improved psychosocial outcomes.

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MEDICAL REHABILITATION IN JIA AND MYOSITIS

Dr. Arupratan Ghosh,
MD (PM&R), DPH, Assistant Professor, PMR, CMCH

Juvenile Idiopathic Arthritis (JIA)encompasses a clinically heterogenous group of arthritides of unknown cause, with onset before the age of 16 years and persisting for >6 weeks.the Pediatric Rheumatology International Trial Organization has proposed revised Classification criteria for JIA, comprising ofSystemic JIA, RF positive JIA,Enthesitis Spondylitis -related JIA, Early onset Antinuclear Antibody Positive JIA.

Juvenile Idiopathic Inflammatory Myopathies (JIIM)are a group of rare but serious conditions of children and young people that predominantly affect the muscles and skin, but can also involve other organs, including the lungs, gut, joints, heart, and CNS.

JIIM comprises ofJuvenile Dermatomyositis,Polymyositis,Anti-Synthetase syndrome,Immune mediated necrotizing myositis,Overlap myositis, etc.

Initial Assessment need to be done for Joint effusion,Synovial thickening, Skin lesions,Tenderness, Crepitus, Deformity,Instability, Limitation of AROM & PROM, Muscle atrophy, Limb-length discrepancy, Posture & Gait, Muscle strength, Swallowing, Physical function, Quality of Life, pain components etc.Assessmentof physical functionis done by Juvenile Arthritis Functional Assessment Report (JAFAR),Juvenile Arthritis Functional Assessment Scale (JAFAS),Childhood Health Assessment Questionnaire (C-HAQ) or,Juvenile Arthritis Status Index (JASI). Quality of life is assessed by Juvenile Arthritis Quality of Life Questionnaire (JAQQ) or,Pediatric Quality of Life Questionnaire (PedQL). Pain components are measured by Visual Analog Scale (VAS),Wong-Baker Faces Pain Rating Scale, Oucher scale or,The Varni/ Thompson Pediatric Pain Questionnaire.

Aim of Rehabilitation for JIA and JIIM are to reduce pain, improve range of motion (ROM) in affected joints, prevention of the development of deformities, correct existing deformities, improve endurance, achieve independence in Activities of Daily Living (ADL), participation in age-appropriate activities, as well as improve Quality of Life.**Pharmacological management** consists of NSAIDS, steroids,DMRDs, Biologics, Immunosuppressants & IVIG.**Nonpharmacological management** consists of patient & family Education, Exercise, pulmonary rehabilitation, physical modalities, Occupational therapy, psychological measures, Orthoses, Assistive devices, mobility aids, dysphagia management, Vocational rehabilitation& recreational activities etc. **Interventions** like Intra articular Corticosteroid injection in inflamed joints for pain control & contracture- deformity prevention, Serial casting for contracture release, Botulinum toxin injections in dysphagia management required in selected cases. Phase wise rehabilitation measures for Acute, subacute and chronic conditions need to be taken in consideration.

In Conclusion, Early diagnosis, Optimum pharmacologic & Rehabilitation measures, Active patient & family Involvements, and introduction of medical rehabilitation early in the disease course are the answer to JIA & JIIM.



EFFICACY OF GRAY RAMI COMMUNICANTES BLOCK IN CHRONIC LOW BACK PAIN

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Background: Chronic low back pain (CLBP) is a prevalent condition often associated with significant disability and reduced quality of life. The gray rami communicantes, carrying postganglionic sympathetic fibers, are emerging as a potential target for intervention in patients with sympathetically mediated pain. This study evaluates the efficacy of gray rami communicantes block (GRCB) in patients with CLBP and compares outcomes using the Visual Analog Scale (VAS) and the Oswestry Disability Index (ODI).

Methods: A single arm prospective observational study was conducted on 35 patients diagnosed with chronic low back pain (>3

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months duration), at PMR dept, NRS medical college Kolkata from May 2025 to August 2025 .Patients received fluoroscopy-guided GRCB. Pain intensity was assessed using the VAS, while functional disability was measured using the ODI, both pre-procedure and at 1 week, 1 month, and 3 months post-intervention.

Results: Significant reductions in VAS scores(>50%) were observed at all 1 week and 1 month ($p < 0.001$), though less significant at 3 months($p=0.01$). In ODI scores significant functional improvement at 1 and 3 months ($p < 0.001$), though less significant at 3 months($p=0.02$).

Conclusion: GRCB appears to be a promising interventional approach in the management of CLBP, providing both pain relief and functional improvement, though for short time period. Further randomized controlled trials are warranted to confirm these findings and to establish long-term efficacy.

Keywords: chronic low back pain(CLBP), gray rami communicantes block(GRCB), VAS(visual analogue scale), Oswestry Disability Index(ODI), sympathetic block, interventional pain management



ERECTOR SPINAE PLANE BLOCK FOR CHRONIC LUMBOSACRAL PAIN: A CASE SERIES

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Chronic low back pain is a debilitating condition that regularly resists traditional control strategies together with physical therapy, pharmacotherapy, and interventional methods. The erector spinae plane (ESP) block, a relatively new technique, has shown promise in coping with various kinds of pain, which includes chronic conditions. We will document here three patients in their late 60's with chronic low back pain unresponsive to conventional remedies, including NSAIDs, muscle relaxants, anticonvulsants, epidural steroid injections and diagnostic medial branch blocks. Given the refractory nature of the pain, a proper-sided lumbar ESP block was achieved under sonographic guidance. These cases highlights the ability of the ESP block as an effective treatment for chronic lumbar pain, specifically in patients who've now not responded to other interventional modalities. The safety profile of the ESP block, coupled with its efficacy in this situation, helps its consideration as a viable option in chronic pain management. Further studies and clinical experience will be essential in establishing protocols for its use in chronic pain settings.

Keywords: Chronic back pain, ultrasound, erector spinae plane block



REPLACEMENT TO REGENERATION FOR OA KNEE: A GAME CHANGER

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The knees are the most frequently affected weight-bearing joints in osteoarthritis (OA), impacting millions of people globally. With increasing life spans and obesity rates, the prevalence of knee OA will further mount, leading to a significant increase in the economic burden. The usual treatment modalities utilized to manage knee OA have shortcomings. prevalence of OA knee will continue to increase as life expectancy and obesity rises. Depending on the source, roughly 13% of women and 10% of men 60 years and older have symptomatic knee osteoarthritis. Among those older than 70 years of age, the prevalence rises to as high as 40%. The prevalence of knee osteoarthritis in males is also lower than in females. The molecular pathophysiology of knee osteoarthritis (OA) is driven by an imbalance between cartilage matrix degradation and repair, mediated by inflammatory cells and factors like matrix metalloproteinases (MMPs) and cytokines, leading to the breakdown of collagen and proteoglycans.

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This process involves interactions between the cartilage, subchondral bone, synovium, and meniscus and surrounding structures. Over the last decade, the field of regenerative medicine involving the use of biologics, such as autologous peripheral bloodderived orthobiologics, including hyperacute serum (HS), MSCs, eg, BMAC, SVF has evolved and shown potential for managing knee OA. BMAC (Bone Marrow Aspirate Concentrate) generally offers greater benefits than PRP (Platelet-Rich Plasma) for knee osteoarthritis, as it contains stem cells and more anti-inflammatory cytokines, leading to more significant and sustained pain reduction and improved function, though PRP is more accessible and has a quicker onset. The choice between BMAC and PRP depends on factors like the severity of the condition, the patient's age, and the specific goals of treatment, with BMAC often reserved for more severe cases or when other treatments have failed. SVF (stromal vascular fraction) is a regenerative therapy for knee osteoarthritis (OA) that uses cells from a patient's own adipose (fat) tissue to potentially reduce inflammation and promote tissue regeneration. It is thought to work by leveraging the various cells in SVF, including stem cells, to stimulate the formation of new cartilage and to modulate the inflammatory environment within the joint. Now slowly era of steroid injection into the joint space and surgical options like knee replacement is going down. Regenerative interventions are emerging slowly as a promising treatment option.



GOLDEN DROPS OF HEALING: IS GOLDIC THE FUTURE OF REGENERATIVE MEDICINE?

Dr Kaustav Basu Thakur
Consultant Physiatrist

Regenerative medicine is redefining therapeutic frontiers by aiming not only to alleviate symptoms but also to restore structure and function. Within this landscape, GOLDIC® (Gold-Induced Cytokine Therapy) has emerged as a promising innovation. Developed from the principle of using autologous blood components activated by gold particles, GOLDIC promotes a cascade of anti-inflammatory and regenerative processes. The resulting serum is enriched with growth factors and cytokines that can stimulate tissue repair, modulate immune responses, and improve local microcirculation.

Early studies and clinical applications suggest potential benefits of GOLDIC in osteoarthritis, tendon injuries, chronic pain syndromes, and delayed healing conditions. Unlike conventional corticosteroid or hyaluronic acid injections, GOLDIC targets deeper biological pathways—acting not just as a symptomatic reliever but as a facilitator of regeneration. By enhancing the natural healing potential of the body, this therapy aligns with the broader vision of personalized, minimally invasive, and biologically driven interventions.

The concept of "golden drops" carries both symbolic and scientific weight. Gold, long regarded for its purity and resilience, is here reimagined as a therapeutic catalyst. Laboratory and clinical data demonstrate its ability to stabilize and activate immune pathways, reduce pro-inflammatory mediators, and promote anabolic tissue responses. For patients, this translates into possibilities of improved joint function, reduced pain, and extended intervals before surgical intervention becomes necessary.

Yet, important questions remain:

- How consistent are outcomes across different patient groups and indications?
- What are the long-term safety and cost-effectiveness profiles compared to established biologics like PRP or stem cell therapies?
- Can standardized protocols ensure reproducibility in diverse clinical settings?

This presentation explores the current evidence, mechanisms, and clinical experiences surrounding GOLDIC therapy. It also critically evaluates where it stands in comparison to other regenerative modalities. While challenges of validation, accessibility, and regulation remain, the early promise of GOLDIC sparks an important discussion: could these "golden drops" represent the next era in regenerative medicine, bridging science and healing in a uniquely powerful way

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BIOETHICS

Prof Dr Subhra Mandal,
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Bioethics is the branch of philosophy which deals with moral aspects of human behaviour and its implications in the field of biological sciences. The principles of bioethics have always been the key component in the practice of medical profession. A doctor should serve the interest of the patient, society, and other health professionals by applying his/her conceptual knowledge and skills. Bioethics actually justifies that not everything goes well in patient care or clinical trials as witnessed in cases of Tuskegee Syphilis Experiment or in Nazi human experimentation (Nuremberg Trials).

Nuremberg Code (1947): is a 10-point statement of ethical principles for human experimentation, developed in 1947 by American judges during the Doctors' Trial at the Nuremberg Trials in Germany created in response to unethical medical experiments conducted by Nazi doctors on concentration camp prisoners during World War II. It establishes most fundamental ethical guidelines for human research - the absolute necessity of voluntary and informed consent from participants and that experimentation should not cause unnecessary suffering.

The importance of ethical conduct for physicians actually started centuries back by the oath-taking ceremony conducted by various medical schools on the day of graduation. The students taking the "Hippocratic oath," (by the Greek physician Hippocrates), universally accepted as an ethical code of conduct for physicians is probably the earliest expression of medical ethics, which requires the physician to swear by the name of gods that he/she will uphold the best ethical standards in their medical profession.

Healthcare Professionals, especially medical professionals, are entrusted to take the right decisions and act in the best interest of the patient & the society. Bioethics needs health professionals to adhere to the moral and ethical standards formulated by the professional bodies.

Nevertheless, in modern medical practice, a professional has to confront ethical dilemmas in his/her work. Clinicians face ethical problems in patient management. Medical researchers face various ethical issues in basic and clinical research. The physician is trusted upon to make the right clinical judgments which are in line with the code of medical ethics and laws pertaining to the ethical dilemma. In medical research, the researcher is expected to conduct good-quality research which would help enrich the medical literature and identify newer modalities of treatment

Furthermore, bioethics demands the health-care professionals to be competent and up to date with knowledge and skills, thereby ensuring delivery of a cost-effective treatment and a quality assurance health care.Medical and professional ethics are based on the principles of-

1) Beneficence (a practitioner should always act in the best interest of the patient and the society)
2) Non-maleficence (do no harm to the patient)
3) Autonomy (respect and protect the right of the patient to make his/her own choice of decision, that is" Informed Consent for medical procedures during patient care and in medical research." It also includes- maintaining privacy and confidentiality)
4) Justice (all individuals in the society are treated fairly and the burdens and benefits of research should be distributed equitably).

Physicians are encountered with ethical dilemmas in balancing these principles and conflicts arising among them. One of the situations of an ethical dilemma is when conflict arises between the two ethical principles of "beneficence" and "confidentiality." Consider that a physician makes a diagnosis of acquired immunodeficiency syndrome in his/her patient and also the doctor is aware that the patient is going to get married the next week. What should the doctor do? Should he/she disclose the condition to the patient's fiancée (beneficence) or maintain the confidentiality of the information to safeguard his/her patient's trust on him/her? The doctor should exert his/her communication skills and discernment counselling here to seek the best personal and social outcome.

Significant issues in the field of bioethics include-1) The process of Informed consent 2) Genetic engineering and testing 3) Refraining from life support treatment 4) Euthanasia 5) Doctor-patient relationship 6) Relationship with the caregivers 7) Confidentiality, and Conflicts of interest.

Moreover, in 1999, the World Medical Association made teaching of bioethics mandatory to the medical graduates through a

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resolution. The Medical Council of India (Now NMC), in its document "Vision 2015," insisted on the need for incorporating medical ethics and professionalism as part of undergraduate curriculum. The NMC has recommended a structured, longitudinal Attitude, Ethics and Communication (AETCOM) module which has 27 case-based modules transacted over a period of 139 hours. This training will enable an Indian medical graduate to perform his/her roles ethically as a member of the health-care team and as a professional.



INTEGRATION OF NGOS AND GOS IN VOCATIONAL SETTLEMENT OF DIFFERENTLY ABLED PERSONS

Dr Abhishek Biswas
Ex Director, NILD, Kolkata

As per census 2011 2.21% of our total population is differently abled person. They are really a valuable resource person of our society. After physical rehabilitation, their resettlement for economic empowerment is very important to achieve real success in rehabilitation. But there are many constraints to reach this ultimate goal. Govt of India has introduced many schemes and projects to overcome those constraints and to create an inclusive environment and to provide equal opportunities keeping parity with the international level. There are many NGOs who are also working for the right and inclusiveness of these differently abled population as well as their economic empowerment. But still more to do. If GO & NGO work together in a coordinated manner, only then we may reach to the target. A more integrated work environment to be established between the GO and NGOs to create a more meaningful and useful life for differently abled population of India.

Key words: Differently abled persons, Economic empowerment, inclusive environment, equal opportunities, Govt. Schemes. Integration with NGOs.



KNOWLEDGE AND PRACTICE OF NURSING STAFFS IN EARLY REHAB OF STROKE PATIENTS

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Introduction: Cerebrovasular accidents in many cases result in hemiparesis along with cognitive impairments.Motor weakness leads in mobility issues whereas cognitive impairment may hamper the progress of rehabilitation.Physiotherapists and occupational therapists have extensive knowledge in this aspect. But though nursing staff tend to them 24 hours they have limited knowledge regarding bed positioning , mobility and transfer of CVA patients. We conducted a survey to enquire about the gap in knowledge and practice of nursing staff in stroke rehab and discuss a way to effectively increase their input in future.

Aims: To explore the Knowledge and practice of nursing staffs in early rehab of stroke patients

Methodology: an anonymous survey was conducted with a questionnaire with nursing stuffs of 5 different institutesworkng in general medicine and neuromedicne indoor unit. 20 questions on bed positioning, mobility and transfer issues concluding with their opinion on how to improve their participation in rehab unit were included. Qualitative analysis of the survey was done to see the trend of their knowledge and practice.

Results: It was found that the nursing staff in many cases did not have adequate knowledge due to lack of formal teaching interventions in this area. Even though they have knowledge in some cases, due to time and space constraints they could not practice them.

Conclusion: It may be possible to effect a degree of change in the nurses' knowledge of and practice in the positioning and mobility of stroke patient through more formal teaching intervention.

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PSYCHIATRY AND PHYSIATRY- AN INTERFACE

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A physiatrist or a practitioner of Physical Medicine and Rehabilitation deals with chronic pain and diseases or physical disabilities arising out of conditions such as trauma, neurological disorders, or congenital conditions. A psychiatrist, on the other hand, focuses on mental well-being. However, body and mind are two sides of the same coin, both physiologically and metaphorically. Addressing physical problems without understanding the patient's psyche leads to incomplete treatment. Similarly, since time immemorial, physical modalities and exercises have been used to enhance the emotional well-being of patients. A physiatrist is a medical practitioner with the added advantage of having a background of therapy and interventional pain management training. In this presentation, we will discuss a few cases that overlap and how a combined approach of Physiatry and psychiatry leads to a holistic rehabilitation. A well-designed neuro-psychiatric rehabilitation is crucial in improving the functionality, cognition, and participation of any patient. Early diagnosis and effective management with appropriate medication and behavioral therapy help in accelerating cognitive and physical recovery.

Keywords: psychiatry, Physiatry, neuro psychiatry, rehabilitation, interface



ONCOLOGY AND PHYSIATRY INTERFACE: ROUTINE MANAGEMENT

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Cancer is one of the major public health issues, and advances in diagnosis and treatment have led to improved survival. This has resulted in a growing population of cancer survivors who often experience functional, psychological, and social limitations. Cancer survivorship itself has become an important public health concern, as survivors are eager to live highly functional and productive lives. While routine oncology care primarily focuses on cancer cure and disease control through chemotherapy, radiotherapy and surgical intervention, the interface of Oncology and Physical Medicine and Rehabilitation (PMR) ensure comprehensive care resulting in improve quality of life, functional status, prevention of disability and symptoms management throughout cancer treatment and survivorship. With PMR integration, routine care provides early diagnosis and intervention for disabling impairments and symptoms caused by cancer and its treatment, with a emphasis on those of neuromusculoskeletal origin. This includes addressing pain, lymphedema, fatigue, mobility, and psychosocial needs, alongside long-term survivorship planning. Significant barriers -such as lack of awareness, inadequate resources, inconsistent referral system limit access to optimal care. Strengthening the oncology - PMR interface through collaborative practices, patient centred care models and education of health care providers is crucial to address the growing needs of cancer survivors and to promote standardisation in rehabilitation services.

ABSTRACTS



RECENT ADVANCES IN OSTEOARTHRITIS MANAGEMENT

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Osteoarthritis (OA) is the most common degenerative joint disorder, characterized by progressive cartilage loss, subchondral bone changes, synovial inflammation, and impaired joint function. With an aging population, rising obesity rates, and increasing longevity, OA has become a leading cause of pain and disability worldwide. The burden extends beyond musculoskeletal limitations, encompassing reduced quality of life, psychological distress, and significant socioeconomic costs. Importantly, OA is a heterogeneous condition, influenced by joint site, comorbidities, pain mechanisms, and patient expectations, which underscores the need for individualized, patient-tailored treatment strategies.

Recent advances in OA management reflect a paradigm shift from symptom control alone to disease modification and precision care. Non-pharmacological measures remain central, with renewed emphasis on weight management, exercise therapy, and digital health tools for self-management. Pharmacological innovations include intra-articular agents such as extended-release corticosteroids, hyaluronic acid formulations, and novel injectables like platelet-rich plasma (PRP), autologous conditioned serum, and mesenchymal stem cell therapies that aim to restore joint homeostasis. Disease-modifying osteoarthritis drugs (DMOADs), including Wnt pathway inhibitors, fibroblast growth factor analogues, and senolytic agents, are under investigation to slow structural progression. Advances in pain management highlight the role of duloxetine, neuromodulation techniques, and stratification of nociplastic pain subgroups. Surgical strategies have also evolved with minimally invasive joint preservation procedures, patient-specific instrumentation, and robotic-assisted arthroplasty improving outcomes.

Collectively, these developments signal a move toward mechanism-based, patient-centered care in OA. Integration of clinical, imaging, and biomarker data may enable precision medicine approaches, improving long-term outcomes while reducing the individual and societal burden of this highly prevalent disease.



THE MODIFIED REVERSED CONTRALATERAL AXIAL ROTATION POSITION: A New Paradigm in Body Manipulation for Low Back Pain with Radiation- A case series.

Dr Anindya Basu
Consultant Physiatrist,

Background-Spinal nerve root compression in the lumbar intervertebral foramen is a definitive feature of low back pain with radiation due to prolapsed intervertebral disc.

Purpose- The MRCAR position has been recently discovered as a conservative method to increase the area of lumbar intervertebral foramina. We study the feasibility of applying this position in patients presenting to a Physical Medicine and Rehabilitation clinic with an acute onset of low back pain with unilateral radiation.

Methods- 5 patients between 20 and 50 year old with low back pain and radiation of two weeks duration were advised to undergo the MRCAR position for 20 minutes 4 times a day for 5days. The NRS pain scores and SLR was obtained on the initial visit and after 5days.

The two scores were compared on a case to case basis.

Results- In each case , the SLR increased by 30 degrees and the NRS pain score went down by 4points.

Conclusion- The conservative modified reversed contralateral axial rotation position of the trunk had reduced the NRS pain scores and increased the SLR in each patient of low back pain with radiation.





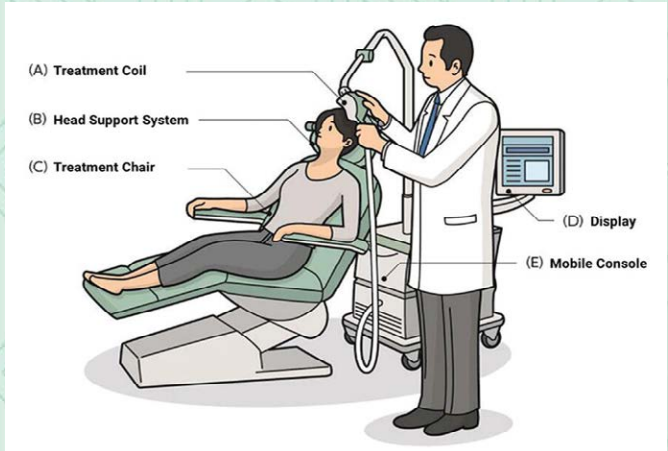
Neuro-modulation:
Why Physiatrists are lagging behind

Dr Md Anwar Sadat Halder
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Since time immemorial various modalities of treatment have been used for management of different health issues.Among these pharmacological modalities have superseded all other modalities. \Among all specialities in modern medicine PMR is one that deals with non pharmacological means that act upon human biological system.

Neuromodulation though a new and promising domain but it's basic idea is very much embedded in PMR. Basic idea of neuromodulation is to modulate or influence central or peripheral nervous system non invasive or invasively. The modalities that are most commonly used is by electrical current and magnet. It will not be wrong to say that major proportion of conventional electrotherapy which is used for more than five decade is prototype of Neuromodulation.

Neuromodulation that are commonly used in clinical practices are TMS(Transcranial magnetic stimulation)tAVNS(TransauricularVagus nerve stimulation),tDCS(Transcranial direct current stimulation), PTNS/TTNS(Percutaneous/ Transcutaneous tibial nerve stimulation)



While TMS acts by modulating cortical excitability by magnetic stimulation other modalities involve the emission of a electrical current, traditionally via the placement of two electrodes.

TMS and tDCS are being applied to three main areas in stroke recovery: hemiparesis, neglect and aphasia.Apart from that they are used in different psychiatric and neurodegenerative diseases. tAVNS selectively stimulate auricular branch of Vagus which is used and investigated in refractory epilepsy, anxiety disorder, depression etc. PTNS/ TTNS is used in urinary incontinence mainly in different neurological condition.

Surprisingly Physiatrists are not intensely involved in either research or practice in the field of neuromodulation.Globally there is overwhelming presence of Neurologist psychiatrist and Neurosurgeon in this field.

Our less involvement or engagement in this field is evident from the dissertation of our PGT. Very few of this is related to neuromodulation. We have to be aware and enthusiastic regarding this to be academic and clinical stakeholders in this new domain.



Why **Digital Presence** is a Must for Every PMR Physician?



Dr Subhasish Pati
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Introduction

Physical Medicine and Rehabilitation (PMR) is one of the fastest-growing fields in modern medicine. With the increasing burden of musculoskeletal pain, stroke, spinal cord injuries, and lifestyle-related disabilities, PMR physicians have emerged as crucial players in the healthcare ecosystem. However, despite their unique role, many PMR physicians struggle with visibility. Patients often confuse their scope with orthopedics, neurology, and even physiotherapy.

The answer lies in digital presence. In today's world, reputation is not only built in the hospital corridors but also on search engines, social media platforms, and digital communities. The patient of 2025 is "digital-first"—they research online, compare doctors, read reviews, and consume health information on their mobile phone before stepping into a clinic.

For PMR physicians, a well-planned digital strategy not only brings patients but also spreads awareness of the specialty, improves academic recognition, and creates opportunities for research and collaboration. This article explains why digital presence is essential, defines digital marketing for doctors, outlines effective strategies, and provides practical steps to implement them.

Why Digital Presence is Essential for PMR Physicians ?

1. Changing Patient Behavior

Healthcare-seeking behavior has shifted dramatically. Surveys indicate that more than 70% of patients search online before deciding which doctor to consult. Patients no longer rely solely on referrals; they Google their symptoms, search for specialists nearby, and check reviews. For a specialty like PMR—which is still emerging in public awareness—digital presence ensures that patients learn what conditions you treat.

Example: A patient with chronic low back pain searches "back pain doctor near me." If your clinic appears on Google Maps with reviews and relevant content, the patient is more likely to choose you over others.

2. Awareness Creation for PMR

Despite being a broad specialty, many patients have never heard of "PMR." They often assume that only orthopedic surgeons handle arthritis or that neurologists are the only experts for stroke. A PMR physician's role in:

- Pain management
- Rehabilitation (stroke, spinal cord injury, cerebral palsy)
- Sports injuries
- Musculoskeletal disorders
- Lifestyle and ergonomic advice

...remains under-publicized. Digital platforms bridge this knowledge gap. Through blogs, videos, and infographics, physicians can explain what PMR is and why it matters.

3. Building Trust and Credibility

Trust is the cornerstone of medicine. A strong digital presence–through articles, explainer videos, or patient-friendly guides–positions the doctor as an authority figure. Patients tend to follow advice from someone they already "know" digitally.

Analogy: Just as academic publications add credibility among peers, online content adds credibility among patients.

4. Professional Networking and Collaboration

Digital presence is not only patient-focused. Platforms such as LinkedIn, ResearchGate, Twitter (X) connect physicians with peers, researchers, and policy makers. Speaking invitations, workshop collaborations, or even international fellowships often come through digital networking. For young PMR physicians, this is invaluable for career growth.

5. Business and Practice Growth

A clinic with a website, patient reviews, and regular digital engagement naturally attracts more patients than one that is invisible online. Digital presence also enables:

• Online appointment booking
• Teleconsultations and telerehabilitation
• Targeted ads to attract local patients

This directly translates into practice sustainability and growth.

Defining Digital Marketing for Doctors

Digital marketing for doctors refers to the strategic use of online platforms to:

1. Educate patients about conditions, prevention, and treatment.
2. Engage with current and potential patients through social media.
3. Enhance visibility through search engines and maps.
4. Establish authority in both patient and academic communities.
5. Expand reach beyond geography using telehealth.

It is not "advertising" in the traditional sense; rather, it is educational, ethical communication that builds trust and visibility.

Ways to Build Digital Presence for PMR Physicians

1. Professional Website

A doctor's website is their digital clinic. A simple, mobile-friendly, SEO-optimized website should include:

- Profile and qualifications
- List of conditions treated (back pain, arthritis, stroke, cerebral palsy, etc.)
- Patient resources (blogs, exercise tips)
- Clinic address, timings, Google Maps integration
- Appointment booking links

A website gives legitimacy–patients often feel more confident when the doctor has a dedicated professional space online.

2. Google Business Profile

This is the single most important free tool for local visibility. Patients searching "rehab doctor in Kolkata" will find your clinic if your profile is updated. It should include:

- Clinic name and address
- Working hours
- Photos of the clinic

- Services offered
- Verified patient reviews

Pro tip: Encourage patients (with consent) to leave genuine reviews.

3. Social Media Presence

Different platforms serve different purposes:

- Facebook & Instagram: Patient education posts, rehab tips, before-after stories (with consent).
- LinkedIn: Networking with peers, sharing research and conference updates.
- YouTube: Short, high-quality videos on topics like "Simple exercises for frozen shoulder" or "What is stroke rehab?"
- Twitter (X): Quick updates, engaging in academic discussions.

Consistency is key: posting 2–3 times a week maintains visibility.

4. Blogging and Articles

Blogs are powerful for search engine ranking. Example topics:

- "5 mistakes people make while treating back pain"
- "Why morning stiffness is a red flag"
- "The role of Vitamin D in joint health"

These attract patients searching for answers and help establish your expertise.

5. Tele-Consultation and Tele-Rehabilitation

Post-COVID, online consultations have become mainstream. Platforms like Practo, Lybrate, or even secure WhatsApp-based systems (with consent) allow follow-ups and rehabilitation guidance. Digital presence ensures patients trust you enough to consult online.

6. Email Newsletters

For long-term connection, newsletters are effective. Monthly emails with tips, rehab advice, or clinic updates build loyalty. Unlike social media, email ensures direct reach to patients.

7. Paid Digital Ads (Optional)

Facebook and Google Ads can target specific conditions and locations. Example: "Frozen shoulder treatment in Kolkata – Book now."

This works especially well for specialized clinics.

Ethical and Legal Considerations

PMR physicians must balance visibility with ethics. The National Medical Commission (NMC) guidelines in India allow doctors to share educational content but discourage direct solicitation. Key rules:

- Do not claim "guaranteed cure."
- Do not post patient photos without consent.
- Focus on education, not self-promotion.
- Disclose affiliations with pharma/device companies transparently.

Digital marketing should reflect professionalism and integrity.

Case Example

A PMR physician in Kolkata launched a website, wrote weekly blogs on arthritis, and began posting rehab tips on Facebook. Within six months:

- Patient footfall increased by 40%.
- Many patients mentioned they found him via Google.

• He received invitations to speak at two webinars through LinkedIn.

This demonstrates how even basic digital presence can transform practice.

Digital Presence Beyond Patients

1. Research Visibility

Uploading publications to ResearchGate, Google Scholar, PubMed ensures wider readership. Sharing conference abstracts on LinkedIn enhances recognition.

2. Public Health Impact

PMR physicians deal with prevention and rehabilitation. Digital platforms allow mass awareness about posture, ergonomics, preventive exercises–thus reducing disease burden.

3. Legacy Building

Your online content–blogs, videos, recorded lectures–becomes a permanent digital legacy for future patients, students, and professionals.

Practical Action Plan for PMR Physicians

1. Create a Google Business profile - free, takes 15 minutes.
2. Build a website - Site123, WordPress or Wix, simple and clean.
3. Post regularly - 2-3 short posts per week on Facebook/Instagram.
4. Write one blog per month - answering patient FAQs.
5. Encourage patient reviews - ethically and with consent.
6. Start with simple videos - even mobile-shot explainer videos are effective.
7. Join LinkedIn groups - connect with rehab professionals worldwide.
8. Track growth - use Google Analytics and feedback from patients.

Future of Digital PMR Practice

- AI-assisted digital tools: Symptom checkers, exercise monitoring apps.
- Virtual rehab clinics: Using VR for stroke and musculoskeletal rehab.
- Data analytics: Tracking patient progress via digital records.
- Patient communities: Building support groups online for chronic pain, arthritis, or post-stroke recovery.

PMR is perfectly suited for digital integration because rehabilitation is long-term, lifestyle-focused, and requires patient engagement.

Conclusion

In the modern healthcare landscape, digital presence is not optional–it is a necessity. For PMR physicians, it brings:

• Visibility among patients and peers.

• Awareness about the specialty.

• Trust and credibility through patient education.

• Opportunities for academic growth and collaborations.

• Sustainability of private practice in a competitive environment.

Just as a stethoscope is indispensable to a physician, a strong digital presence has become indispensable in today's era. By embracing ethical, patient-focused digital marketing, PMR physicians can not only grow their practice but also elevate the entire specialty of rehabilitation medicine.





Private Physiatry: the Game-changer of the next decade?

Dr Ambar Konar
Interventional Physiatrist and Lead Consultant, Rehabana NeuroRehab Center

> "For all those budding ***Physiatrists***, who dream of leading a Team, dedicated to heal a struggling ***soul*** for returning to active ***life***"

Physiatry (Greek Physikos: Physical, iatreia: Art of healing) or Physical Medicine and Rehabilitation (PM&R), is a medical speciality that focuses on helping patients with physical disabilities, injuries, or chronic illnesses to achieve optimal functional outcome and quality of life. Compared to other specialities, being handful in number, Physiatry is yet a medical speciality to reach most of the community in need for care of its domains in this part of the globe. Most the domains in private set up are being taken care of by other specialities. This essay will explore the role of Physiatry in private setup, its benefits, and the comprehensive approach to rehabilitation.

Private Physiatry: the less known term.

By policies and norm, PMR department is established in almost every Government Medical colleges. In a private setup, physiatrists work in a personalized and intimate environment either as OPD consultation or by leading a team with multiple dedicated professional health-personnel, providing comprehensive care to patients with a wide range of conditions to develop and implement personalized treatment plans with rehab goal.They diagnose and treat a wide range of conditions, including musculoskeletal injuries, spinal cord injuries, stroke, brain injuries, and chronic pain. Physiatrists in private practice often have more time to devote to each patient, allowing for a more thorough understanding of their needs and goals.

Physiatrists in private setup treat a wide range of conditions, including:

- Musculoskeletal Medicine: cumulative trauma diseases, Sports injuries, rheumatological diseases.
- Spinal cord injuries: Traumatic spinal cord injuries, myelopathy and spinal cord disorders.
- Stroke and brain injuries: NeuroRehabilitation after stroke, traumatic brain injury, or other brain injuries.
- Chronic pain: biomechanical, degenerative diseases, neuropathy and fibromyalgia.
- Amputation Rehab: Prosthetic management and rehabilitation.
- Interventional Pain Rehabilitation: Guided interventions for pain and spasticity.

Comprehensive Approach to Rehabilitation.

Physiatrists in private setup use a comprehensive approach to rehabilitation, taking into account the physical, emotional, and social needs of each patient. This approach includes:

- Diagnosis: Being a well trained physician on musculoskeletal medicine, neuroRehab and other subspecialities, Physiatrists use a thorough history and clinical assessment, as well as diagnostic tests, to

accurately diagnose the underlying condition.

- Personalized treatment plans: Physiatrists work with patients and families to develop personalized treatment plans that address their unique needs and goals. Rehab goal discussion and follow up can be arranged accordingly.
- Multidisciplinary care: Physiatrists work with a team of healthcare professionals, including physical therapists, occupational therapists, speech and language pathologists, orthotist and prosthetists, rehab nurses, psychologists to provide comprehensive care. According to the domains focused the allied caregiver manpower can be escalated.
- Medications and interventions: Physiatrists use medications, injections, and other interventions to manage pain, spasticity, and other symptoms. Newer age treatment options like growth factor injection, negative pressure wound dressing etc are also explored in private set up.
- Nonpharmacological aspects: Physiatrists prescribe therapies, such as physical therapy and occupational therapy, speech therapy to improve function and mobility. Those can be arranged in preferred time of the patients favouring no-skip for daily wedge-earners.

Significance of Physiatry in Private Setup

There are several benefits to seeking care from a physiatrist in a private setup:

1. Personalized care: Physiatrists in private practice can devote more time to each patient, allowing for a more comprehensive understanding of their needs and goals.
2. Comprehensive treatment: Physiatrists work with a team of healthcare professionals, including physical therapists, occupational therapists, and pain management specialists, to develop comprehensive treatment plans.
3. Increased accessibility: Physiatrists in private practice often have more flexibility in their schedules, allowing for more timely appointments and reduced wait times.
4. More focussed Approach: Being vast in dimension, regular upgradation in all aspects is near impossible. In private set up, one physiatrist can master one or two specific domains and extend the ultra age treatment.
5. State-of-the-art treatments: Physiatrists in private practice often have access to the latest technologies and treatments, including advanced diagnostic tools and innovative therapies according to return of investment not being bound by predeterminant norms and regulations.
6. More community presence: as it can be of choice for the larger population preferring to visit non-government set up.

Conclusion:

The obsession for Government job in India is compromising the country's entrepreneurial spirit. Physiatry is no exception for the same. After years of near-complete absorption in government institution, in the upcoming days of saturated government job vacancies, there will be a sincere urge for many Physiatrists to explore the private field not by choice, but by necessity. Government jobs will always be crucial, but field of Physiatry needs more job creators, not just job seekers.

Henceforth, whatever been achieved in government set up after years of strenuous efforts, can be channelized through private set ups led by Physiatrists with more precision, dedication and determination. That path, in upcoming decade, will ensure more awareness about the subject, more community presence and charismatic portrayal of Rehabilitation Medicine.



Parallel Beginnings, Divergent Paths:

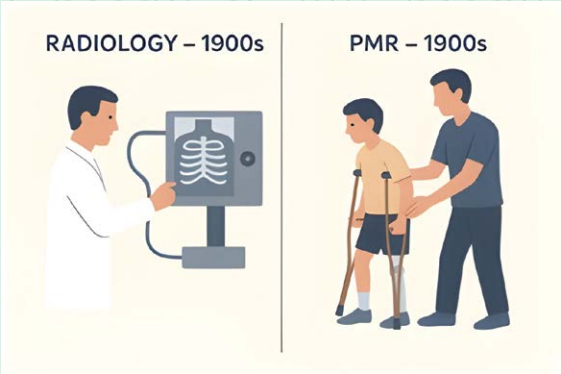
The Co-Evolution of Radiodiagnosis and Physical Medicine and Rehabilitation in Medical Sciences



Dr Nabarun Gupta
MD PMR Assistant Professor, IPGME&R, Kolkata

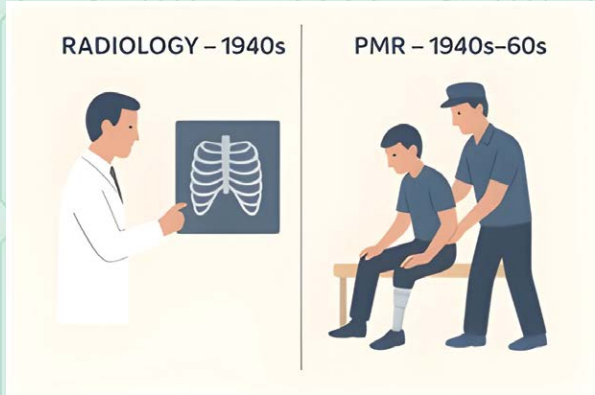
Introduction

Radiodiagnosis and physical medicine, though distinct in their diagnostic and therapeutic roles, share origins in the late 19th and early 20th centuries, a period marked by scientific breakthroughs and societal demands. Radiodiagnosis, rooted in Wilhelm Röntgen's 1895 discovery of X-rays, revolutionized medical imaging, enabling non-invasive visualization of internal structures. Physical medicine, formalized later as physical medicine and rehabilitation (PM&R), emerged from ancient therapeutic practices but gained structure in the early 20th century, particularly through the work of pioneers like Frank H. Krusen during the 1920s and 1930s. Both specialties, born in a transformative era, evolved in response to wars, epidemics, and technological advancements. This essay compares their parallel development, highlighting shared timelines, differing focuses, and their complementary roles in modern healthcare within a 2,000-word framework.



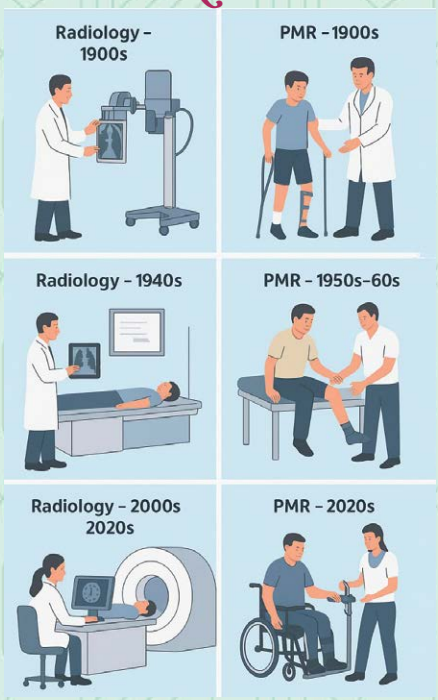
The Dawn of Radiodiagnosis: From X-Rays to Imaging Revolution

The inception of radiodiagnosis in 1895 with Röntgen's discovery of X-rays marked a pivotal moment in medical history. His accidental observation of cathode rays penetrating objects, followed by the first X-ray image of his wife's hand, introduced a non-invasive diagnostic tool. By 1896, X-rays were used clinically to diagnose fractures and locate foreign objects, such as bullets, showcasing rapid adoption despite early equipment's high radiation risks. The same year, Antoine-Henri Becquerel's discovery of radioactivity hinted at future nuclear medicine applications.



The early 20th century solidified radiology's place in medicine. World War I (1914–1918) accelerated its use, with mobile X-ray units, pioneered by Marie Curie, aiding battlefield diagnostics. In 1918, George Eastman's photographic film replaced cumbersome glass plates, enhancing image quality. By the 1920s, organizations like the British Institute of Radiology (BIR) emerged, and radiology began separating from physiotherapy, marking its professionalization. The 1930s saw advancements like contrast agents for gastrointestinal imaging, though radiation

hazards prompted safety protocols.



Post-World War II, radiology underwent a technological boom. The 1946 discovery of nuclear magnetic resonance (NMR) by Edward Purcell and Felix Bloch laid the foundation for MRI. Ultrasound emerged in the 1950s, with Ian Donald and Tom Brown's portable gynecological scanner in 1955. The 1960s introduced positron emission tomography (PET), with James Robertson's 1961 single-plane scanner. The 1970s, often called radiology's "golden decade," saw Godfrey Hounsfield's 1972 CT scanner and Paul Lauterbur's 1973 NMR imaging, leading to Raymond Damadian's 1977 MRI prototype. Real-time ultrasound became routine by the 1980s-1990s, particularly for obstetrics.

The late 20th century integrated digital advancements. Functional MRI (fMRI) in 1991 mapped brain activity, and PET-CT hybrids in 2000 combined metabolic and anatomical insights. Interventional radiology, evolving from 1960s "special procedures," became a subspecialty by the 1990s, offering minimally invasive treatments like angioplasty. Recent innovations, such as AI-driven imaging and 3D color X-rays in 2014, continue to enhance precision. Radiodiagnosis's trajectory reflects a relentless pursuit of technological innovation.

The Rise of Physical Medicine: From Ancient Roots to Modern Rehabilitation

Physical medicine's origins predate modern science, with ancient practices like massage and hydrotherapy forming its foundation. However, its formalization as a medical specialty aligned with radiodiagnosis's early timeline, crystallizing in the early 20th century. By the 1920s, physical agents like heat, electricity, and exercise were gaining medical acceptance, spurred by societal needs like post-war recovery. Dr. Frank H. Krusen, inspired by his own recovery from tuberculosis, established physical therapy programs at Temple University in 1929 and Mayo Clinic in 1936, creating the first U.S. residency in physical medicine. In 1938, Krusen coined "physiatrist" to define specialists focused on non-surgical restoration.

World War II (1939-1945) was a turning point, mirroring radiology's wartime catalyst. The need to rehabilitate injured soldiers drove PM&R's growth, with physiatrists leading multidisciplinary teams. Howard A. Rusk, transitioning from internal medicine, pioneered comprehensive rehabilitation for airmen, founding the Rusk Institute at New York University. The 1944 Baruch Committee formalized PM&R as a specialty combining physical and rehabilitation medicine, securing funding for training.

Post-war institutionalization followed closely. The American Medical Association established a PM&R section in 1945, and the American Board of Physical Medicine, formed in 1947, became the American Board of PM&R in 1950. The 1952 polio epidemic further shaped PM&R, with physiatrists managing long-term disabilities, building on Franklin D. Roosevelt's 1926 Warm Springs rehabilitation model. Dr. Robert L. Bennett advanced muscle testing and prosthetics, while the 1954 Vocational Rehabilitation Act and 1965 Medicare/Medicaid programs expanded access.

By the late 20th century, PM&R had grown significantly. The American Academy of PM&R, founded in 1938, reached 1,000 members by 1978 and 10,000 board-certified physiatrists by 2010. Subspecialties like sports medicine emerged in 1993, and initiatives like PM&R BOLD in 2016 outlined future growth. Modern PM&R integrates robotics, tele-rehabilitation, and regenerative therapies, emphasizing holistic recovery.

Comparative Analysis: Shared Origins, Distinct Trajectories

Radiodiagnosis and physical medicine, emerging in the same early 20th-century timeframe, responded to parallel societal triggers but diverged in purpose. Both were catalyzed by wars: World War I advanced radiology's field applications, while World War II formalized PM&R's rehabilitation frameworks. Epidemics, notably polio, profoundly shaped PM&R, whereas radiology's diagnostic role was less epidemic-driven but critical for infectious disease imaging.

Pioneers defined both fields: Röntgen and Hounsfield for radiology's imaging breakthroughs, Krusen and Rusk for PM&R's therapeutic frameworks. Institutional milestones aligned temporally—radiology's professional organizations in the 1920s paralleled PM&R's board certification in 1947. However, radiology's evolution hinged on technological leaps (e.g., CT/MRI in the 1970s), while PM&R focused on multidisciplinary care and policy support like Medicare.

Their scopes differ: radiodiagnosis is diagnostic and technology-driven, while PM&R is therapeutic and patient-centered. Yet, both adapted to modern needs—radiology's interventional subspecialty mirrors PM&R's expansion into sports and occupational rehabilitation. Ethical challenges also converge: radiology grapples with radiation safety, PM&R with equitable access. Today, their synergy is evident, with radiology providing imaging for PM&R's functional assessments, fostering collaborative care.

Conclusion

Radiodiagnosis and physical medicine, born in the same transformative era, evolved from shared historical catalysts into complementary pillars of healthcare. Radiodiagnosis's technological prowess, from X-rays to AI-driven imaging, contrasts with PM&R's focus on restoring function through multidisciplinary care. Their parallel beginnings in the early 20th century, driven by wars and societal needs, highlight medicine's adaptability. As they integrate with innovations like robotics and digital diagnostics, their collaboration promises a future of enhanced patient care, blending precision diagnosis with holistic recovery.

(Word count: 1,432)

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Japanese Encephalitis (JE) and Functions of PMRC



Dr. R.N. Pradhan
ADHS (IBD) & OC, CS, CD, Kol

JE is the leading cause of viral Encephalitis in Asia.

A case of JE constitutes the tip of iceberg. Every confirmed case of JE 300-1000 persons are sub clinically infected. JE is a zoonotic disease infecting mainly animals and incidentally man. It is a mosquito Borne Encephalitis caused by Flavivirus and transmitted by Culex tritaeniorhynchus, culex vishnui.

The pig, piglets are considered as "Amplifiers" of the virus. Also some species of aquatic birds and cattle. The rice fields are most important breeding places.

The incubation period of JE in man varies from 5 to 15 days.

No transmission from human to human as viremiais low / transient.

The course of the disease in man may be divided into three stages.

1. Prodromal stage
2. Acute encephalitic stage
3. Late stage and sequelae

The case fatality rate varies between 20 to 40 percent and residual neurological deficiency is also common (more than 30%)

Physiotherapy is needed to prevent sequelae.

Complication of JE:

a. Acute flaccid paralysis (Lower motor), Muscle atropy and wasting.
b. Movement disorder – rigidity with or without tremor.
c. Dystonia
d. Chorea
e. Seizure
f. Cranial nerve palsy - rare neck stiffness, hemiparesis, cerebellar sign, nystagmus, ocular deviation, quadriparesis etc.

Conformation of a suspected case of JE requires Lab Diagnosis – IGM capture ELISA in CSF / in the blood.

CT and MRI findings - Bilateral thalamic haemorrhagic lesions highly suggestive for JE.

Physical medicine and rehabilitation is a medical specialty that helps people regain body functions they lost due to medical conditions or injury. This term is often used to describe the whole medical team, not just the doctors.

Rehabilitation can help many body functions, including bowel and bladder problems, chewing and swallowing, problems thinking or reasoning, movement or mobility, speech, and language.

Information

Many injuries or medical conditions can affect your ability to function, including:

Brain disorders, such as stroke, multiple sclerosis, or cerebral palsy

Long-term (chronic) pain, including back and neck pain

Major bone or joint surgery, severe burns, or limb amputation

Severe arthritis becoming worse over time

Severe weakness after recovering from a serious illness (such as infection, heart failure or respiratory failure)

Spinal cord injury or brain injury

Children may need rehabilitation services for:

Down syndrome or other genetic disorders

Intellectual disability

Muscular dystrophy or other neuromuscular disorders

Sensory deprivation disorder, autism spectrum disorder or developmental disorders

Speech disorders and language problems

Spinal disorders or deformities due to cerebral palsy

Physical medicine and rehabilitation services also include sports medicine and injury prevention.

Where Rehabilitation is done

People can have rehabilitation in many settings. It will often begin while they are still in the hospital, recovering from an illness or injury. Sometimes it begins before someone has planned surgery.

After the person leaves the hospital, treatment may continue at a special inpatient rehabilitation center. A person may be transferred to this type of center if they have significant orthopedic problems, burns, a spinal cord injury or severe brain injury from stroke or trauma.

Rehabilitation often also takes place in a skilled nursing facility or rehabilitation center outside of a hospital.

Many people who are recovering eventually go home. Therapy may then be continued at your health care provider's office or in another setting, if needed. You may visit the office of your physical medicine physician and other health professionals. Sometimes, a therapist will make home visits. Family members or other caregivers must also be available to help.

What Rehabilitation does

The goal of rehabilitation therapy is to teach people how to take care of themselves as much as possible. The focus is often on daily tasks such as eating, bathing, using the bathroom and moving from a wheelchair to a bed.

Sometimes, the goal is more challenging, such as restoring full function to one or more parts of the body.

Rehabilitation experts use many tests to evaluate a person's problems and monitor their recovery.

A full rehabilitation program and treatment plan may be needed to help with medical, physical, social, emotional, and work-related problems, including:

Therapy for specific medical problems

Advice about setting up their home to maximize their function and safety

Help with wheelchairs, splints and other medical equipment

Help with financial and social issues

Family and caregivers may also need help adjusting to their loved one's condition and knowing where to find resources in the community.

The Rehabilitation Team

Physical medicine and rehabilitation uses a team approach. Team members are doctors, other health professionals, you, and your family or caregivers.

Physical medicine and rehabilitation doctors receive 3 years of training in this type of care after they have finished medical school. They are also called physiatrists.

Other types of doctors that may be members of a rehabilitation team include neurologists, orthopaedic surgeons, psychiatrists and primary care doctors.

Other health professionals include occupational therapists, physical therapists, speech and language therapists, social workers, vocational counselors, nurses, psychologists, and dieticians (nutritionists).

RTMS... Repetitive Transcranial Magnetic Stimulation... Valuable instrument... used for post stroke... Fibromyalgia... Severe Depression. Contraindications of use ....Malignancy...Active convulsive disorder.Bleeding disorders. .. pacemaker.. implant in bran. Pregnancy& lactation.BSMCH. Visited during PMRC... related with AES JE.....NJECP... National Japanese Encephalitis Control Programme. Used 3 months after onset of Stroke. Efficacy is almost 60 percent in every proper indication

And other common equipment and brief functions:

1. Ultrasound Therapy:

Physiological effects: Pain relief, Tissue healing, Inflammation reduction, Scar tissue breakdown, Muscle Relaxation, Drug delivery (Phonophoresis).

Indications: Musculoskeletal conditions (e.g. back pain, neck pain, shoulder pain, etc.), tendonitis, bursitis, sprains, muscle injuries, arthritis and post-surgical rehabilitations,etc.

2. IFT (Interferential Therapy):

Physiological effects: Pain relief, Edema reduction, Improve blood flow, Muscle and nerve stimulation: reduces nerve related pain (radiculopathy).

Indications: Back pain, Osteoarthritis, Frozen shoulder, sports injuries, and post-operative pain management.

3. TENS (Transcutaneous Electrical Nerve Stimulation) Therapy:

Physiological effects: Pain relief (gate control theory), Endorphin release, Post-surgical and post trauma pain.

Indications: Back pain, arthritis, neuropathy, sciatica, muscle pain, post-operative rehabilitation,etc.

4. SWD (Shortwave Diathermy) Therapy:

Physiological effects: Deep heating effect, Pain relief, Improve blood circulation, Promote healing, Reduction of muscle spasm, Inflammation control, Joint stiffness relief, etc.

Indications: arthritis, bursitis, chronic back pain, sprains, strains, etc.

5. Electrical Stimulation Therapy:

Physiological effects: Muscle strengthening, Prevent muscle atrophy, Edema reduction, Neuromuscular Re-education, etc.

Indications: Paralysis, Stroke rehabilitation, muscle weakness, nerve injuries, sports rehabilitation, and post fracture immobilization, etc.

6. Wax Bath Therapy:

Physiological effects: Pain relief, Joint stiffness reduction, Improve blood circulation, muscle relaxation, scar softening, etc.

Indications: arthritis, post-fracture stiffness, chronic rheumatic conditions, contractures, rehabilitation of small joints, etc.

7. LASER (Light Amplification by Stimulated Emission of Radiation)Therapy:

Physiological effects: Pain relief, Tissue healing, Anti-Inflammatory effect, Improve circulation, Scar and wound healing, etc.

Indications: arthritis, tendinitis, muscle strains, wound healing, neuropathic pain, sports injuries, etc.

8. Cryotherapy:

Physiological effects: Vasoconstriction, Decrease nerve conduction velocity, reduce metabolic rate, reduce spasm and spasticity, analgesic effect, etc.

Indications: Acute musculoskeletal injuries- sprains, strains, contusion, etc., Pain management- back pain, neck pain, arthritis, etc., tendinitis, bursitis, synovitis, edema and swelling control, muscle spasm and spasticity, first aid for burns, sports injuries, etc.

9. Infra-Red Therapy:

Physiological effects: Vasodilatation, Increase tissue temperature, pain relief, muscle relaxation, enhance metabolism, sweating and detoxification, improve skin condition, etc.

Indications: Pain relief- chronic musculoskeletal pain, etc., Muscle spasm and stiffness, osteoarthritis, rheumatoid arthritis, soft tissue injuries, wound healing, etc.

10. ESWT (Extracorporeal Shock Wave Therapy):

Physiological effects: Breakdown of calcification, Improve circulation, Tissue regeneration, Pain reduction, Anti-inflammatory effect, etc.

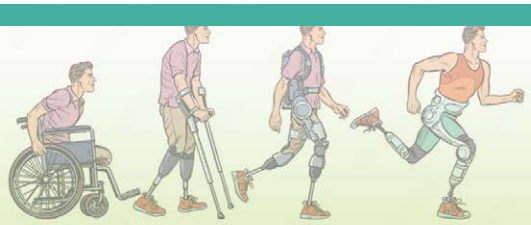
Indications: Plantar fasciitis, calcific tendinitis, Tennis elbow, Golfer's elbow, Achilles tendinopathy, Patellar tendinopathy, bursitis, myofacial trigger points, chronic muscle strains, etc.

11. Body Weight Support Gait Training (BWSGT):

Indications: Reduces load on lower limbs, Facilitates early ambulation, Improve balance and stability, Enhances motor learning, Increase confidence, Promotes symmetrical gait, Supports rehabilitation in neuro and ortho cases- Stroke, Spinal cord injury, Parkinson's disease, cerebral palsy, post-surgery patients, etc.

"Wisdom Lies Not in the Amount of Knowledge Acquired but in the Degree of its Application."

~ Swami Vivekananda



Innovations in PM&R: The Emerging Indian Landscape



Dr. Anoovab Saha
PGT, Dept. of PM&R, R G Kar Medical College, Kolkata

Introduction

Physical Medicine and Rehabilitation (PM&R), or physiatry, has seen transformative progress in India over the last decade. Innovations in prosthetics, orthotics, wheelchairs, assistive devices, communication aids, and rehabilitation technologies are redefining disability care. What makes India's contribution remarkable is the emphasis on affordability, accessibility, and indigenization–bridging the gap between advanced medical technology and real-world usability for millions of persons with disabilities (PwDs).

This article presents recent innovations across India, followed by significant contributions from West Bengal.

1. YD One® – India's Lightest Active Wheelchair



Developed at IIT Madras by the R2D2 group in collaboration with Thryv Mobility, the YD One® wheelchair is the country's lightest rigid-frame wheelchair at 8.5–9 kg.

- Aerospace-grade construction ensures strength with portability.
- Adjustable and ergonomic design enhances mobility and comfort.
- It provides an active lifestyle option for long-term wheelchair users who need both durability and ease of handling.

2. ADIDOC – Indigenous Carbon Fiber Prosthetic Foot



In July 2025, DRDO's DRDL lab and AIIMS Bibinagar launched ADIDOC, India's first carbon-fiber prosthetic foot.

- Designed for loads up to 125 kg, it comes in three variants.
- At under ₹20,000, it is more than 90% cheaper than imports, which cost nearly ₹2 lakh.
- Represents Aatmanirbhar Bharat in advanced prosthetics, making high-performance limbs accessible to ordinary citizens.

3. AI-Integrated Prosthetics and Mobility Devices – ALIMCO

The Artificial Limbs Manufacturing Corporation of India (ALIMCO) is embedding AI into prosthetics and mobility aids:

- Universal socket designs, motorised tricycles, and smart wheelchairs.
- AI-supported gait adjustment features under trial.
- Focus remains on mass affordability for large-scale rehabilitation programs.

4. Robo Bionics' Bionic Arm with Sense of Touch

Robo Bionics, a start-up, unveiled a bionic arm with tactile sensation at the Tech4All Expo 2025.

- Provides motor function plus simulated touch via sensors.
- Already fitted for 60+ users in India.
- Combines robotics, AI, and neuroscience to restore both form and sensory feedback.

5. Assistive Technologies for the Visually Impaired – IIT Kanpur

Innovations include:

- Haptic Smartwatch – Time and notifications via vibrations.
- Dyslexia-friendly Hindi app – Gamified tool for learning difficulties.
- Affordable refreshable Braille device – Promotes literacy for visually impaired children.

These solutions bridge education and independence through low-cost design.

6. Breath-to-Speech System – IIT Guwahati

A pioneering project transforms breath ripples into speech using AI models and vibration sensors.

- Offers communication possibilities to patients with vocal cord paralysis or aphonia.
- Early trials show potential in rehabilitation of severe speech impairments.

7. Brain-Controlled Wheelchair Prototype

Researchers created a low-cost EEG and eye-blink guided wheelchair.

- Controlled via smartphone and microcontrollers.
- Includes collision and smoke detection sensors.
- Designed for individuals with high cervical spinal cord injury or severe paralysis.

8. Fibroplug – An Indigenous Solution for Bleeding Control

Fibroplug, developed by IISc Bangalore with FibrohealWoundcare, is a bilayered sponge that rapidly controls bleeding.



- Silk fibroin: gentle, non-adhesive, healing layer
- Chitosan foam: strong clotting ability
- Silica particles: speed up coagulation

It is easy to use, affordable, and indigenously produced with locally sourced silk. Already deployed by defence forces during Operation Sindoor, Fibroplug is a shining example of industry-academia partnership and India's progress towards Atmanirbhar Bharat in healthcare.

9. Startup Ecosystem – EMPOWER and Attvaran

Accelerators like EMPOWER (IIT Delhi & IIT Madras) and Attvaran have supported dozens of Indian startups in assistive technology.

- Seed funding and mentorship given to 16+ startups in 2024 alone.
- Startups focus on prosthetics, rehabilitation robotics, and inclusive education tools.

West Bengal's Contributions

Alongside national innovations, West Bengal has played a key role in advancing PM&R technologies:

1. **CMERI (Durgapur)** – Designed an **Autonomous Intelligent Robotic Wheelchair** with advanced navigation for safety and ease in confined or uneven terrains.
2. **Ktwo Healthcare (Kolkata)** – Through its brands **KARE** (prosthetics & orthotics) and **SCOOT** (mobility aids), it integrates clinical services with high-quality assistive devices.
3. **Ottobock Clinic (Kolkata)** – Provides access to global prosthetic solutions like the **C-Leg® microprocessor knee,** ensuring world-class rehabilitation care in the state.

These initiatives highlight how regional innovation and services complement the national movement toward inclusive rehabilitation.

Conclusion

India's PM&R sector is moving toward a technology-driven, patient-centered model. Lightweight wheelchairs, AI-enabled prosthetics, sensory bionics, speech technologies, and hemostatic implants like Fibroplug are changing how disability is managed.

The emphasis is not only on restoring physical function but also on enhancing independence, dignity, and participation in society. West Bengal's contributions further strengthen India's position as a global leader in accessible rehabilitation technologies.

With these collective efforts, the future of PMR in India lies in integrating innovation with compassion–ensuring that every individual, regardless of disability, has the opportunity to live with dignity and independence.



Echoes of Ancient Wisdom: The Indian Roots of Modern Physiatry



Dr Ayan Baur
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As we celebrate the advancements of modern Physiatry–the specialty that seeks to restore functional independence and quality of life–we find ourselves drawn to a truth often overlooked: that the foundations of this healing science were laid not in the laboratories of the 20th century, but in the sacred scrolls and holistic traditions of ancient Indian civilization. Thousands of years ago, Indian sages, physicians, and scholars envisioned a model of healing that addressed not only the body, but the mind, spirit, and social fabric of the individual. Through this lens, we see that **Physiatry is not merely modern–it is timeless**.

Ayurveda: Healing Beyond the Cure

Ayurveda, India's ancient science of life, did not treat health as the absence of disease. It viewedhealth as **an active state of balance, strength, and purpose**. Its therapeutic philosophy mirrors the central tenets of Physiatry: restore, rejuvenate, and reintegrate.

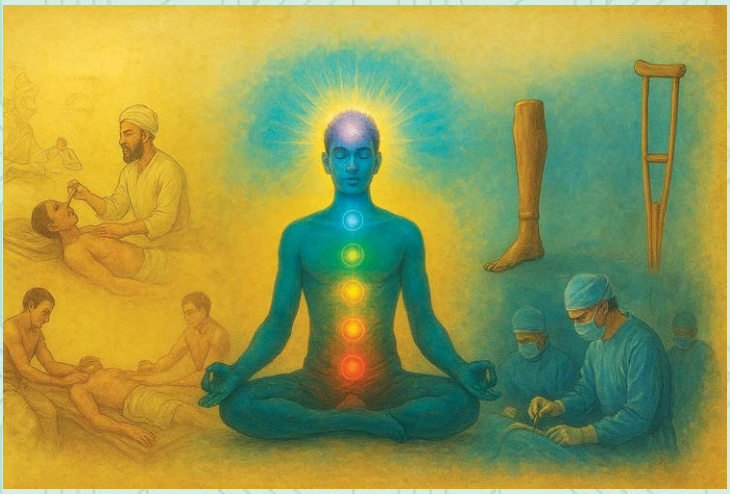
Therapies such as **Abhyanga (therapeutic oil massage), Svedana (steam therapy), Panchakarma (detoxification), Rasayana (rejuvenation), and Basti (neurological nourishment)** were tailored not only to cure but to **restore vitality and function**–especially following injury, illness, or physical depletion.

> **"To maintain the health of the healthy and to cure the disease of the sick."**
> **— Charaka Samhita**

In this, we find the earliest echoes of what we now call **rehabilitation medicine**– rooted in the belief that life after illness should be vibrant and purposeful.

Sushruta: The Ancient Surgeon of Restoration

Known as the **Father of Surgery**, Acharya Sushruta authored the *Sushruta Samhita*, an extraordinary surgical text that outlined not just operative techniques, but also **post-surgical care and recovery protocols**.



Sushruta detailed the use of:

- Splints and braces for orthopedic injuries.
- Massage and therapeutic manipulation.• Herbal dressings and scar management.
- Nutritional guidelines for convalescence.
- Psychological reassurance and emotional healing.

> **"The physician should strive not only to preserve life, but to restore the patient to usefulness."**
>
> **— Sushruta Samhita**

Sushruta recognized that the true measure of healing was **not the procedure itself, but the patient's ability to return to meaningful activity**. This holistic vision aligns seamlessly with the principles of modern Physiatry.

Yoga: The Ancient Science of Neuromuscular Re-education

India's gift of **Yoga** to the world is not merely spiritual–it is deeply therapeutic. Its principles of **controlled movement, breath awareness, and mental focus** are now integral to **neurological and musculoskeletal rehabilitation** worldwide.

Yoga has found a natural home in Physiatry, where it is employed to:

- Re-educate movement in post-stroke patients
- Alleviate chronic pain through alignment and breath
- Enhance mobility and balance in aging and disabled populations
- Strengthen the mind-body connection critical to neuroplastic recovery

> **"When the breath wanders, the mind is unsteady. But when the breath is calmed, the mind too will be still."**
>
> **— Hatha Yoga Pradipika**

This ancient system has become a modern modality–**a bridge between tradition and innovation**–in the hands of today's rehabilitation physicians.

Vishpala: A Warrior's Return to Strength

In one of the most remarkable and inspiring references in ancient literature, the *Rigveda* tells the story of **Vishpala**, a courageous woman warrior who lost her leg in battle. The divine physicians, the Ashvins, are said to have provided her with an **iron prosthetic limb**, enabling her to return to the battlefield–undaunted and unbroken.

> **"She lost her leg in battle, and the Ashvins gave her an iron limb so that she might fight again."**
>
> **— Rigveda, Book 1, Hymn 112**

This may well be the **earliest recorded mention of a prosthesis in human history.** More than a tale of technological ingenuity, it is a story of **resilience, reintegration, and the restoration of dignity**–values that sit at the very heart of modern rehabilitative care.

Dharma, Purpose, and Reintegration

In Indian philosophy, **Dharma**–one's rightful duty or purpose–was considered essential to health. Thus, recovery was not complete until the individual could **return to their role in family and society**, with independence and dignity.

Rehabilitation in ancient India was not limited to medical interventions. It was:

- A **social responsibility**
- A **spiritual restoration**

- A **mental rejuvenation**
- And above all, a return to **meaningful action**

> **"Do your duty without attachment to results, for action is better than inaction."**
>
> **— Bhagavad Gita, 3.19**

Modern Physiatry, with its biopsychosocial approach, reflects this very principle–treating not just injuries, but rebuilding lives in their full context.

From Iron Limbs to Intelligent Prosthetics

From the **iron limb of Vishpala** to the **AI-driven prosthetics** of today, the goal remains unchanged: to return strength, autonomy, and possibility to those affected by physical loss. Physiatry today harnesses innovations such as:

- Robotic gait training
- Neuromodulation
- Virtual reality-based therapy
- Sensor-enabled prostheses
- Multidisciplinary rehabilitation teams

Yet, it continues to **walk the ancient path, guided by the timeless belief that every individual deserves a life of mobility, dignity, and purpose.**

A Heritage that Heals

India's contribution to the world of healing goes far beyond history–it is **a living legacy**. As Physiatry continues to evolve, it does so on a foundation shaped by millennia of Indian thought, practice, and philosophy.

In every patient who learns to walk again, in every prosthesis fitted, in every yoga-assisted recovery, and in every return to purposeful living, **the ancient wisdom of India breathes life into modern medicine.**



AN ODE TO KALIMPONG



Dr. Ankita Singha Roy
MD PM&R, Senior Resident

There's a little town I would love to know;
Where life is beautiful, serene and slow
Where people are simple, down to earth;
Their hearts filled with love, laughter and mirth.

There's a little town with its scenic beauty;
Amidst the greenery one loves to have some tea.
Where life comes to a standstill for the days you stay;
So here we pack our bags for a year-end getaway.

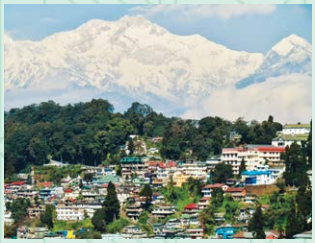
There's a little town atop the hill,
Where life is leisurely and chill,
Between Durpin and Deolo it is spanned;
Kalimpong is that amazing dreamland!!



KALIMPONG: A PLACE OF ASSEMBLAGE

Dr Siddhartha Sinha Ray
MD, PM&R, Assistant Professor, IPGME&R, Kolkata

This year for the first time in the history of West Bengal Branch of IAPMR, the Annual State Conference is being held in northern part of the state and that too at the picturesque Shivalik Himalayan foothills, the magnificent crown of Bengal. The quaint sister of world famous Darjeeling, the reclusive town of Kalimpong off the banks of charming Teesta, admiring the magnificent Kanchenjunga, is the Venue for this year's conference, where we are going to assemble for academic excellence, exchange of knowledge, friendly meet and greet and cultural extravaganza.



Now imagine the surprise, when you are being told that the name 'Kalimpong' literally means "A place of Assemblage" as it was the place for summer time tribal gathering of indigenous Lepcha people living there back in the time. According to K.P. Tamsang, author of The Untold and Unknown Reality about the Lepchas, the term Kalimpong is deduced from the name Kalenpung, which in Lepcha means "Hillock of Assemblage". In time, the name was distorted to Kalebung, and later further contorted to the present name 'Kalimpong'.



The history of Kalimpong had been a story of Assemblage too. In its known modern history of close 300 years, groups of people from different tribe and ethnicity has migrated from surrounding areas and settled here with love and affection, and there is a very good reason for that.



From ancient times these areas were part of a busy trade route. From the famous ports of Bengal, exporters traded their path though these hills and passes onto Tibet and Central Asia. It was the famous Silk Route. Geographically too these hills of Present day Bengal was positioned in a very unique way. During the years of late 18th century and early 19th century these places were surrounded by Bhutan, Nepal, Tibet, Sikkim (it was a foreign country back then) and of course the mighty British India. Everyone wanted a piece of this trade route of economic importance. Quite naturally this place was a part of Sikkimese and Bhutanese kingdom in phases by virtue of defeated tribes of indigeneus Lepcha and Limbu population. Bhutia and Kirati immigrants started flocking this place for economic prosperity.





Finally, after the Anglo-Bhutan War in 1864, the Treaty of Sinchula (1865) was signed, in which Bhutanese-held territory east of the Teesta River was ceded to the British East India Company. They saw the opportunity of demand for an alternative to Darjeeling to beat the scorching summer among British community in Kolkata juxtaposing with potential of trading impetus due to the proximity of Nathu La and Jelep La (La means Passes) connecting to Tibet. Trade thrived. The increase in commerce attracted large numbers of Nepali's from the neighbouring Nepal and the lower regions of Sikkim, the areas where, Nepali's were residing since the Gorkha invasion of Sikkim in 1790. Many Britishers, Anglo Indian communities from the plain fell in love with the picture perfect town with temperate climate in the foothills of Himalaya and decided to settle there. The movement of people into the area transformed Kalimpong from a small hamlet with a few houses, to a thriving town with increased economic prosperity. It was an Assemblage in truest sense.



Town centre of Kalimpong is on a ridge (elevation 1247m), that connects two hills – Durpin (elevation 1372m) and Deolo (1704m). Deolo hill is the highest point in the area. With a manicured garden park with 360° view of Himalayan range including majestic Kanchenjunga; it is arguably the most famous tourist place in and around the town. The River Teesta flows in the valley below and separates Kalimpong from the state of Sikkim. The Shivalik Hills, like most of the Himalayan foothills, have steep slopes and soft, loose topsoil, leading to frequent landslides in the monsoon season. The hills are nestled within higher peaks and the snow-clad Himalayan ranges tower over the town in the distance. On clearer days, part of greater Himalayan mountain range, bearing uncanny resemblance to revered posture of Sleeping Budhha beckons the eye of a beholder. Taking centrestage among them is the towering Kanchenjunga, at 8,586 m (28,169 ft) the world's third tallest peak, clearly visible from Kalimpong.

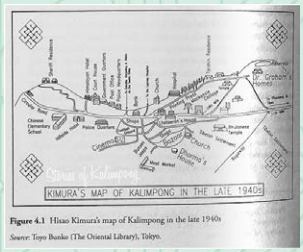
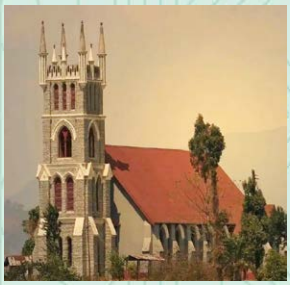


Figure 4.1 Hisao Kimura's map of Kalimpong in the late 1940s
Source: Toyo Bunko (The Oriental Library), Tokyo.





Advent of Kalimpong as a trading town in the himalayan foothills with pleasant climate and assemblage of population of different relgion, culture, ethnicity, attracted Scottish Missionaries with religious and educational endeavours in the late 19th century. Reverend William Macfarlane in the early 1870s established the first schools in the area. The Scottish University Mission Institution was opened in 1886, followed by the Kalimpong Girls High School. The Macfarlane Memorial Church, built around 1890s, which is a popular tourist destination, was dedicated to him. In 1900, Reverend J.A. Graham founded the Dr. Graham's Homes for destitute Anglo Indian students.



During World War II, Kalimpong saw an influx of refugees from Tibet and Bhutan. The British also used Kalimpong as a rest station for soldiers recovering from war-related injuries. The town's remote location made it a quiet retreat from the war's chaos.

Finally after independence, Kalimpong became part of the state of West Bengal. With China's annexation of Tibet in 1959, many Buddhist monks fled Tibet and

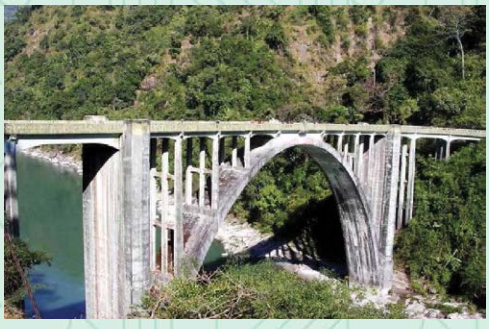
established monasteries in Kalimpong. These monks brought many rare Buddhist scriptures with them. In 1976, the visiting Dalai Lama consecrated the Zang Dhok Palri Phodang monastery, which houses many of these scriptures. This monastery, situated atop Durpin hill is another tourist attraction here, popularly known as Durpin Monestery.

In present day, Kalimpong is a busy town, a district head quarter of Kalimpong. Though erstwhile trade to Tibet declined after Chinese annexation, tea and ginger export, tourism along with spirituality of different faith kept the town alive. The town is well connected with different transport network. NH10 from Siliguri to Gangtok via Teesta Bazar goes by the town. NH 717A which connects Bagrakote to Gangtok via Lava, is only 16 km away from Kalimpong via Algarah. Darjeeling is 52 kms away from here and siliguri in plain is only 67 kms away, which also has one of the busiest Railway Station of the area, NJP Junction, the gateway to the Indian Railway Network in the North East India.



Nearest Rail station to kalimpong at present is at Sevoke, which is 45 km away. But, the upcoming sevoke Rangpo railway line will be bring the Indian Rail network within hands reach at Teesta Bazar. (Only 18 km from Kalimpong). Bagdogra is the nearest international airport 80 kms away, connected to major Indian cities including Kolkata with flights to Bangkok and Paro is also available.

Once a settlement of a few lepcha community to today's multi ethnic bustling town, kalimpong has come across a long tumultuous ride of history. It has seen kingdoms grow and fall, economy rise and fade, migration of people, mixing of culture, faith, language and an ultimate assemblage of humanity. It has seen it all. So much so, that the great poet, Rabindra Nath Tagore had also spent a good amount of his last years at this magical place, perfecting the curation of unblemished nature and innocence of soul.







The Triumphant **Hills of Bengal**

A Cultural Tapestry of Stories, Screens and Flavours

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The hills in North Bengal stretching across Darjeeling, Kalimpong and Kurseong- popular tourist destinations since ages, stand as much more than scenic landscapes as they are layered with memory, art and taste.

Writers, artists and film makers have often turned to the mist laden slopes with tall pines and gurgling streams for inspiration and to capture their pristine beauty and occasionally also to appreciate the undercurrent of restlessness -both natural and human.

The writeup will be incomplete if I don't mention food in the hills because it is inseparable from our identity as quintessential Bengalis.

Hence taking a holistic cultural approach, I will say the intertwining of movies, books and food display the mountains as living archives of cultural mingling, ethnicity, migration and natural splendour.

Coming firstly to Movies, one has to start with the most iconic Bengali film set in Darjeeling which is Satyajit Ray's ***Kanchenjunga (1962),***which not only used the location to its best effect but also made the mountains, mist, changing weather and the local people, flora and fauna an active and integral part of the storytelling. It was also the first original screenplay by Ray where the entire film unfolds in real time.



The master and his creation.

Few other notable Bengali movies of earlier era with brief depiction or reference of the hills has been ***Mahanagar(1965***) by Ray, ***Anthony Firingee(1967)*** with UttamKumar and ***Charmurti(1978***) bringing *Tenida*on screen.

In later years, Sandip Ray's movies on Feluda-***BakshoRohosyo(1996***) and ***Tintoretto'r Jishu***(2008) included shots of the slopes of Darjeeling and Kurseong.

Of late, the few films of some consequence that have certain sequences in the hills of North Bengal and Dooars are ***Hemlock Society (2012)*** *and* ***Chotuskone(2014)*** by Srijit Mukherjee, ***DurgeshgorerGuptodhon(2019)*** by Dhrubo Banerjee, ***Nagar Kirtan (2017)*** by Kaushik Ganguly and ***Dutta vs Dutta (2012***) by Anjan Dutta

(who incidentally did his schooling from Darjeeling and has been influenced to a great degree by the land and its people which is often reflected in his songs and movies).

While coming to Bollywood, it seems there is a deep romantic liaison on celluloid over the ages. The first movie that comes to mind is ***Aradhana (1969)*** in which 'Mere Sapnoki Rani' took Rajesh Khanna and Sharmila Tagore to dizzying heights of stardom and Toy Train became the national icon of love and romance.

Aradhana had its precedence with a number of successful movies shot in Darjeeling like the classic ***Jab PyarKissise Hota Hai (1961***) pictured on Dev Anand and Asha Parekh, ***Professor (1962***) featuring Shammi Kapoor and Kalpana and few other films like ***Aaye Din Bahar Ke(1966)*** featuring Dharmendra and Asha Parekh and ***Humraaz(1967)*** with Sunil Dutta and Mumtaz .In later years, the notable movies from Bollywood to have made some mark are: Amitabh Bachchan's ***Barsat Ki Ek Raat(1982)*** and ***Do Anjane(1976).***

Unfortunately, there was a long hiatus after *Barsat Ki Ek Raat* for Bolly movies shot in the hills during mid 80's mostly because of political agitation, but fortunately for the cinephiles, the long wait finally came to an end with a bang when young Shah Rukh in ***Raju Ban Gaya Gentleman*** took us back to Darjeeling and "*Dilhaimeradiwana"became*a national rage.



Some big ticket hit movies with lots of thrill, humour and greatlocales of the hills shot in recent years were ***Main HoonNa(2004***)featuring Shah Rukh Khan and Sushmita Sen, ***Parineeta(2005***),starring Saif Ali and Vidya Balan, ***Barfi(2012***),a scene from the movie shown below, with Ranbir Kapoor, Priyanka Chopra and also the quirky tale of ***Jagga Jasoos(2016***) starring Ranbir Kapoor and Katrina Kaif.

Few other Bollywood movies featuring Hills in a different light in recent times has been Aparna Sen's ***Mr and Mrs Iyer*** starring Rahul Bose and Konkona Sen Sharma (which has attained the status of cult classic) and also the noir thriller ***Kahani 2*** featuring Vidya Balan which has been shot extensively at Kalimpong, showcasing its charm and mystery.

Hollywood movies shot in North Bengal Hills are rare, but a couple of them have made a good impression on the Western audience. The movie that stands out is ***The way back (2010),*** based on a true story which highlighted the landscape very well. There are a few others like ***The Darjeeling Limited(2007)*** whichhasDarjeeling mentioned in passing but not having any visuals.

Darjeeling was once a favourite destination for film makers of all classes, but of late it has not featured much (possibly because of current generation's preference for exotic foreign locales), but the magic of the hills of North Bengal will always be there, eager to make a comeback.

In literature, the hills in Bengal often had a dominant presence in various languages, especially in Bengali.



Our very own Sherlock Holmes i.e., Feluda, the Master Sleuth created by **Satyajit Ray** made his first appearance in 1965 in Sandesh Magazine in *FeludarGoyendagiri*(a sketch by Ray from the story is givenbelow). The story was set in Darjeeling, the same place where anotherFeluda story, *Darjeeling Jomjomat*is also set, which was published in SaradiyaDeshin 1986.

The hills in North Bengal were often referenced as background in various short stories of Ray over the years (like the short story *Batikbabu)*. His stories were always accompanied by his sketches.

One has to go back in time a few decades to the early part of 20th century to ***Upendra Kishore Roychowdhury***, (thegrandfather of Satyajit Ray) founder of children's magazine *Sandesh*and pioneer of modern printing technology in Bengali who had written an excellent travelogue on Darjeeling.

Any writeup about Bengali literature will be deficient unless we mention ***Kabiguru Rabindranath Tagore,*** who had fondness for the hills, and time and again went back to



the Himalayas and visited Darjeeling and Mongpu (picture of the bungalow at Mongpu given below) several times, especially in his later years. He has mentioned the locales in passing in numerous of his creations and especially in his autobiography and letters. He wrote poems like *Sonar Tori* and *Manasi* while staying in the hills.

Sunil Ganguly, in his lucid style of travel writing had described his adventures in the North Bengal Hills published in his collected works *Payer Tolay Shorshe*. ***Samaresh Majumdar*** and ***Debesh Das*** hailed from Jalpaiguri and had a portion of their writings set in the tea gardens and hills. We all fondly remember the character Arjun**,** the young investigator created by Samaresh Majumdar and his various escapades in the hills and Dooars.

Eminent writers like ***Abanindranath Tagore, Banaphool (Dr. Balaichand Mukherjee), Ashapurna Debi, Leela Majumdar*** and ***Buddhadeb Guha*** had often set the hills and the valleys as a backdrop for their creations. In recent times, a collection of Essays on social milieu of Darjeeling by ***Parimal Bhattacharya*** (Darjeeling- Smriti, samaj, Itihas) has won a lot of accolades.

In English literature, the Booker Prize winning book *The Inheritance ofLoss* by ***Kiran Desai*** **,**which is mostly set in Kalimpong, has a very sensitive portrayal of the prevailing crisis in the hills against issues of post-colonial changes and displacement. The celebrated 19th century writer and poet ***Edwin Arnold,*** whose narrative on the life of The Buddha is acknowledged as excellent and the book *The Light of Asia* was inspired by his trip to the hills of North Bengal.

For ardent readers who are interested in local customs, offbeat sites & social anthropology of the region, there isgood collection of literature which is a must try viz., ***Newman's*** *Guide to Darjeeling,* ***Jeff Kohler's*** *Darjeeling- a history of the World's greatest Tea and* ***David Mc Donald's*** *The heart of the Himalaya*.

And to know local home-grown talents and flavours, there is an admirable book published in 1991, edited by ***Michael Hatt,*** which has a first-rate collection of Nepali writings rooted in the hills of North Bengal known as *Himalayan Voices - An Introduction to modern Nepali Literature.*

While speaking of regional literary talents, the name that that shines the brightest is that of ***Bhanu Bhakta,*** also known as *Adi kobi,* the prodigious 19th century Nepali Poet, whowrote the classic *Bhanu Bhakta Ramayan, and* had to undergo extreme hardships during his lifetime and gained due recognition much later.

Great places to visit to buy rare books on hills are the small second-hand book shops tucked away in College Street in Kolkata and The *Oxford Book and Stationery Co.* in Darjeeling Mall which is a must visit.

And lastly, all discussions ultimately lead to the most favourite activities for Bongs i.e., adda on food and feasting without which all other cultural features go haywire: Well, hills are the place to be in for the real gourmet and gourmand alike.

What makes the cuisine of the hills in Bengal distinct from other hill stations in India is that it is shaped by a mosaic of communities: Nepali, Lepcha, Bhutia, Tibetan, Bengali settlers, Marwari traders and English tea planters – this diverse influence makes the food scene much wider, spoiling the visitors with a huge spread of choicest delicacies.

One can start the epicurean gastronomic journey with the local dishes like ***Momos*** which are steamed dumplings of variety of stuffings, ***Thukpa*** or noodle soup which originated in Tibet and is a wholesome meal. The above-mentioned dishes became popular after the influx of Tibetans during the Chinese war.

The other local foods to look out for are the ***Sel Roti*** *(Nepali fried bread),* ***Churpee****(local cheese- soft or hard),* ***Gundruk****(fermented green curry),* ***Phambi****(buckwheat dish).* As local hot beverages ***Honey or Butter tea*** are very popular***.***

Because of the long and extensive presence of the British planters, the colonial influence has left an indelible impression on the lifestyle and cuisine of the hills. Though the British tea planters have long left, their legacy lives on through their bungalows, clubs, slow pace of life and cuisine, giving us a glimpse of a different era.

The first item from the colonial times that comes to mind and which is a real showstopper is ***Darjeeling tea*** whose class and distinctiveness stands out. We can make out the aroma of a fine brewed first flush Darjeeling tea from various tea

estates like Makaibari and Castleton from far and our collective admiration for the *Champagne of the hills* only grows with time.

The other colonial culinary heritage that are ubiquitous in the hills are the ***Bakery items*** *like cakes, pastries, chocolates and other classic dishes like Au gratin, A La Kiev and Mousse* which we have imbibed as our very own.

We Bengalis too have left a strong mark in the local food scenario mainly because of the substantial number of tourists and permanent Bengali dwellers. So, for the less adventurous there are places where one can dig into our daily doses of *bhat, beulir dal, aluposto and macher jhol.*



Coming to the iconic restaurants in the hills, one may start with Darjeeling-where ***Keventer's,*** with its unique presence and location and classic open terrace stands out. It is where one can remember Ray's *Kanchenjunga* (with smiling erudite Anil Chatterjee) and Ranbir Kapoor's *Barfi* while enjoying club sandwiches, delicate pastries and hot chocolate.

One can visit *Glenary's (picture provided on the side)* for choicest baked items and chocolates and can have sit down multicuisine lunches and dinners, or go a few steps down the road besides Planter's Club to ***Kunga***, thelatest addition to the star-studded pantheon of Darjeeling food scenario for a highly satisfying meal consisting of thukpa, steamed momos, gravy chow rounded off with honey tea.



For even more intense heritage experience at Darjeeling, one can venture into ***Windamere Hotel****(picture provided below),****Gymkhana or Planter's club,*** where one will be attended by liveried waiters serving whatever the best "*The Raj era"* had to offer in fine bone Chinaplates and silverware.

Kalimpong is also not lagging behind and is a definitely a '*go to'* destination for foodies where there is no dearth of first-rate places like ***Gompu's*** for Tibetan & Chinese dishes, ***Zakhong*** for Bhutanese items, ***Sonam's Kitchen*** serving Nepalese delicacies and for Continental spread and bakery items, one can visit ***Art Cafe***. Kalimpong Cheese, especially Gowda and Blue variety- introduced by Swiss Missionaries in early 20th century are still very popular, and are available in stores like ***Lark's Provisions***.Kurseong is a must visit for Orchid and Tea lovers and sunset at ***Margaret's Deck*** with a steaming cup of one's favourite tea or a short visit to ***Makaibari Tea Estate*** will leave an everlasting impression.

Hence, literature, films and food in unison reveal the hills as a montage and a romantic destination which is fluid and restless yet rooted. To ruminate about the mountains is to not only admire its snow-clad peaks and deep green valleys, but also to ponder about the lingering taste of tea, the stories by the crackling fireplace and its echoes. The hills are in essence a living narrative where culture, art and life incessantly keep interacting.



Yeh Haseen Vaadiyan

Tracing Bollywood's Melodic Journey **in The Hills**

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One can't help but remember the immortal song from "Sound of music" where the hills and nature became a character and were forever etched in our mind, and whether in distant Salzburg in Austria or our very own Darjeeling, the mountains and the valleys with its people and melodies have always been a part of our dream world.



Can you remember the scene in the movie Main Hoon Na (2004) when King Khan emerges from the smoke of a steam engine in a railway station? It is the arrival of Shah Rukh at Darjeeling. But Bollywood has a long association with Darjeeling much before the arrival of king Khan.

Darjeeling with its colonial architecture, lush green tea garden and Kanchenjunga range has been favourite for filmmakers for decades. Be it a romantic movie or an adventure drama Darjeeling looked stunning in the celluloid.

Way back in 1949 film Barsaat was released.A portion of this Raj Kapoor and Nargis starrer was shot in Darjeeling. The iconic Devanand song "Jiya O Jiya Kuchh Bol Do" of the movie Jab Pyar Kisi Se Hota Hain (1961) was also filmed at Darjeeling.



Shami Kapoor and Kalpana starrer Professor (1962) had a hit song "Main Chali Main Chali". This song was shot in the backdrop of Batasia Loop and Darjeeling Mall.

Dharmendra and Asha Parekh featured in the movie Aye Din Bahar Ke(1966) In this movie the serene beauty of the tea gardens in Darjeeling was captured.

Raaj Kumar, Sunil Dutt and Vimi starrer Hamraaz (1967)was also shot at Darjeeling. "Neele Gagan Ke Tale" and "Tum agar Saath Dene Ka" are the two songs of this film that had some beautiful visuals.



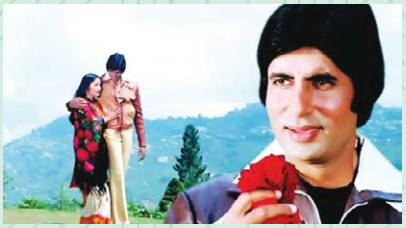
After Professor, director Lekh Tandon again came up with another movie Jhukh Gaya Asmaan (1968)that had the hit song "Kaun Hain Jo Sapno Mein Aaya". In this song Rajendra Kumar is seen travelling on a jeep through the roads of Darjeeling. The town has been immortalized in this Shankar-jaikishan classic.



Mere Sapno Ki Rani is one of the most iconic songs shot in Darjeeling. The film was Aradhana (1969). In this song Sharmila Tagore travels in a



toy train and Rajesh Khanna follows her in a jeep. One interesting fact about this song is that, Rajesh and Sharmila could not be found in the same frame throughout the song. Reason? Sharmila was not at all present during the filming of the song at Darjeeling.Her portions were shot later in a different place!



After Do Anjaane, Barsaat Ki Ek Raat (1981) was another Amitabh Bachchan movie that was shot extensively in Darjeeling. Its Bengali version Anushondhan was a blockbuster. People flocked in theatres to watch Amitabh speaking in Bengali. R.D. Barman gave memorable music in this film. “Amar Sapno Je”, “Haye Re Poda Bashi” an d”Otho Otho Shurjai Re” are all hit numbers that showcase Darjeeling beautifully.



Fresh from the success of Jo Jeeta Wohi Sikandar, music director duo Jatin-Lalit delivered another winner in Raju Ban Gaya Gentleman (1992). Music of this film was superhit. Song “Dil Hain Mera Diwana” features Shah Rukh Khan dancing through the streets of Darjeeling winning our hearts.

Actor, director and singer Anjan Datta has a special relation with Darjeeling. Although his Hindi movie Bada Din(1998) was based in Kolkata,it also has a Darjeeling connection. The song “Meri Akhon Mein Tum Ho” featuring Marc Robinson and Tara Deshpande portrays this town beautifully.

Director Farah Khan chose Darjeeling for her film Main Hoon Na (2004). The song “Chale Jaise Hawayein “was shot extensively in St. Paul’s School campus.



In the song “Kasto Maza Le” Saif Ali khan has a toy train journey through the mountains while Vidya Balan is seen in the tea garden. The film was Pradip Sarkar directed Parineeta (2005).

Barfi(2012) is considered one of the best works of music director Pritam.He composed some soulful numbers in this movie like “Mein Kya Karoon”, “Phir Le Aya Dil”, “Saawali Si Raat” etc. This film has quintessential representation of colonial heritage and misty beauty of this town.Clock tower, keventer’s Ghoom Station, Happy Valley Tea Garden, Chowrasta, Birch Hill Road all can be seen in this movie.



Sujoy Ghosh directed Kahaani 2 movie in 2016 .Here picuresque locatons of Kalimpong town has been captured in the celluloid.

After Barfi director Anurag Basu again brings Darjeeling in his film Jagga Jasoos (2018). In the soulful number “Phir Wahi” St. Paul’s School is clearly visible.

Hence, in conclusion, Bollywood songs in the hills are more than just picturesque sequences; they are emotional landscapes. The mountains amplify romance, longing, playfulness, serenity and yes, even separation and loss or in short, life in a nutshell. Whether it is the mist of Darjeeling, pines of Kurseong or the quite charm of Kalimpong, the hills have gifted Bollywood some of the most unforgettable melodies. In them nature became a character, music became its voice and the silver screen turns into a celebration. The heights of the majestic mountains and the deep valleys resonate with every man’s aspirations and emotions which echo with the music of life.



Savoring **North Bengal:** A trail of Gastronomic adventure



Dr Pranesh Mondal
MD PM&R, Assistant Professor, COMSDH, Kamarhati

North Bengal is indeed a treasure-trove of natural beauty and culinary delights. The region's scenic landscapes, rolling hills, and tea gardens are complemented by its rich and diverse cuisine. North Bengal's cuisine showcases a blend of traditional and cultural flavors, reflecting the region's rich heritage and geographic influences. In one side, North Bengal has tribal population like Rajbanshi, Rabha, Mech etc. as well as Gurkhas and Bengalis; on other side, it is surrounded by Assam, Bangladesh, Tibet, Nepal, Bhutan & China. So, the cuisine is popular for its unique and ethnic flavors and aromas, which are derived from a combination of diverse range of local ingredients, spices, herbs and cultural influences from neighbors. This culinary diversity is a result of North Bengal's historical significance as a hub for trade routes, which facilitated the exchange of cooking traditions and ingredient.

Local ingredients play a key role in the cuisine where mustard oil is used as common cooking medium and mustard paste along with oil add a distinct flavor and aroma to curries and vegetables. Panch-Phoran (five-spice blend) is a cornerstone ingredient to contribute unique warmth and complexity to cuisine. Fertile plains and abundant rivers and water bodies provide a variety of fresh vegetables and fishes which are staples for different dishes. Among locally sourced vegetables, ferns, mushrooms, pumpkins, gourds, bamboo shoots, red lentils are integral to seasonal specialties. Fresh water fishes like Rohu, Katla, Hilsha, Chital, Loitta, Boroli etc. are the key ingredient of Bengali cuisine. **Boroli** or Barred Boril, also called as 'Ilish of Teesta', renowned for its tender flesh and delicious flavor, boasts a subtly sweet taste with a hint of earthiness, embodying the essence of its freshwater habitat. This is found in clear streams specially the foothills of rivers like Teesta, Torsa, Jaldhaka, kaljani primarily in April-May and October-November. Boroli, like hilsa, can be cooked in myriad ways: steamed, with mustard paste, with yoghurt, in rich and thick gravy (kaliya), with onion, ginger and garlic paste, in a vegetable mish mash, in a simple broth with green chillies and nigella seeds, deep fried or as a chutney 'tok'. Usually tourists cannot complete their trip without visiting the restaurants in Malbazar or Gajoldoba that serve Boroli fish items along with Tulaipanji rice (an indigenous aromatic rice mainly grown in North Bengal). Starting from veteran novelist Shirshendu Mukherjee, SamareshMajumdar who hail from North Bengal to former Chief Minister Late JyotiBasu, former President of India late Pranab Mukherjee or the current Chief Minister Mamata Banerjee, all have a strong liking for Boroli. Apart from Boroli fish items, different delicious dishes like Chitolmachermuitha, Hilshapaturi, Koi paturi and Macherjhol are very popular for visitors.



SHORSHE BOROL



SHIDOL

Fermented foods are another signature as well as traditional dishes of North Bengal. Fermented rice (Pantabhat) and fermented fish (Shidol) are very popular in Rajbanshi community. Pantabhat is cooked by soaking and fermenting the rice in water overnight. It tastes best with salt, chilli, onion and is usually served with various side dishes of vegetables and fishes. The process of making **Shidol** involves washing the fish for four to six days, then grinding it into a paste and coating it with turmeric and mustard oil before allowing it to ferment. The fermentation process provides its unique flavor which is both tangy and savory. It is often used as a condiment or added to dishes to enhance their taste.Meanwhile,**Sholka** is made using various types of spinach, with curly leaves and taro stem serving as two of the main elements. **Chhyaka**, one of the key item of Rajbanshi cuisine, is prepared using various plants like taro leaves, moringa leaves, shidol, shukati (dark taro stem) etc. along with baking powder. Another traditional food is **Pelka** which is basically a soup-like dish, prepared with different leafy greens and usually served with rice. **Phoktani** is slightly different item than pelka by adding rice and wheat flour along with green leafy vegetables. Horpa, Takoya are another non-veg popular items in Rajbanshi cuisine. **KalaiRuti** is a traditional bread made from mashkalai dal flour and rice flour, often served with mashed eggplant, mashed dried chili, and chicken or fish curry. **AlooGhati** is a hearty potato curry flavored with mustard paste and fenugreek, made with fish, meat, or eggs. **Egg Telani** is a popular egg dish cooked with oil, cardamom, bay leaf, cinnamon, and spices.



PELKA, CHYYAKA, SHIDOL

ThakaliThali is a traditional Nepalese food platter that showcases the rich culinary heritage of the Thakali community. Key Components of ThakaliThali are Dal Bhat (lentil soup and steamed rice), Aloo Tama Bodi (traditional dish with bamboo shoots, black-eyed beans, and potatoes in a flavorful broth), Gundruk (Fermented leafy greens), Sidhara (A type of pickled radish that brings a tangy and spicy kick) and achar (pickles) or beaten rice. Cooking methods often involve mustard oil or ghee, and the distinct taste and smell of timur (zanthoxylumalayum) in curries make this cuisine unforgettable. Traditionally this thali is served on a large metal plate, eaten with hands as is customary in Nepalese culture. It is often served with meat curries or a side dish of yogurt and traditional Nepalese beverages like Chhang or Tongba. **Dhero**, also known as **Dhindo**, is a traditional Nepalese meal that has gained popularity beyond its humble origins. This thick porridge is made from boiling stone-ground cornmeal, buckwheat flour, or millet flour with salt in water, giving it a unique texture.

It is rich in nutrients, Dhindo is a healthy option, often paired with vegetables, pickles, buttermilk, and yogurt. Dhindo can be enjoyed with a variety of curries, such as Aloo Tama (bamboo shoots and potatoes) or Gorkhali Lamb.



THAKALI THALI



DHERO THALI

North Bengal has a rich tradition of delicious desserts, many of which are popular across the region. Jalpaiguri's '**Lalmohan**' has been a household name for citizens of North Bengal since independence as popular like LalmohanGanguly of Satyajit Roy's Feluda series. Starting from singer Manna Dey, Kishore Kumar to actress LeenChandravarkar and many others have had a tryst with this favorite Bengali sweet. Lalmohan and Phoolbari were entwined into a sweet trail that started its journey in erstwhile East Pakistan (present Bangladesh) like many other cuisines from 'Opar Bangla' did. Making of this sweet needs a sizeable amount of chhana, kheer and flour, that are mixed together and heated until it turns reddish. Once the fried balls become cool, they are immersed in the prepared sugar syrup. **Roshkodom (Rashakadamba),** a gourmet sweet of Gour Bangla (present Malda), was created when Chaitanya Mahaprabhu (also known as Gouranga) came here and preached the language of love to Roop and Sanatan. Its taste is incomparable with the layer of hardened kheer on the top and when one bites that harder outer shell, tongue gets a chance to savor a rosogolla like feeling inside. Sometimes posto or poppy seeds, cultivated in Malda are used on the top. Malda is also famous for Halwapatti, Tara Khhaja, Monacca etc. which are sweets of the Sultanate period. Among traditional sweets, Langcha (Deep-fried dumplings in sweet syrup) and Mohan Bhog (a dense semolina pudding flavored with cardamom and nuts) are very popular in all-over North Bengal. Bhapapithe is another dessert dish, influenced from Assam and Bangladesh. It is steamed rice cake made with rice flour with grated coconut and date molasses as the filling.



LALMOHAN



ROSHKODOM

Fermented alcoholic drinks have been part of different local cultures and the art has been transferred and modified from generations to generation. One such famous drink is **Tongba**, a heady millet brew. Tongba is this traditional wooden vessel with copper rings on top, bottom and in centre. The beverage is also called as**Jaand**. It is prepared by cooking and fermenting whole grain millet. It is a long and tedious process, but local people are expert in doing this at their homes. Cooked millet is cooled and mixed with murcha, known to be source of moods, bacteria and yeast, required for fermentation. Once this is done, the mixture is collected in bamboo baskets, lined with green leaves covering the baskets

with cloth and left to get warmed naturally for a couple of days. Once this process is over, the mixture is transferred into earthen pot and then covered tight at the mouth to prevent any air from entering in. It is then left like this for couple of weeks or even more depending on fermentation required. Once its done, jaand is ready to be consumed. This is then left to mature for about six months. Longer it is kept, taste intensifies but it becomes more mellowed. Now comes the drinking part, that is further interesting. Whenever it has to be consumed, the mixture is put into wooden tongba and then it is filled with boiled water, left for few minutes and is then sipped with a bamboo straw. The boiled water instantly derives the alcoholic essence from the millets. Once the water is finished and tongba gets dry, more water is added to the same mixture and repeated it until the essence is exhausted from the mixture. Drinking itself is an art, so that only liquid is sipped and grains aren't sucked to your mouth. The cultural exchange and sharing of traditions across borders, especially in the Himalayan region, have indeed led to the integration of Tongba into the local culture of Sikkim and Darjeeling. The porous borders and historical migration patterns have facilitated the blending of traditions, making Tongba an integral part of the region's identity. Apart from Jaanr, Bangla, a traditional country liquor made from fermented rice or wheat, with an alcohol content of approximately 12-15%. **Raksi** is a strong, distilled liquor prepared from fermented grains, sometimes infused with Rhododendron flowers for a distinct aroma. **Chhang** is a traditional brew made from fermented millets or rice, similar to jaanr but with different fermenting agents.



TONGBA

Must-Try Local Foods If You Are Visiting Kalimpong

1. **Sel Roti:** It is a beloved sweet bread that holds a special place in Kalimpong's culinary traditions. Deep-fried, this ring-shaped rice bread produces crispy outside that softens inside with a chewy texture. Usually celebrated during holidays, it's a treat that reflects the joyful attitude of the nearby society. Sel Roti is a nice snack for any time of the day since its sweetness complements a cup of warm tea. Anyone visiting Kalimpong should definitely try this classic cuisine, particularly if you wish to sample the festive tastes of the area.



SEL ROTI



GUNDRUK

2. **Gundruk:** It is made from locally grown leafy greens fermented and subsequently sun-dried, this unusual delicacy has a strong tangy taste. Gundruk is often served as a side dish, adding a burst of flavour to a plate of steamed rice. It is a must-try meal that provides a window into the gastronomic customs of Kalimpong for guests ready to savour regional tastes.

3. **Phagshapa**: It is popular among the Nepali community, prepared with pork and radish, creating a unique and savory dish. The combination of tender pork and crunchy radish offers a delightful textural contrast.



PHAGSHAPA



CHHURPI

4. **Chhurpi:** It is a traditional cheese made from yak or cow milk, found commonly in Kalimpong. It comes in two forms – soft and hard. The soft version is often used in various dishes, while the hard version is consumed as a chewy snack that can last for hours. This cheese is deeply ingrained in the local diet and offers a taste of Kalimpong's dairy traditions. Cheese lovers will find Chhurpi to be a delightful treat, whether enjoyed on its own or as part of a dish. Sampling Chhurpi is a must for anyone looking to experience the authentic dairy flavours of Kalimpong.
5. **Thukpa:** It is a popular noodle soup in Kalimpong, especially favoured during the colder months. This hearty dish, originally from Tibetan cuisine, has become a staple in the region. Thukpa typically consists of a rich broth filled with slices of meat and vegetables and homemade noodles that give the soup a rustic charm. It's the perfect meal to warm up with, offering both nutrition and comfort. It is a must-try for visitors who want to experience the wholesome, homely flavours that are central to Kalimpong's food culture.



THUKPA



ALOO TAMA

6. **Momo:** It is an integral part of Kalimpong's street food culture. These Tibetan-style dumplings are enjoyed by locals and visitors alike. Filled with either minced meat or vegetables, momo is usually steamed, though fried versions are also popular for their added crunch. The dumplings are served with a spicy dipping sauce, often made with the local DalleKhursani, a fiery red chilli. The combination of the juicy filling, soft dough, and spicy sauce makes Momo a must-try for anyone exploring Kalimpong's street food scene.
7. **Phaparko Roti And Aloo Tama:** Phaparko Roti is a buckwheat flatbread that's a local favourite in Kalimpong. It's typically served with Aloo Tama, a curry made from potatoes and bamboo shoots. This combination offers a unique taste experience, with the earthy flavour of the buckwheat roti complementing the tangy and slightly spicy Aloo Tama. The dish is a great option for vegetarians looking to try something different. It's a must-try for those who want to experience the traditional vegetarian dishes of Kalimpong.
8. **Kalimpong Cheese:** It is a variety of Indian cheese with roots in an Italian missionary's recipe. It has become a speciality of the region, known for its unique flavour and texture. It's often enjoyed on its own or used in various dishes.

The cheese reflects the region's history and ability to adapt and innovate traditional recipes. Sampling Kalimpong Cheese is a must for anyone interested in the region's dairy products and culinary heritage.

9. **Sephale:** Sephale/shapaley or shabalep, is a popular Tibetan stuffed pastry, has a crispy shell and a savoury filling. The filling in Tibet is often yak meat, but Kalimpong's vibrant culinary traditions have led to vegetarian and chicken filling. The vegetarian Shapale is filled with finely chopped cabbage, carrots, onions, and spices that create a delicious flavour harmony. Tofu or paneer adds protein in some versions. For non-veg options, chicken filling enhances the taste. Locals and visitors love the combination of homey warmth and Himalayan flavours it brings in.



SEPHALE

10. **Laphing:** It is a cold mung bean noodle dish that's popular in Kalimpong. Originating from Tibetan cuisine, Laphing is known for its spicy and savoury flavour profile. The noodles are typically served with a variety of sauces and spices, creating a refreshing dish packed with flavour. Laphing is a must-try for those who enjoy bold, spicy foods and want to experience a dish that's unique to the region's street food offerings.

North Bengal cuisine is not just about food; it's an experience that reflects the region's rich cultural heritage and traditions. Whether it's the hearty potato curry or the sweet Lalmohan, from traditional breads like KalaiRuti to flavorful curries like AlooGhati and ShorsheBoroli or from fermented foods like Shidol and Panta Bhat to Phagshapa, every dish tells a story of the region's history and people. Overall, North Bengal cuisine is a hoard of flavors, textures, and traditions that are sure to delight food lovers and cultural enthusiasts alike.



A Serendipitous Journey: Falling in Love with North Bengal

Dr Joyshree Panda
MD,DNB,PDF, Consultant Onco-Pathologist

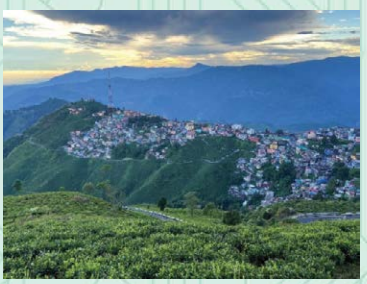
Sometimes life throws surprises our way—not always planned, not always welcome, but often magical in hindsight. One such twist came in the form of a sudden move to Siliguri—a place I had not been and barely known, in a time of complete uncertainty. The city wasn't just a new address, it was a canvas, waiting for the brushstrokes of our life's next chapter. And in March 2021, as I stood beneath the soft skies and felt the breeze of North Bengal on my face, I knew something had quietly changed. I had found my peace.



Kanchenjunga as Seen from Siliguri

Born and raised in small towns, I always felt a bit lost amidst Kolkata's relentless rush. Siliguri was different—it offered the comfort of a small town with a touch of metro flair, a cosmopolitan crowd intermingling with the warmth of nature, all nestled at the foothills of the mighty Himalayas. It was a tourist's delight, a local's treasure, and soon, it became home.

As we settled in, the hills beckoned us. We began ticking off our bucket list, and the very first place was Kurseong. The road leading there—lined with rolling tea gardens in step-ladder patterns, set against misty sub-Himalayan slopes—was like driving into a postcard. Everything felt surreal.



Kurseong



Pine trees

Evenings soon turned into mini-adventures. We wandered into lesser-known gems like Dudhia, where time seemed to pause. The quiet murmur of the flowing river, the whispering trees, and the occasional chirp of birds created an orchestra of calm.



Dudhiya



Dudhiya

Gulma forest was another discovery–peaceful and wild at the same time. The joy of standing by a small stream while watching a train cut through the landscape was nothing short of cinematic. Our weekend train rides to Rongtong, sometimes even on a scooty, became ritualistic. With cameras in hand, we searched for hornbills, barbets, and golden orioles, soaking in the wilderness.



Gulma Forest



Barbet



Oriole

And then, one fine evening, magic took a new form–we spotted our very first hornbill. Its majestic flight, the sound of its wings cutting through the air, left us spellbound. That single sighting opened a whole new world for us. Soon after, we ventured into Shivkhola–the birding paradise. With every step, the forest revealed its treasures. We saw birds we had never imagined before–each one a splash of color, a melody in motion. What started as curiosity slowly grew into passion; birding became our newest hobby, our quiet escape into nature's symphony. To add to the passion Dagapur tea state behind our home too was a birds paradise with Orioles, Barbets, Chestnuts, Bee-eaters, babblers, Owls, Parrots chirping .all around and posing for our clicks.



Great Indian Hornbill



Blue Rock Thrush



Common Green Magpie



Niltava



Woodpecker



Himalyan Rubythroat

Hill Affairs

The journey continued to surprise us. In Gajoldoba, Dooars, the mighty Kanchenjunga stood tall, shimmering like a guardian beyond the horizon. The view from there was unlike anywhere else–serene waters below, snow peaks above, and the vast Dooars unfolding in between. Gajoldoba was not just about the mountains; its calm waters offered yet another gift. Boat rides on the Teesta barrage revealed flocks of birds–some residents, some travelers from lands far away. To see migratory birds resting here, after journeys spanning continents, felt humbling. Each ride was like sailing into a living documentary, where every turn of the river offered a new frame of beauty.



Gajoldoba



Red Crested Pocha



Eurasean Teal



Tufted Duck

Then came Dooars–a stretch of emerald green, peppered with rivers like Murti, Gorubathan, and Jhalong. These places weren't just scenic; they were healing. A sight of Kanchenjunga peeping through the clouds would often feel like nature's secret smile.

But it was at Bhorer Alo, on a crisp morning, that we witnessed the most magical view of Kanchenjunga. The snow-clad peak blushed under the sun's first light–it was a sight forever etched in my heart.



Northern Shovler



Kanchenjunga From Bhorer Alo



Nearby Area

On the way to Teesta Barrage, we paused at the majestic Coronation Bridge, where the Teesta flows with both power and poise. Nearby, the Sevoke Kali Bari, perched against a backdrop of misty mountains, offered spiritual calm and stunning panoramas alike.



Coronation Bridge



Darjeeling



Darjeeling FromLepchajagat

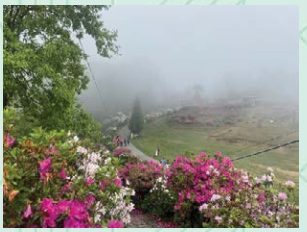
Hill Affairs

Of course, no North Bengal journey is complete without mentioning the Queen of Hills – Darjeeling. While I admired its colonial charm and bustling Mall Road, my heart was stolen by Lepchajagat, where the only sound is the wind brushing against the pines and the occasional rustle of rhododendrons.

Then came Kalimpong, the quieter sibling of Darjeeling, often overlooked but equally charming. With its laid-back vibe, panoramic points like Delo Park, and floral bursts at every corner, it became our weekend haven. On the way, the turn towards Sittong–the land of oranges–was a visual feast. The winding roads, laden with citrus trees and echoing with birdsong, felt like poetry.



Kalimpong



Delo



Orange Garden

Adventure found us at Teesta River, where we tried river rafting for the first time–equal parts fear and thrill. Higher up, Lava, Lolegaon, and Rishop treated us with solitary Himalayan views and dew-laden pine forests that reminded me of childhood fairytales.

Our wanderlust even took us to Gangtok, where MG Road bustled with color and warmth. A trek to Changu Lake, frozen in time, and a second journey through Padmachen, Nimachen, and finally to Zuluk, where snowflakes danced on my palm, made me feel like a child again.



Way to Gangtok



Frozen Changu Lake



Zuluk

Amidst all this, it wasn't just the mountains and rivers that stole our hearts–it was the people. The innate kindness, the smiles from strangers, the shared stories over steaming momos, thukpa, and hill-side Maggi–all made North Bengal not just beautiful, but lovable.

Looking back now, this chapter feels like a blessing wrapped in disguise. A sudden shift that turned into a soulful journey. Siliguri gave us more than a home–it gifted us a new rhythm of life, one that flows with rivers, rises with the hills, and whispers through pine-scented winds.

Photo Courtesy: Dr Subhasish Pati



আই সি ইউ/ICU

Prof (Dr) Partha Pratim Pan
Professor & Head, Dept of PMR, NBMCH

কেটলির জলের মতো ফুটছি সবাই
আর্তনাদ করছি প্রেসার কুকারের মতো

আর নর্দমার নোংরা জলের মতো
নীরবে চলে যাচ্ছি

কার তাতে কি
অশ্রু নেই, ফুল নেই, অনুগমন নেই
তাতে আমার কি

পিঁ পিঁ মেটালিক শব্দের মধ্যে
প্রিয়ডাক খুঁজি

নিবে আসা চোখে
একটা সুধামুখ

কপালে জ্বর-দেখা একটা ঠান্ডা হাত

উঠোনে শিউলি ফোটার সময় হলো
একটু গন্ধ নিয়ে যেতে পারবো না?

যেতে হয়। এভাবে যেতে চাইনি।

Boiling like water in kettles,
Screaming like pressure cookers.

And flowing silently like filthy water in drains.

Who cares?
No tears, no flowers
No followers...
I don't really care

Searching through metallic sounds,
One soothing voice of a dear one.

Searching a face, I loved
In eyes opened for the last time.

And a tender hand
On the forehead,
Would feel my fever.

Shall I not smell
Little fragrance of hyacinths,
In my courtyard before I leave?

No way, but to perish.
But
This is not the way to leave.



Wings of **freedom**

Dr Vasundhara Ghosal
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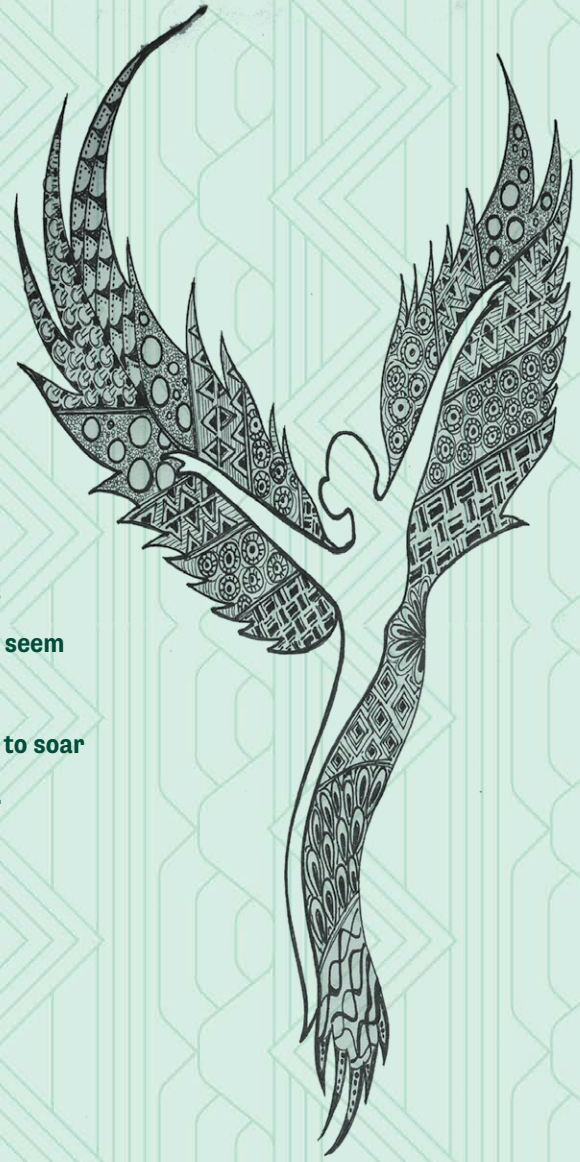
As I walked the treacherous roads alone
I felt tired, pained to the bone.
I was hurt, but I did not break
My spirit unshaken, my heart still in ache

I faked a smile, I cried inside
In the solitude, I found my guide
I gathered the strength to mend my soul
I made wings for myself, on my own

The limitless sky is now my ground
I soar higher, flying unbound
I paint my canvas with courage and dreams
Nothing is impossible, however hard it may seem

I am master of my destiny; my heart is free to soar
My fears have gone, and I am ready to soar.

I dance to my freedom,
My soul singing with joy
In harmony with myself,
I spread my wings to enjoy





বাংলা লোকসঙ্গীতের ইতিবৃত্ত

Dr Prabir Mandal
MOIC, Dept of PMR, MR Bangur Hospital, Kolkata

ছন্দ ও দোলন আদিমতম প্রক্ষোভ। সঙ্গীত ছন্দ, তাল, মাত্রা এবং দোলন থেকে সৃষ্ট। 'লোকসংগীত' হলো তার অন্যতম ধারা। লোকের মুখে মুখে যে গান তাৎক্ষণিকভাবে রচিত এবং যার সুরে রচিত কম্পন তৎক্ষণাৎ, যার কোন লিখিত রূপ নেই, বংশপরম্পরায় গীত হয়ে এসেছে, গীতিকার সুরকারের পরিচয় যেখানে অবলুপ্ত, যার গায়কীতে আছে এমন একটি বিশেষ রূপ, যেটা তার একান্ত নিজস্ব, তাকে সাধারণত 'লোকসংগীত' বলা হয়।

লোক চেতনায় জাগরিত বিভিন্ন আবেগ, যেমন দুঃখ, কষ্ট, আনন্দ, উদ্দামতা সবটাই প্রকাশিত 'লোকসঙ্গীতের' মাধ্যমে। অর্থাৎ মনের অন্তস্থলের ভাবের বহিঃপ্রকাশ হলো লোক সঙ্গীত। 'জনপদের হৃদয় কলরব' এই সংগীতের অন্যতম বৈশিষ্ট্য। জনজীবনের খন্ড খন্ড বিচ্ছিন্ন ভাব ও অনুভূতি পথের ধূলার মতো ওতপ্রোতভাবে জড়িয়ে 'লোকসংগীত'। জীবনের প্রতিটি মানব তরঙ্গ লোক কবির মনের তটে আছড়ে পড়ে, আর সেখানেই সৃষ্ট লোকসংগীতের বারোয়ারি ঘরান।

লোক সংগীতের স্রষ্টা কে? তার কোন নির্দিষ্ট লিখিত রূপ আজও অধরা, তবে এই প্রসঙ্গে হেমাঙ্গ বিশ্বাস বলেছেন "উৎপাদক মেহনতী মানুষই লোক সংগীতের প্রকৃত স্রষ্টা।" অর্থাৎ যেই অন্নদাতা সেই সুরদাতা। 'লোকসংগীত' হল জীবনের অতীত - বর্তমান - ভবিষ্যৎ জীবনের প্রতিচ্ছবি।

বাংলায় আদিম আঞ্চলিক লোকসংগীত গুলিতে বহু উপধারা থাকলেও প্রধানত তিনটি ধারা পরিলক্ষিত হয়। যথা - ভাটিয়ালি, বাউল, ঝুমুর

ভাটিয়ালিঃ ভাটিয়ালি শব্দটা ভাটা বা ভাটি থেকে এসেছে, যার অর্থ নদীর স্রোতের অনুকূল। ভাটিয়ালি মূলত মানবজীবনের নৈরাশ্য, হাহাকার, বিচ্ছেদ, বিরহ, বেদনার, বিষণ্ণতার ও একাকিত্বের করুন সুর।প্রধানত মাঝি-মল্লাদের অবসর সময়ে জীবনের গভীর অনুভূতির বহিঃপ্রকাশই ভাটিয়ালি সুরের মূর্ছনা ।

'আমায় ভাসাইলিরে আমায় ডুবাইলিরে
অকুল দরিয়ার বুঝি কুল নাইরে'

বাউল গানঃ বাউল গান দেহ সাধন তত্ত্ব, ত্যাগ ও বৈরাগ্যের প্রতীক। শুধুমাত্র বাউল সম্প্রদায়ের রচিত ও প্রচারিত স্বল্প জ্ঞানী মানুষ ও বাউল গানের অর্থ অতি সহজে উপলব্ধি করতে পারে। বাউল গানের আদি এবং ঐতিহ্যবাহী যন্ত্র হলো একতারা ও ডুগি। বর্তমানে খোল, তবলা, দোতারা, বাঁশি সহযোগে বাউল গান পরিবেশিত হয়। বাউল তার পায়ে ঘুঙুর পরিধান করে বিশেষ নৃত্য সহকারে বাউল গান গায়।

সব লোকে কয় লালন কি জাত সংসারে?
লালন কয়, জেতের কিরূপ
দেখলাম না এ নজরে।

ঝুমুরঃ ঝুমুর গান প্রাচীন ধারার লোকসংগীত মূলত ঝুমুর গান আদিবাসী, বিশেষ করে সাঁওতাল সম্প্রদায়ের গান। ঝুমুর গান নারী ও পুরুষের নৃত্য সহযোগে পরিবেশিত হয়। ঝুমুর মাটির গান। প্রাচীন কাল থেকে এই একবিংশ শতাব্দীতেও ঝুমুর সমান ভাবে সমাদৃত। এই গানের প্রভাব বড়ু চন্ডীদাস, রবীন্দ্রনাথ ঠাকুর ও কাজী নজরুল ইসলামের গানে বিশেষভাবে প্রতিফলিত। তাই আজ বাংলা, বিহার সীমান্ত ছেড়ে ঝুমুর পাড়ি দিয়েছে আমেরিকা ও অস্ট্রেলিয়াতে। ঝুমুর শুধু লোকগান নয়, আজ তা বহু মানুষের জীবিকা। ঝুমুর শিল্পী সিন্ধুবালা দেবী পেয়েছেন রাষ্ট্রপতি পুরস্কার।

"ভাদর আশ্বিন মাসে
ভ্রমর বসে কাঁচা বাঁশে
আরও কি থাকিবে বাপের ঘরেতে
ও বধূ হে আরও না থাকিও বাপের ঘরেতে।"

ঝুমুর গান আবার বিভিন্ন আঙ্গিকে বিভক্ত। যেমন পৌরাণিক ঝুমুর এবং লৌকিক ঝুমুর। এই দুটির মধ্যে লৌকিক ঝুমুর বিশেষভাবে পরিচয় লাভ করেছে। লৌকিক ঝুমুরের মধ্যে বিখ্যাত হল পুরুলিয়ার ছৌ নাচ। তাছাড়া পাতা নাচের ঝুমুর, রণ পা ঝুমুর, দরবারি ঝুমুর এছাড়া টুসু, ভাদু প্রভৃতি উল্লেখযোগ্য।

স্বাধীনতা সংগ্রামে ভারতে আদিবাসীদের ভূমিকা অনস্বীকার্য। ইংরেজ শাসকদের সাথে নিরন্তর সংগ্রাম ইতিহাস রচনা করেছে। আদিবাসীদের সংগ্রামের কথা প্রাচীন ইস্তেহার, দৈনিক সংবাদপত্র, মাসিক সাপ্তাহিক পত্র-পত্রিকা, গান, ছড়া, লোককথা প্রভৃতির অনুসন্ধান করলে ইতিহাসের খাতায় পাওয়া যাবে। তাদের মর্মভেদী আর্তনাদ যা দেশমাতৃকার শৃংখল স্খলনের স্বতঃস্ফূর্ত প্রকাশের ভাষা, তা লোকসঙ্গীতের ধারার অন্যতম বাহক। জাতি ধর্ম নির্বিশেষে বিদ্রোহ ঘোষণার কথা ও তাদের মুখের ভাষাকে লোকগানে পরিণত করে।

"মানুষের জাত ধর্ম সৃজন
ঈশ্বর কিংবা প্রকৃতির নয় কখন"

"শূদ্র চারাল বাগদী বলার দিন
দিনে দিনে হয়ে যাবে ক্ষীন"



Buraco das Araras:
An experience to remember

Dr. Anirban Banerjee
EFIAP, EFIP

'Hurry up, friends, let's get to the deck; the show is about to begin!' cried Andrew, our local guide. We complied and reached the deck. And so, the spectacle began... what we saw was nothing short of a natural masterpiece. A wonderfully scripted natural story unfolded before our eyes. Hundreds of macaws were flying from one cliff to another, from branch to branch, against a backdrop of lush green foliage. Their voices, spirit, and gestures would mesmerize any spectator from anywhere in the world. **Welcome to Buraco das Araras !**

Buraco das Araras, (Macaw Hole) is a sinkhole located in Jardim, approximately 120 kilometres (75 miles) west of Brasília and 16 kilometres (9.9 miles) from the district of Bezerra in the municipality of Formosa. It is considered one of the largest sinkholes (dolinas) in the world. The sinkhole is 105 meters (344 feet) deep and 295 meters (968 feet) wide, featuring a dense rainforest with giant ferns in its midst, reminiscent of a primitive era.





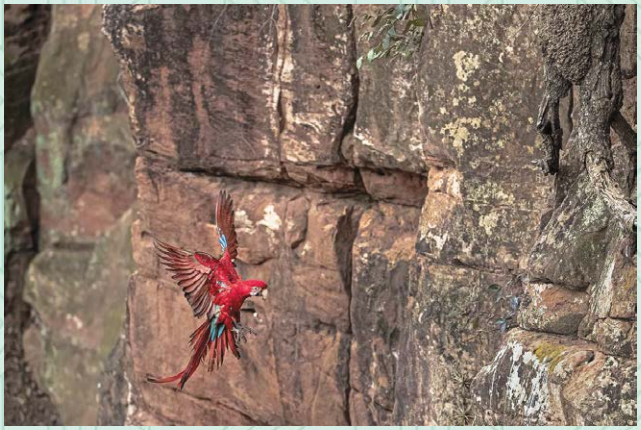
History and Discovery:

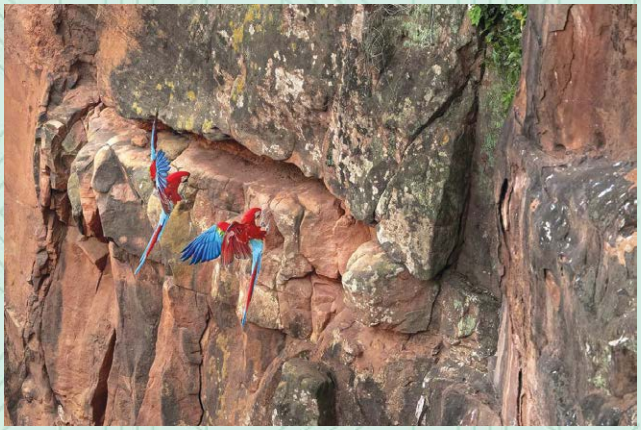
The massive doline is estimated to have collapsed around 200,000 years ago, during a time when the area was inhabited by sabre-toothed tigers, giant sloths, tapirs, and giant armadillos. The sinkhole is a doline, formed by the collapse of a cave roof. The first official record of the sinkhole dates back to 1912, when red and green macaws were living there. A curious farm worker followed the macaws and discovered the hole. However, the farmer at the time was concerned that cattle would fall into the hole, so he decided to leave it outside the ranches, creating a road between properties. As a result, people began visiting the hole, marvelling at its dimensions and the macaws flying inside. The name "Buraco das Araras" (Macaw Hole) originates from the large number of macaws, particularly red macaws, that inhabit the area. Unfortunately, local legends and stories suggest that some individuals used the giant sinkhole as a dumping ground for unwanted items and even people, throwing their enemies inside to die and remain hidden, effectively turning the Hole into an 'open-sky cemetery'. One of the most notorious figures associated with

these stories is Silvino Jacques, who allegedly let his victims run, unaware that they were heading towards a fatal abyss. The site also suffered from vandalism, with rock walls and macaws being used as targets for gunfire. As a result of this and littering, the macaws gradually disappeared.

Restoring The Natural History

When the current owner, Mr. Modesto Sampaio, bought part of the farm in 1986, he and his family were unaware that the old road had been included in the deal, and the sinkhole was right in the middle of the property they had purchased. At that time, the area was inhabited only by black birds attracted by the trash that people had thrown into the sinkhole. Additionally, there were dead cattle in the lake, as cows often fell into the hole due to their inability to gauge depth. Shockingly, the Sampaios found the remains of 24 bodies, which may explain the presence of caimans in the lake, possibly introduced to dispose of the dead bodies. Mr. Modesto had the entire sinkhole and its surroundings cleaned up and released two captive macaws at the site. Over time, more macaws naturally migrated to and nested at the sinkhole, restoring the area's natural history.





Current Status and Features:

Today, the RPPN (Private Reserve of Natural Heritage) of 29-hectare around this sinkhole hosts 130 kinds of birds, of which the main attraction is the red-and-green macaw (arara). The privately-owned reserve was established on April 11, 2007. It is classified as an IUCN protected area category IV (habitat/species management area), covering an area of 29.03 hectares (71.7 acres). A vivid green lagoon is situated at the bottom of the sinkhole, surrounded by lush vegetation. It has become a popular tourist destination, known for its distinctive ecosystem and the opportunity to observe macaws and other bird species. The sinkhole is home to caimans, armadillos, anteaters, coatis, foxes, the macaws for which it is named, ibises, toucans, and many other bird species. The reserve's owner manages the site and is responsible for complying with the legal requirements for RPPN. Visitors are accompanied in groups by a tour guide or local environmental monitor on a guided walk around the sinkhole.

Biodiversity and flying rainbows:

This sinkhole is home to 130 species of birds, with the main attraction being the red-and-green macaw. It's a stunning, colourful spectacle to see these "flying rainbows" all around the immense sinkhole. The rocky walls of the sinkhole form an ideal shelter for the red-and-green macaws (characterized by their vibrant red, green, and blue plumage). From two viewing platforms, you can observe the macaws flying throughout the sinkhole, entering their nests, and perching on trees, where you can see them up close. These macaws can grow up to 125 cm in wingspan and 96 cm in length, and they can live for up to 80 years. They are known to be monogamous, and if a partner dies, the surviving macaw will often remain alone for the rest of its life. The female typically lays two or three eggs in a nest and incubates them for about 28 days. The chicks fledge from the nest approximately 90 days after hatching. Besides birds, you might spot mammals such as armadillos, anteaters, coatis, foxes, and agoutis. Surprisingly, there are also caimans at the bottom of the sinkhole, where a lake with green water is located.

Off Route

Great tour with macaw's flight:

Today, the reserve is peaceful and well-organized. A short walk down the trail leads to the deck, where you can experience this breathtaking natural spectacle. Early morning and late afternoon provide perfect lighting conditions for capturing stunning photographs of this natural wonder. Our tour guide, Andre, spoke excellent English and provided us with valuable insights. We highly recommend visiting this unique site for its rich history, stunning nature, and vibrant wildlife.











Financial Literacy: A neglected necessity

Dr Tuhin Ray
MD PM&R Assistant Professor, IPGME&R, Kolkata

In a medical conference amidst nature at a height of 4100 feet, the terms like finances, asset, interest etc. might seem alien but what actually prompted me to write this article is when I saw a huge gathering of young health care professionals at a recently concluded fund management seminar hosted by one of the corporate biggies.



Though I am not an expert in this field, I still thought of sharing my insights with whatever knowledge I have gathered with little bit of experience & practice.

Gazing through the windows, catching glimpse of Kanchenjunga with a cup of cappuccino &enjoying a short vacation, investment might seem a distant dream but in today's fast paced world where so many things are uncertain financial literacy is not only an important skill but also a necessary craft that needs to be dealt with adequate competence.

"Rule no 1: never lose money, Rule no 2: never forget rule no 1"

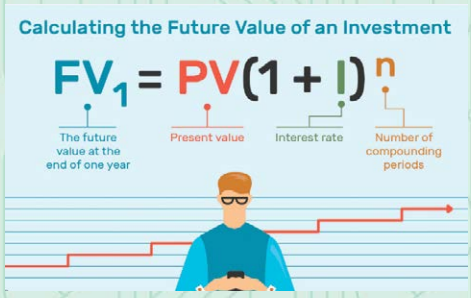
This is how 'Warren buffet'a world-famous investor describes investment in his own way& financial management without himis incomplete since he is the guiding starin this segment.

Investment actually involves allocating money into various schemes to generate maximum returns and in the process secures an individual's future. So proper knowledge is needed to beat inflation as well as to grow wealth over time.

Why beating inflation is necessary!I will give an example. Suppose you have 1lac rupees with you so after 10 years at a rate of 7% annual inflation rate the value will become Rs 50,834.

So, one can imagine how inflation devalues wealth with time.

Here is a formula to know the value of investment with time.



Before thinking of growing money an individual must have-

2 Insurance policies.

a) ***Term insurance:*** This is an insurance policy where a certain predetermined amount will be credited to the dependent or nomineeupon unfortunate death of the policy holder.

   The question now arises how much should be the insurance amount. As per experts a policy needs to be at least 10-20 times of an individual's annual income.

b) ***Health insurance:*** I hope most of the people will be having this insurance as of now.

Coming on to the type of investments:

a) ***Fixed / recurring deposits-*** conventional instruments everyone must be aware, I guess.

b) ***Real estates and gold***

c) Direct equity- Also known as investing in stocks. An individual directly invests in the company's growth by buying their shares. Only disadvantage is that one needs to have fair knowledge about share market every passing day which is governed by various economic,political& business factors. DEMAT (dematerialized) account is required for buying and selling stocks which can be opened in banks or through financial apps.

d) ***Mutual funds-*** A popular tagline says

'Mutual funds SahiHai' now how much it is 'Sahi'Hai only time will tell but needless to say it is one of the fastest growing instruments of wealth creation in last 5-7 years.

There are numerous MFs / asset management company(AMC) in the market like UTI,SBI, ICICI,NIPPON,QUANT,MOTILAL OSWAL,PARAG PAREIKH,HDFC etc. which are regulated by securities & exchange board of India (SEBI).



So why MFs:

There are numerous advantages that MFs offer over other instruments. These are managed by professionals who have necessary expertise, experience and resources to monitor investments on our behalf. Though in return they charge a commission which is known as expense ratio but it is very small amount.

Liquidity is an important aspect of MFs. Money redemption can be done any time and the amount will be credited in one's bank in 2-3 days.

There are significant tax benefits on capital gains incurred through MFs redemption. UptoRs 1.25 lacs of long term (>1year) capital gain is exempt from tax in a financial year.

Distributing your hard-earned money into equity and debt also helps in risk diversification thereby reducing the risk of losing money.

How to invest in MF's:

Investment can be done either through agents of AMC or directly using various well regulated digital App's that are available in the market like Grow,Upstox,Zerodha,5 paisa,ET money, angel one etc. Investing directly is always recommended since it saves the upfront commission paid to the agents however proper knowledge is a must.

Now the question comes how to select a mutual fund:

It all depends on an individual's age, requirements, risk taking ability, amount and duration of investment.There are numerous schemes available which are marketed by the AMC. Broadly they are divided into-

a) **Equity** oriented fund- Here major part of the corpus is invested in equities and have comparatively higher risks but the returns are also high.

b) **Debt** oriented funds- Here money is invested in bonds, corporate debentures & govt securities. These schemes are less risky at the same time opportunities of capital appreciation is also limited.

c) **Balanced fund -** Schemes investing in both equity and debt. These are most appropriate for investors looking for moderate growth.

All these funds can be classified differently like-

a) As per market capitalization-

Large cap funds: MF's investing in top 100 companies. These are well established companies providing stable returns at a lower risk. But they tend to have lower growth potential compared to other funds.

Mid cap funds: Funds investing in companies ranked 101st to 250thas per market capitalization. They have high growth potential.

Small cap funds: these are relatively young companies not belonging in top 250 companies but have the highest growth potential. Risk is also high



b) **Index funds:** these funds replicate the portfolio of a particular index such as Sensex index, nifty 50 index, bank nifty etc. the corpus is invested in the same weightage as dynamicity of the index.

c) **Sectoral /thematic funds:** schemes investing in specific sectors like Finances, IT, FMCG, Defense, Pharma, Metals etc.

d) **ETF-** exchange traded funds that are traded at the stock market.

Things or tools to look before investing:

a) AMC/MF house- Reliability, Trustworthiness, Asset under management of the financial company.

b) Performance- Track record of the scheme in last 3-5 years needs to be checked regarding the growth potential and also the funds need to be compared with other peers.

c) NAV(net asset value)- it serves as a performance indicator and helps to understand how the fund is performing over time.

d) Expense ratio- less is better

e) Exit load- amount that the company charges if redeemed early

f) Tax implications- Funds investing in equity,debt or foreign companies are taxed differently.

g) Risk measurement-

   i) **B**eta- measures the MF volatility relative to the overall market or a specific benchmark index. A value of 1 means that the funds price will move in sync with the market. More than 1 means the fund is more volatile.

   ii) **A**lpha- measures the MF's performance. A positive alpha means that the fund has performed better than its benchmark index.

   iii) **S**harpe ratio- evaluates funds risk adjusted performance. A higher ratio is generally preferable indicating that the funds return is due to excellent fund management and not due to undue risks.

   iv) **S**ortino ratio- focuses solely on the negative volatility of the fund. A higher ratio indicates a lower probability of large losses making it a crucial tool for evaluating risk of negative returns.

Combination of all these metrics will offer a comprehensive view of the funds risk profile and potential performance.

So finally,how to invest-

a) Lump sum or one time investment- It requires adequate knowledge of the share market.

   The thumb rule is to invest when the market is low and book profit when the market is bullish or high.

   "Be fearful when others are greedy and greedy when others are fearful" - Warren Buffet

b) SIP or systemic investment plan- this is mainly for first time investors who lack necessary financial know-how. It can done monthly, quarterly etc.

A return of 12 % in long term capital gain is considered as standard in share market. Sometimes it will give 18-20% return but then again be prepared to even get 7-8% during times of economic crisis.

It's just the timing that matters in these kinds of investments. For ex during times of covid in early 2020 the market went highly volatile and crores of rupees were lost but then again, the market gained momentum after late 2020's and gave returns of around 25- 30 %. So just like life one needs to sail through the ups and downs of the economy.

Anyway it is always advisable to appoint a 'Sarathi' or an agent for the necessary inputs as far as finances are concerned & who will always be there for his or her master and will say 'Main Hoon Na' during tough times.



Few other **small savings** options that need to be kept in the mind: -

a) Monthly income scheme (MIS)- pays out interest on a lump sum deposit in monthly instalments, providing a steady, regular incomethrough Indian post office. Currently the rate is 7.4%

but the deposit should be for a tenure of 5 years. Maximum 9 lacs in a single account and 15 lacs in a joint account can be kept. Penalty for premature withdrawalis present.

b) Senior citizen savings scheme(SCSS) -Rate of interest is 8.2%. an individual whose age is more than 60 years or more than 55 years who has retired on superannuation is eligible to invest in this scheme. Tenure is for afixed duration of 5 years and a maximum of 30 lacs can be kept in all SCSS accounts.

c) Public provident fund(PPF)- Maximum a sum of 1.5 lacs can be invested in a financial year. Lock in period is 15 years which can be extended in a block of 5 years after the completion of the tenure. At present interest rate is 7.1%. Most striking feature of this instrument is that the interest earned is tax free.

d) Sukanya Samrddhi yojana- Account can be opened in the name of a girl child before attaining 10 years of age. The account will mature after 21 years. Maximum 1.5 lacs can be deposited in a FY for 15 years. Withdrawal is allowed after the girl child attains 18 years on special conditions like marriage or education. Interest earned is tax free.

e) National pension scheme (NPS)- Govt sponsored market linked defined contribution scheme for retirement savings. It can be mandatory tier-I or optional tier II. Subscribers receive a unique PRAN (permanent retirement account number) and can contribute to build a retirement corpus with a portion withdrawn at retirement and the remainder providing a monthly pension.

f) National savings certificate (NSC)- For a 5year tenure interest rate is currently 7.7%. &there is no limit to maximum amount of investment.

g) Mahila Samman savings certificate- only for woman subscribers where maximum investment amount is 2 lacs with alock in period of 2 years. Interest rate is 7.5%.

h) Kisan VikasPatra (KVP) -Deposit made in this account shall double at maturity. Maturity period of the deposit under this scheme is determined on the prevailing rate of interest at the time of opening the account. As of now the ROI is 7.5%.

So, it is quite evident that there are lots of instruments available in the market for investment but as there is a saying “one size does not fit all”, an individual needs to take right decision through proper research and guidance before entering the field.

Financial freedom can only be gained through financial literacy and technological competence and in today’s world there doesn’t exist a second option.

As quoted by ‘Ryan Holiday’a world-famous author

“An investor without discipline is not an investor - he is a gambler”



ভূত অদ্ভুতঃ বাংলার সত্যি ভূতের গল্প

ডাঃ সিদ্ধার্থ সিংহ রায়
অ্যাসিস্ট্যান্ট প্রফেসর, আইপিজিএমইআর, কলকাতা

বছর তিনেক আগে একবার এই নভেম্বর মাসেই উত্তর বঙ্গের পাহাড় জঙ্গল ঘুরতে ঘুরতে এসে পড়েছিলাম কালিম্পঙে।উত্তর বঙ্গে নভেম্বর মাসে ভ্রমনের বাসনা থাকলে আর পুষ্পক যানের রেস্ত না থাকলে মাস চারেক আগে থাকতেই উদ্যোগ পর্ব শুরু করতে হয়। করেওছিলাম। মূর্তি আর রিশ্যপে বাসস্থানের ব্যবস্থা করেই নজর দিয়েছিলাম কালিম্পঙে। কোথায় থাকা যায়। কোথায় থাকা যায়। আন্তরজালে গবেষণা করতে করতে পেয়েছিলাম একটা নাম। মর্গান হাউস। হেরিটেজ বিল্ডিং। আর সেই সঙ্গে নাকি একটু ভূতের দোষ আছে। বেশ একটা গা ছমছমে



অ্যাডভেঞ্চার হবে ভেবে পশ্চিমবঙ্গ পর্যটন উন্নয়ন নিগমের ওয়েবসাইটে বুকিং করতে গিয়ে আমার চক্ষু চড়ক গাছ।ঠাই নাই, ঠাই নাই, ছোট সে তরী। ভূতের বাড়ি ফুল বুকড। হুজুগে বাঙালির ভূত নিয়ে এই অদ্ভুত কাণ্ডে সেবার যারপরনাই দুঃখিত হয়েছিলাম।কিন্তু কেন? ভূত নিয়ে এই আদিখ্যেতা কেন? ভূতের কথা হোটেল মালিক না লুকিয়ে, ঢাক ঢোল পিটিয়ে বলছে। ট্যুরিস্টরা আবার ভূতের নামে কনা মাত্র ভয় না পেয়ে, বুকিং ফুল করে দিচ্ছে। আরে বাবা ভূত বাবাজি যদি সত্যি থেকে থাকে, তাহলে তো বুকিং ফুল দেখে তাকেও পথ দেখতে হবে। মনে প্রশ্ন জাগে হুজুগে বাঙালির এই ভূত প্রীতির কারন কি? একি নব্যযুগের চলতি ট্রেন্ড, নাকি এর পিছনে আছে গভীর মনস্তত্ত।

বাংলা অভিধান মতে ভূত শব্দের নানান অর্থ।ভূত মানে ভূত কাল, মানে অতীত। ভূত মানে পঞ্চভূত। আকাশ, বাতাস, জল, মাটি আর আগুন। মানে যা কিছু ভৌতিক,জাগতিক। আর ভূত মানে হল অশরীরী, আত্মা।

শুধু আজ নয়, সেই কস্মিন কাল থেকেই বাঙালি ভূত প্রিয় জাতি। বাঙালির গল্প, গান, সিনেমা, থিয়েটারে সব ভুতের ছড়াছড়ি। মেছোভূত, গেছোভূত,মামদো ভূত, ব্রহ্মদত্যি, পেত্নি, শাকচুন্নি, স্কন্দকাটা বাঙালি ভুতের ভ্যারাইটির অভাব নেই। বাঙালি ভূতে ভয় পায়, আনন্দ পায়, শিহরিত হয়, আবার মজাও পায়।রবি ঠাকুরের ক্ষুধিত পাষান, কঙ্কাল, মনিহারা থেকে শুরু করে বিভূতিভুষন বন্দ্যোপাধ্যায় এর তারানাথ তান্ত্রিক, মেডেল, রঙ্কিনি দেবীর খড়্গ, রাজশেখ র বসুর ভুশুণ্ডির মাঠে, শীর্ষেন্দু মুখোপাধ্যায় এর গোঁসাইবাগানের ভূত, সত্যজিত রায় এর নীল আতঙ্ক, ফ্রিতজ, ব্রাউন সাহেবের বাড়ি বাংলা সাহিত্যে এ রকম গা ছম ছমে মনি মুক্তোর অভাব নেই। মানবেন্দ্র পাল, অনীশ দেব, হাল ফিলের হিমাদ্রি কিশোর দাশগুপ্ত, অভীক সরকার, শৌভিক চক্রবর্তী ভুতের গল্পে হাত পাকাননি এমন বাঙালি সাহিত্যিক মেলা ভার। তার কারন বাঙালির সেই আদি অকৃত্তিম ভূত। ভরা বর্ষার জল থইথই অবসরে, শীতের অলস দুপুরে, লোডশেডীং এর অন্ধকারে, সন্ধ্যার মুচমুচে জল খাবারের সাথে, চা এর সাথে টা এর মত সত্যি ভূতের গল্প বাঙালির যাপনের অঙ্গ।

সিনেমাতেও বাঙালির ভূত প্রীতি সর্বজন বিদিত। এ ক্ষেত্রে বাঙালি সর্বভুক। হলিউডের ক্যাসপার, ঘোস্ট বাস্টার থেকে ড্রাকুলা, হালফিলের কনজুরিং, হিন্দি তে গুমনাম, বিস সাল বাদ থেকে শুরু করে ভূত, ডরনা মনা হে, স্ত্রী,

শয়তান বাঙালির পছন্দের তালিকায় ওপরের দিকে। বাংলা ভাষায় হানাবাড়ি, কুহেলি, ইদানিং এর ভুতের ভবিষ্যৎ কখনও আমাদের শরীরে শিহরণ জাগায় আবার কখনও আনে দম ফাটা হাসি। সত্যজিত রায়ের গুপি গাইন বাঘা বাইনে ভূতের রাজার গান আর তার দলবলের নাচ বাঙালি মননে কাল্ট ক্লাসিকের মর্যাদা পেয়েছে ইদানিং পাতে দেওয়ার মত ভূতের ছবি কম হলেও ও টি টি প্লাটফর্ম এ ভৌতিক ওয়েব সিরিজ আর রেডিও ইউটিউবে ভূতুড়ে অডিও স্টোরি হালফিল মিলেনিয়ালস আর জেন জি দের অল টাইম ফেবারিট।

এই গল্প, সিনেমার মিথ্যে কাহিনির বাইরেও এক ধরনের গল্প আছে যা বাঙালির কাছে যাকে বলে লালমোহন বাবুর ভাষায় সেলিং লাইক হট কচুরিস ।সেটা হল সত্যি ভূতের গল্প।

এই সত্যি ভূত টা আবার কি রকম? স্কুল কলেজে বিজ্ঞানের ক্লাসে যে শুনতাম ভূত বলে কিছু নেই, সবই কল্পনা। সিনেমা সাহিত্যের বানানো গল্প দেখে ভয় পাওয়া অবধি ঠিক আছে। কিন্তু গল্পের শেষে জানা থাকে যে সব মিথ্যে। তাহলে সত্যি ভূত টা কি আবার?

তাহলে কি ভূত আছে? না নেই। আবার আছেও। সব মিথ্যে জানা থাকলেও গল্পের নায়ক বা নায়িকা যখন অন্ধকার বাড়ি তে একলা থাকে তখন গা ছম ছম করে ওঠে আমাদেরও। সিনেমায় অন্ধকার রাস্তায় যখন ক্যামেরা কায়দা করে হিরোর পিঠে প্যান করে ধীরে ধীরে তখন অজানা আশঙ্কায় বুক কেঁপে ওঠে বইকি।

আসলে আশঙ্কা বা ভয় ভূতে নয়। অজানাকে, অন্ধকারকে।

আমাদের মেডিক্যাল সায়েন্স এর ভাষায় বলা যায় স্থান কাল পাত্রের বিশেষ সমন্নয় আমাদের পঞ্চ ইন্দ্রিয়ের ওপর যখন একটি বিশেষ রকমের প্রভাব বিস্তার করে যাতে স্মৃতির গহন অবচেতনে থাকা কিছু ভয়, আশঙ্কার বুদবুদ আমাদের যুক্তিগ্রাহ্য চেতন মনের গভীরতা পার করে মনের আঙিনায় এসে হাজির হয় তখন শুরু হয় ভয় পাওয়া। আর ভিসিয়াস সাইকেল এর মতই ভয় আরও ভয় কে ডেকে আনে। মন যত তরল নরম, ভয়ের বুদবুদ তত ভরিয়ে তোলে অনুভুতির ভাঁড়ার।

আর মানুষের ভয়ই কালে কালে তৈরী করে এইসব সত্যি ভুতের গল্প। কারুর দেখা, কারুর শোনা গল্প গুলো লোক মুখে ঘুরতে ঘুরতে, বদলাতে বদলাতে, কল্পনার রঙ মিশে হয়ে ওঠে গুজব থেকে জনশ্রুতি, লোক কাহিনী, পপুলার কালচারের অংশ ।বেদ উপনিষদের মতই গুজব আর জনশ্রুতিও লেখার নিয়ম নেই। মুখে মুখে শুনে শুনে দুমড়ে মুচড়ে সাধারন ঘটনা হয়ে ওঠে ভৌতিক বিভীষিকা।

আর বাঙালির যত ভৌতিক জনশ্রুতি, লোক কথা আছে তার মধ্যে অন্যতম হল ভূতুড়ে বাড়ি। পরিতক্ত, ভগ্নপ্রায় বাড়ি বা সাদা বাংলায় পোড়ো বাড়ি মানেই তার পিছনেই আছে একটা না একটা সত্যি ভুতের গল্প। গল্প গুলো শুরু হয় অমুকের মুখে শোনা হিসেবে, অমুকে অমুক সময়ে এইসব তার চর্মচক্ষুতে প্রত্যক্ষ করেছে বলে। যে দেখেছে তার নিজের মুখে এমন গল্প সচরাচর শুনতে পাওয়া যায় না। বাংলার বুকে ছড়িয়ে ছিটিয়ে আছে এমন অনেক পরিত্যক্ত পোড়ো বাড়ি যাদের ঘিরে গড়ে উঠেছে এক একটা সত্যি ভূতের গপ্প।

ব্রিটিশ আমলে বাংলার আনাচে কানাচে গড়ে উঠে ছিল অনেক ক্ষুদ্র অতিক্ষুদ্র জমিদারি। ব্রিটিশ প্রভু দের বদান্যতায় সে কালে এদের অনেকেরই ছিল রমরমার সময়। জমিদারির তহবিল বেড়েছে, সেইসঙ্গে বেড়েছে জমিদার বাড়ির বহর। পাঁচ মহলা, সাত মহলা বাড়ি গুলি বিশাল পরিবার আর তার সঙ্গে লোক লস্কর, ঠাকুর, চাকর, পাইক, বরকন্দাজ নিয়ে গমগম করত। তারপর কালের নিয়মে ব্রিটিশরা গেছে, সরকারী নিয়মে গেছে জমিদারীও। পরিবার ভেঙেছে। কোথাও শরিকী ঝামেলা আবার কোথাও নতুন প্রজন্মের দূর প্রবাসের অভিঘাতে জমিদার বাড়ির সব কোলাহল স্তব্ধ হয়ে গেছে। আর্থিক সঙ্গতি থাকলে কেউ কেউ পেরেছে ঐসব পাঁচ সাত মহলা বাড়ির মেরামতি রক্ষনাবেক্ষন করতে, আর বাকিরা হারিয়ে গেছে ঝোপ ঝাড় আর দেওয়াল ফাটা বট অশ্বত্থের আড়ালে। জমিদার বাড়ি হয়ে গেছে শ্বাপদ জন্তু, বিষাক্ত সরীসৃপ আর চোর ডাকাত বাজে লোকের আস্তানা। আশে পাশের সাধারন মানুষ যারা একদিন সমীহ করত সেই বিশাল অট্টালিকাকে, আজ তারা ফিসফাস করে। কিছু অলৌকিক দেখা, কিছু অসম্ভব শোনা দ্রুত ছড়িয়ে এর ওর মুখে মুখে। অন্ধকার ভাঙা চোরা জমিদার বাড়িতে জন্ম নেয় আর একটা সত্যি ভূতের গল্প। বর্ধমান জেলার খণ্ডঘোষের কমলপুর জমিদার বাড়ি, বীরভূম বোলপুরের কাছে রায়পুরের জমিদার বাড়ি এরকম অসংখ্য গল্পের কয়েকটা মাত্র উদাহরন।



কমলপুরে বসু পরিবারের জমিদারী প্রায় ৫০০ বছরের পুরানো। প্রতিষ্ঠাতা খুব সম্ভব কিশোর বসু। ২০০ বছর পার করে পলাশী যুদ্ধের পরে ইংরেজ আমলে রমরমা আরও বাড়ে ।সেকালের বাবুয়ানির রীতি মেনে শুরু হয় মহা

ধুমধামে দুর্গা পুজা। সে এক এলাহী ব্যাপার। আশ পাশের গাঁ গঞ্জের মানুষের কাছে সে ছিল প্রতি বছরের স্মরনীয় ঘটনা। কিন্তু সে যুগও নেই আর জমিদারীও নেই। শিব রাত্রির সলতের মত বিগত প্রজন্মের দু একজন এখনও আগলে আছেন ভগ্নপ্রায় বাড়িটা কে। পুজো অবশ্য এখনও হয়, তবে টিমটিম করে। শরিকী পরিবারের কেউ কেউ এখনও আসে পুজোর দিনে। বাড়ির আনাচে কানাচে দু একটা শব্দের প্রতিধ্বনি হয়, আর বাকি সারাটা বছর ভাঙা জমিদার বাড়ি ডুবে যায় নিঝুম অন্ধকারে।গ্রামের মানুষের মুখে মুখে ঘোরে সত্যি গল্প গুলো। উড়ন্ত ছায়া, দমকা হাওয়া, খিলখিল হাসি, নুপুরের শব্দ ইত্যাদি ইত্যাদি।



রবি ঠাকুরের বোলপুর শহর থেকে মাত্র ৬ কিলোমিটার দূরে রয়েছে রায়পুরের জমিদার বাড়ি। রয়েছে না বলে ছিল বলাই ভালো। ৫০০ বছরের পুরানো সিংহ পরিবারের জমিদারী। লোকে বলে মহর্ষি দেবেন্দ্রনাথ ঠাকুর যখন ছাতিম তলা সংলগ্ন জায়গা টি খুব পছন্দ করে ফেলেন তখন রায়পুরের ভুবন মোহন সিংহ তাকে মাত্র এক টাকার বিনিময়ে ওই জমিটি হস্তান্তর করেন। যেখানে আজকের বিশ্বখ্যাত শান্তিনিকেতন গড়ে উঠেছে। উনবিংশ শতকের শেষ ভাগে সত্যেন্দ্র প্রসন্ন সিংহ এ বাড়ির অন্যতম কৃতি বংশধর। ওকালতি পাশ করে ব্রিটিশ সরকারের আস্থাভাজন হয়ে তিনি প্রথমে স্যার পরে শেষমেষ লর্ড উপাধি পান। সঙ্গে ব্রিটিশ পার্লামেন্টের হাউস অফ লর্ডসে পাকাপাকি স্থান যা আজও তার বংশধররা পেয়ে আসছে। লোকে বলে সে কালে নাকি তার সম্পত্তির পরিমান আজকের হিসেবে ১৫০ কোটি ছাড়াবে। প্রায় ৫০-৬০ বিঘে জমির ওপর তিন মহলা জমিদার বাড়িতে ছিল প্রায় ১২০ খানা ঘর। ছিল বললাম, তার কারন আজ আর নেই। কালের নিয়মে পরবর্তী প্রজন্ম ছড়িয়ে পড়েছে দেশে বিদেশে, আর অযত্নে অনাদরে জমিদার বাড়ি ধীরে ধীরে ক্ষয়েছে, ভেঙেছে, হারিয়ে গেছে। দরজা জানালা চুরি হয়ে গেছে, উধাও হয়ে গেছে সমস্ত আসবাবপত্র। অতীতের কঙ্কাল বুকে দাঁড়িয়ে থাকা ভাঙ্গাচোরা বাড়ি শুধু গল্প বলে। সে গল্প আবছায়া অন্ধকারের, অলৌকিক অস্তিত্বের। চাঁদনী রাতে ঝোপ ঝাড়ে মিশে যাওয়া গাছের ছায়া, হাওয়ার শনশন, পাতার খসখস আশপাশের পথ চলা মানুষের বুকে কাঁপন ধরায়। গল্প ছড়ায় মুখে মুখে। গল্পের এমন মহিমা যে মৃনাল সেন পর্যন্ত চলে এসেছেন এখানে 'খণ্ডর' এর শুটিং করতে।

কয়েকটা গল্প বললাম, কিন্তু আছে শতেক।

এইসব গল্প শুনে কেউ যদি ভাবে সত্যি ভূতেরা গাঁ গঞ্জের মুখ্যু সুখ্যু মানুষদেরই খালি ভড়কে দিতে পারে। আসত আমাদের শহরে এমন গুল গল্প দিতে, বুঝতাম কত মুরোদ। তাদের জন্য বলি-

৩০০ বছরের কিছু বেশি আগে খান তিনেক গ্রাম নিয়ে শুরু হয়েছিল এই মহানগরীর পথ চলা। এখন যেখানে ডালহৌসি স্কোয়ার, প্রথম দিকে সেখানেই ছিল ইংরেজ সৈন্যদের ছাউনী। উত্তরে চিতপুর বাগবাজার এলাকায় তখন সন্ধ্যের পর লোকে ডাকাতের ভয়ে ঘরে খিল দিত। দক্ষিনে ভবানীপুর, বালীগঞ্জ এও একই অবস্থা। কালীঘাট এলাকায় তো তখন ঘন জঙ্গল। বাঘের ভয়।

সেই থেকে ধীরে ধীরে তৈরী হয়েছে শহর কলকাতা, বা তখনকার কলিকাতা কিংবা ক্যালকাটা। এসপ্লানেড, চৌরঙ্গী, আলিপুরের সুদৃশ্য সব বড় বড় বাড়ি। সেই সঙ্গে গড়ে উঠেছে কলকাতার দেশীয় এলিট ক্লাস, বা সাদা বাংলায় বাবু শ্রেনী। উত্তর কলকাতার বাগ বাজার, শোভাবাজার, চিতপুর এলাকায় ভিড় বেড়েছে জমিদার বাড়ির। এই সব দেশী বিদেশী বাড়ি, অট্টালিকা, অফিস কাছারি, আদালত, শ্মশান, গোরস্থান কিছু বাদ যায়নি। আমাদের খাস কলকাতার ইন্টেলেকচুয়ালরা এই প্রত্যেক জায়গায় একটা করে সত্যি ভূতের গল্প সাঁটিয়ে দিয়েছে।



আলিপুর চিড়িয়াখানার সামনেই দাঁড়িয়ে ন্যাশনাল লাইব্রেরী। দেশ বিদেশের হাজার নয় লাখ লাখ বই এ ঠাসা। বহু প্রাচীন বই, নথি, দলিল, দস্তাবেজের ভাণ্ডার। সাহিত্য, ইতিহাস, দর্শন, বিজ্ঞান আরও কত কি। ইন্টারনেট যুগের আগে কত গবেষক দিন রাত পড়ে থাকতেন এর ধুলো মাখা র‍্যাকের বই ঘাঁটতে। কিন্তু ২৫০ বছর আগে কিন্তু এর নাম ছিল বেলভেডিয়ার হাউস।নবাব মীর জাফরের উপহার।বাংলার বড়লাট ওয়ারেন হেস্টিংস এর বাসস্থান।পরে এই বাড়িতেই থেকে গেছে একের পর এক

বড়লাট বা গভর্নর জেনারেল। ১৮৩৫ সালে লর্ড মেটকাফ বড়লাট হলে এক বছরের মধ্যে উনি প্রতিষ্ঠা করেছিলেন কলকাতার প্রথম পাবলিক লাইব্রেরী, ঠিকানা মেটকাফ হল। নানান উত্থান পতনের মধ্যে দিয়ে সেই লাইব্রেরীই আজকের ন্যাশনাল লাইব্রেরী।

ইতিহাসের গল্প এই অবধি ঠিক ছিল। কিন্তু এরপর যখন নির্জন দুপুরে লাইব্রেরীর ধুলোমাখা র‍্যাকের মাঝে কোনো এক ক্লান্ত গবেষক তার উর্বর কল্পনা শক্তির রাডারে এক অশরীরী মেমসায়েবের উপস্থিতি অনুভব করলো, তখন ভূতবিলাসী বাঙালির গল্পের গরু আবার উর্ধ্বপানে পা বাড়ালো। বলা হল লেডি মেটকাফের বিদেহী আত্মা নাকি স্বামীর প্রতিষ্ঠিত লাইব্রেরীর বই গোছাতে আসেন। কেউ বই এলোমেলো করে রাখলে নাকি আলগোছে বকুনিও দেন। তাই লাইব্রেরীতে ইতিহাস ঘাঁটতে ঘাঁটতে স্বয়ং ইতিহাসের দেখা পাওয়া কিছু বিচিত্র নয়। অবশ্য মন্দের ভালো মেমসায়েবের ভয়ে যদি বই চুরির সম্ভাবনা কমে।

ন্যাশনাল লাইব্রেরীর গল্প এখানেই শেষ নয়। ২০১০ সাল নাগাত আরকিওলজিকাল সার্ভে অফ ইন্ডিয়ার মাপ জোখ চলা কালীন এক তলায় দরজা জানালা বিহীন এক রহস্য ময় হলঘরের অস্তিত্ব টের পাওয়া যায়। ভূত বিলাসীরা তখন আনন্দে ডগমগ। সেই ঘরে যদি দু চারটে আত্মা বা নিদেন পক্ষে খান কয়েক কংকাল বেরিয়ে পড়ে তাহলেই কেল্লা ফতে। একটা গুম ঘরের গল্প হাতে গরম চালু হয়ে গেল। কিন্তু দুঃখের কথা বেরলো স্রেফ মাটি।এক্সপার্টরা জানাল সেকালের স্ট্রাকচারাল ইঞ্জিনিয়াররা বাড়িটি মজবুত করার জন্য এই ফন্দি এঁটেছিলেন।



বেলভেডিয়ার হাউস বড়লাট ওয়ারেন হেস্টিংস এর অফিসিয়াল রেসিডেন্স হলেও তিনি নিজের উদ্যোগে তার খুব কাছেই জাজেস কোর্ট রোডে আর একটি বাড়ি বানিয়েছিলেন। তার নামেই বাড়ির নাম হেস্টিংস হাউস। তখন মহারাজা নন্দকুমারের সাথে তার আকচা আকচি।ওল্ড কোর্ট হাউস স্ট্রীটে ছিল কলকাতার প্রথম কোর্ট। নিন্দুকেরা বলে বন্ধু জাজ এলিজা ইম্পের সাথে মিলে কারসাজি করে নন্দকুমারকে ফাঁসিতে ঝুলিয়ে ছিলেন তিনি। এসব আরও গোলমেলে কাজ কর্মের জন্য স্বদেশে ফিরে তাকে অনেক হ্যাপা সামলাতে হয়। কিন্তু থাক সে কথা। হেস্টিংস হাউস এখন নারী শিক্ষা কেন্দ্র। শিক্ষিকাদের ট্রেনিং সেন্টার। কিন্তু তাতে কি? রাত বাড়লে নাকি এখনও মাঝে মাঝে জুরি গাড়ি এসে দাঁড়ায় গেটের সামনে। দরজা খোলার আওয়াজ আসে। আলমারি, ড্রয়ার টানাটানি, ভারী বুটের আওয়াজ ভেসে বেড়ায় প্রকাণ্ড বাড়ির কোনায় কোনায়। ভূতবিশারদেরা বলে সাহেব নাকি কিছু কাগজ পত্র খুঁজতে আসে। সাহেবের এখন কাগজ পত্রের কি দরকার সেটা বলা মুস্কিল। হয়ত হেল এও কোনো সমীক্ষা টমীক্ষা চলছে। ইতিহাসের পাতায় তার কাজকর্মের যা নমুনা, তাতে হেভেনে ঠাঁই হয়েছে বলে মনে হয়না।

কলকাতার প্রথম হাসপাতালটি তৈরী হয়েছিল ডালহৌসি চত্তরে পুরানো কেল্লার পাশে। মুলত কোম্পানীর সৈন্যদের চিকিৎসার জন্য ম্যালেরিয়া রোগে,অস্বাস্থ্যকর পরিবেশে পড়ে থেকে তাদের অনেকেই আর সুস্থ হয়ে ফিরত না।১৭৫৬ সালে সিরাজ এর সৈন্য কেল্লার সাথে হাসপাতালও গুঁড়িয়ে দিল। তারপর ১৭৭০ সালে তৈরী হয় আজকের প্রেসীডেন্সী জেনারেল হাসপাতাল। পুরানো হাসপাতালের জমিটা ফাঁকাই পড়েছিল।

সে সময় কলকাতায় স্থপতি হিসাবে নাম করেছেন বেঙ্গল ইঞ্জিনিয়ারিং এর এক সাহেব। নাম মেজর জেনারেল জন গারস্টিন সাহেব।



তিনিই ঐ ফাঁকা জায়গায় বাড়ি তৈরীর প্ল্যান বানালেন।যে কোর্টে মহারাজা নন্দকুমারের ফাঁসির রায় দেয়া হয়েছিল,সেই কোর্ট ভাঙা পড়লে তার ইট, কাঠ দিয়েই তৈরী হল পাঁচটি বাড়ি। নাম হল গারস্টিন প্লেস। যে বাড়ি তৈরীর পিছনেই এত গোলমেলে গল্প আছে, সেখানে দু চারটে ভূতের গপ্প না থাকলে কি মানায়? কিন্তু গল্পে এল টুইস্ট। সাহেব মারা যাওয়ার ১০০ বছরেরও বেশি সময় পরে গারস্টিন প্লেসের এক নম্বর বাড়িতে চালু হল রেডিও। সেদিনের ইন্ডিয়ান ব্রডকাস্টিং কোম্পানি পরে হয়ে ওঠে অল ইন্ডিয়া রেডিও। সাহেবের ভুতের সাথে সেখানে যোগ হল এক শিল্পীর আত্মহত্যা। সন্ধ্যের পরে ডালহৌসির নিঝুম অফিস পাড়ায় লোক জন বিশেষ থাকত না। রেডিওতে তখন শিল্পী ও গুনি মানুষ দের যাতায়াত। সৃজনশীল মানুষদের কল্পনায় কখনও এক সাহেব রাত বাড়লেই বাড়ির আনাচে কানাচে ঘুরে বেড়ান। দেখা দিয়েই আবার মিলিয়ে যান। আবার কখনও নেপথ্যে শোনা যায় এক অতৃপ্ত শিল্পীর পিয়ানোর করুন সুর। বীরেন্দ্র কৃষ্ণ ভদ্র, সৌমিত্র

চট্টোপাধ্যায়ের মত নামজাদা মানুষরা কিন্তু হলফ করে এসব গল্প শুনিয়েছেন। পরে অল ইন্ডিয়া রেডিও আকাশবানী ভবনের নতুন বাড়িতে উঠে আসে। ২০০৫ সালে এক নম্বর গারস্টিন প্লেসের বাড়িটি ভেঙেও ফেলা হয়। কিন্তু গল্প রয়ে যায় মানুষের মনে, চিন্তায়, গুনীজনদের লেখা, স্মৃতিচারনায়।

ডালহৌসি পাড়াতেই ছিল আরেকটি বাড়ি। ছিল কেন বলছি? এখনও আছে। সগৌরবে। তখন দলিল দস্তাবেজ, নথি লেখা সরকারী কর্মীদের দপ্তর ছিল সেই বাড়ি। আজকের রাইটার্স বিল্ডিং। সেদিনের করনিকদের অফিস, পরবর্তীতে সরকারের মুখ্য কার্যালয় হয়েছে। বহু সিদ্ধান্ত, বহু আন্দোলন, বহু বিপ্লবের সাক্ষী হয়েছে এর গোলকধাঁধাঁ অলিন্দ গুলি। কুখ্যাত পুলিস অফিসার কর্নেল সিম্পসনের হত্যা। বিনয় বাদল দীনেশের দুঃসাহসিক লড়াই এর সাক্ষীও এই রাইটার্স।



অতীতের অপ্রাপ্তি, দুঃখ বেদনা যেমন কোথাও কোথাও ভূতের জন্ম দেয় লোক মুখে। কোথাও কোথাও আবার ফেলে আসা গৌরব আর বীরগাথাও মিথ থেকে লোককথা হয়ে অলৌকীকত্ত লাভ করে। তাই নিঝুম রাতে রাইটার্স এর করিডরে তিন অসম সাহসী যুবক আর এক নৃশংস সাহেব পুলিসের লড়াই চলে। দুড়দাড় পায়ের আওয়াজ, ফিসফাস, গুরু গম্ভীর ডাক, অদ্ভুত শব্দ গুলো ভূতের গল্পচ্ছলে ইতিহাসকে মনে রাখে। অনুপ্রেরনা জাগায়।

সত্যি ভুতের গল্প কখনও কখনও সত্যি থেকে গল্পের পথে সোজা মুখে হাঁটে। মুলত কোনো একটি মূল কাহিনীই বার বার জারিত হতে হতে ভূতত্ত লাভ করে। কিন্তু কখনো আবার একাধিক কাহিনী আলাদা আলাদা পথে লক্ষ্যে পৌঁছায়। তখন গল্প থেকে কাঁটা বেছে মূল কাহিনী বার করা দুস্কর হয়ে পড়ে।

উত্তর কলকাতায় স্ট্র্যান্ড রোডের ধারে ধারে ঘাট গুলো ছিল সে আমলে যাতায়াতের অন্যতম পথ। ব্যবসা বানিজ্যও হত এই পথে। বড় বড় ব্যবসায়ী দের মাল বোঝাই নৌকা লাগত ঘাটে সারা দিন। ব্যাপারীদের বিকিকিনি, খালাসীদের হই হট্টগোলে সারা দিন জমজমাট থাকত এই অঞ্চল। এই অঞ্চলেই শোভাবাজার আহিরীটোলা ঘাট সংলগ্ন রাস্তার ওপর ছিল একটা প্রকাণ্ড সুসজ্জিত বনেদী বাড়ি। নদীপথের ব্যবসায় তাদের তখন বেজায় রমরমা। কিন্তু আজ প্রায় ভেঙে পড়া পোড়ো বাড়ির বাসিন্দাদের মুখে মুখে ঘোরে নানান গল্প। প্রদীপের নিচে অন্ধকারের গল্প।



কেউ বলে বাড়ির বাবুরা অর্থ আর প্রতিপত্তির দম্ভে নিরাপরাধ মেয়েদের ধরে এনে অত্যাচার করত। আজ তাদের পায়ের শব্দ, নুপুরের ঝঙ্কার, ফিসফাস শোনা যায় বাড়ির আনাচে কানাচে। কেউ আবার বলে ব্রিটিশ দের সাথে সাঁট করে একদল বিপ্লবীদের ধরিয়ে দিয়ে ছিল তারা। গুলিতে ঝাঁজরা হয়ে গিয়েছিল তাদের বুক। বিপ্লবী দের মরন আর্তনাদ নাকি আজও কান পাতলে শোনা যায় নিশুতি রাতে।

আর সব চেয়ে আশ্চর্য গল্পটি হল সেই বাড়িরই কোনো এক মেয়েকে নিয়ে। তার ছিল এক অদ্ভুত শখ। নানান দেশের পুতুল এনে বাড়িতে সাজানো। বাড়ি যখন পুতুলে প্রায় ভরে উঠেছে, তখন রহস্য জনক ভাবে মেয়েটি মারা যায়। কিন্তু প্রানপ্রিয় পুতুল গুলোর মায়া কাটাতে পারেনি সে। অন্ধকারে আজও তার দীর্ঘনিঃশ্বাস শোনা যায়। বাড়ির এখনকার মালিকরা আর কেউ থাকে না। শরিকি ঝামেলায় ভাঙাচোরা বাড়ি দাঁড়িয়ে আছে কোনো মতে মাথা তুলে। কয়েক ঘর আদ্যিকালের ভাড়াটে টিকে আছে প্রান হাতে করে। বিশাল এলাকা জুড়ে বাগান, তাতে সাজানো অসংখ্য পুতুল নিয়ে আজও বেঁচে আছে শোভাবাজারের পুতুলবাড়ি।



উত্তর কলকাতারই নিমতলা ঘাট থেকে বিডন স্ট্রীট ধরে সেন্ট্রাল অ্যাভিনিউ এর দিকে একটু এগোলেই বাঁ হাতে পড়ে ভাঙা চোরা জীর্ণ এক বাড়ি। চারিদিকে বট অশ্বত্থের গাছ দেওয়াল ফাটিয়ে ঢুকে গেছে। দিনের বেলাও বাড়ির ভেতরে আলো ঢোকে না। কর্পোরেশনের খাতায় বাড়িটার পোশাকি নাম জোড়াবাগান থানা।

অনেক কাল আগে এই বাড়িতেই এক সময় চলত স্কটিশ চার্চ কলেজ। তখন অবশ্য নাম ডাফ কলেজ। পরে ঠিকানা বদলে হেদুয়ায় উঠে যায়। আরো পরে এই বাড়ি হয় জোড়াবাগান থানা। কিন্তু এই থানাতেই ঘটে এক নিদারুন ঘটনা। বাজেয়াপ্ত করা বোমা ফেটে মৃত্যু হয় বেশ কয়েক জন পুলিস কর্মীর। বাড়ির ছাদ উড়ে যায় বিস্ফোরণে। থানা ঠিকানা বদলে অন্য বাড়িতে চলে গেছে। কিন্তু ছাদ ভাঙা বাড়ি আজও সেই অসহায় পুলিস কর্মীদের আর্তনাদ বুকে নিয়ে ঘুমিয়ে আছে।জনশ্রুতি অনুযায়ী কখনও কখনও তার ঘুম ভাঙে। রাত বিরেতে এলাকার মানুষ কখনও কখনও অপার্থিব আওয়াজ শুনতে পায় বাড়ির ভেতর থেকে। কিন্তু ভেতরে গিয়ে দেখার সাহস হয়নি কারও।

গল্প আরও আছে নিমতলা ঘাটে, পার্ক স্ট্রীটের গোরস্থানে, এমন কি রবীন্দ্র সরোবরের জন বহুল মেট্রো স্টেশনে। অলৌকিক দৃশ্য শব্দের নিটোল তারে বাঁধা এক একটি গপ্প। বিশ্বাস হোক বা না হোক, শুনলে বেশ গা ছমছম করে। আর সেটাই বাঙালির ভূত বিলাসের প্রাথমিক শর্ত। তাই এহেন সার্বজনীন রোগ থেকে যে কলকাতার শহুরে ইন্টেলেকচুয়াল সমাজ ইমিউন তা বলার কোনো জায়গাই নেই।

মহানগরের ব্যস্ত রাজপথ, যানবাহন, অফিস কাছারি, বনেদী বাড়ি, শপিং মল, কন্সট্রাকশন সাইট, আবাসন, পাড়া, অলিতে গলিতে ছড়িয়ে ছিটিয়ে আছে এমন অনেক বড় ছোট মাঝারি মর্যাদার ভৌতিক গল্প। যে ভূতের রিচ আর সার্কুলেশন যত বেশি, তার মর্যাদা তত ওপরে। ঐ ফেবু ইন্সটা এর মত আরকি।

মেট্রো সিটির এই হাল হলে বাকিদের আর দোষ কি। গোটা বাংলার কোনে কোনে জমে আছে এমন অনেক জানা অজানা গল্প, থুড়ি সত্যি ঘটনা। বর্ধমানের কমলপুর, কিংবা বীরভূমের রায়পুর মতই উত্তর থেকে দক্ষিন, পাহাড় থেকে জঙ্গল সর্বত্র রয়েছে এমন অনেক আধিভৌতিক কাহিনী বা লোককথা।

পুরুলিয়ার বেগুনকোদরে আস্ত একটা রেল স্টেশনই ভূতুড়ে।চক্রধরপুর লাইনের এই স্টেশনে সন্ধ্যের পর থেকে আর জন মনিষ্যি দেখা যায় না।কোনও এক কালের এক আত্মহত্যা আর তার সঙ্গে জুড়ে যাওয়া ভূতুড়ে গল্পের গরু চরে বেড়ায় স্টেশন চত্তরে। মুর্শিদাবাদের জাফরগঞ্জের কবরখানাতে শুয়ে আছে সপরিবারে মীর জাফর। তার উল্টোদিকেই দাঁড়িয়ে নমক হারাম দেউড়ী। নাম থেকেই ইতিহাসের দাবী পরিষ্কার। এ হেন জায়গায় মানুষের কটূক্তির জ্বালায় কবরখানার বাসিন্দারা যে একটু নড়ে চড়ে উঠবে সেটাই স্বাভাবিক। এলাকার গাইডদের গল্প তাই বলে।তমলুকের রাজবাড়ী, মালদার সাহেব দালান, কোচবিহারের সাবিত্রী লজ এই সব জায়গার ভূতেরা স্টেট লেবেল রেকগনিশন না পেলেও নিজের নিজের এলাকায় তাদের যথেষ্ট নাম ডাক।



দার্জিলিং এর লরেটো কনভেন্ট।সহজ, স্বাভাবিক এক মিশনারী স্কুল। কিন্তু সেই স্কুলের করিডোরেও অশরীরীরা হেঁটে বেড়ায় রাতে। কখনও কান্নার আওয়াজ শোনা যায়, কখনো আবার দুমদাম পায়ের শব্দ। শোনা যায় স্কুল ক্যাম্পাসে একটি মেয়ের রহস্যজনক মৃত্যুর পর থেকেই গল্প গুলোর পালে বাতাস লেগেছে। দার্জিলিং এর পাইনরিজ হোটেলের এখন মন্দদশা। ট্যুরিস্টরা আর বেশি ভিড় করে না এখানে। এখন ভূতেরাই এখানে স্টেকেশন করে। করিডোর, সিঁড়িতে পায়ের আওয়াজ, ফিসফাস শব্দ ভূতের অকাট্য প্রমান।জুলজিস্টদের কাছে লেপচাজগতের পথে জোড়পুখরি লেক রেয়ার স্যালাম্যান্ডারের জন্য বিখ্যাত। জোড়পুখরি মানে জোড়া পুকুর বা লেক। ভৌতিক কারবারিদের মতে লেকের জলে আছে জলে ডুবে মরা এক অতৃপ্ত আত্মা।



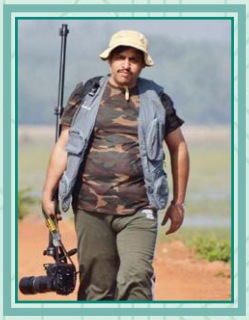
এ অঞ্চলের সবচেয়ে অলৌকিক গা ছমছমে গল্প অবশ্য শান্ত নিস্তরঙ্গ কার্শিয়াং এর খুব কাছে ডাউ হিলের। ১৮৭৯ সাল, মানে প্রায় দেড়শ বছর আগে সামান্য কয়েকজন ইউরোপিয়ান আর স্থানীয় লেপচা ছেলেমেয়েকে নিয়েশুরু হয়েছিল এক অনাড়ম্বর স্কুল। ডাউ হিল স্কুল। চারিদিকে পাইনের জঙ্গল। তার মধ্যে দিয়ে আঁকা বাঁকা হারিয়ে যাওয়া রাস্তা। উত্তরে কাঞ্চনজঙ্ঘার হাতছানি। এর মাঝে ছোট্ট একটা স্কুল। বছর কুড়ি পরে রানী ভিক্টোরিয়ার রাজত্বের হিরক জয়ন্তী উপলক্ষ্যে এক কিলোমিটার দূরে তৈরী হল নতুন স্কুল। নাম ভিক্টোরিয়া বয়েজ স্কুল। পুরানো বাড়িতে রয়ে গেল গার্লস স্কুলটা।

এই ভিক্টোরিয়া স্কুলের চত্তর হল এ অঞ্চলে ভূতুড়ে কর্মকাণ্ডের হেড অফিস।

স্কুলের হলঘর, করিডোরে কখনো সেকালের হেড মাস্টার মশাইকে দেখা যায়। কখনও হোস্টেল ডরমিটরিতে দেখা মেলে অপঘাতে মৃত্যু হওয়া কোনো স্টুডেন্টের। দুপুর রাতে মাঝে মাঝে ছুটির ঘণ্টা বেজে ওঠে। দুষ্টু বাচ্ছাদের ছুটোছুটি, হুটোপাটি, ফিসফাস, শোরগোল ফেলে দেয়। ভূতের গল্পের নিয়ম মেনে শোনা যায় বেশি, দেখা যায় কম। বর্তমান স্কুলের মানুষজন কিন্তু এতে বেশ মজাই পান। ভূতরা তো আর ক্ষতি করছে না, উল্টে তাদের জন্য স্কুলের নাম, জায়গার নাম অনেকে জানতে পারে। ফ্রি পাবলিসিটি।

শুধু স্কুল নয়, আশেপাশের পাইন বনও কম গোলমেলে নয়। স্থানীয় লোকেরা ডাউ হিলের পথকে ডেথ রোড বলে। জিপিএস যুগের আগে নাকি এই পাইনের জঙ্গলে কি এক কুহকের টানে অনেক মানুষ পথ হারিয়েছে। আজও নাকি বিকেলের আলো আঁধারে অন্যমনস্ক হলে গভীর পাইনের জঙ্গলে হারিয়ে যাওয়ার সমুহ সম্ভাবনা। ঘন পাইনের বন আর হারিয়ে যাওয়া বিকেল নিমেষে গ্রাস করে নেয় দিকভ্রষ্ট পথচারীকে। আর সন্ধ্যে নামলে জনহীন পথে ঘুরে বেড়ায় এক মুণ্ডু বিহীন স্কন্দকাটা। আশেপাশের দু চার ঘর বাসিন্দারা সূর্য ডুবলে ঘর থেকে সচরাচর বের হয় না। আর নতুন কোনো মানুষ জন এসে পড়লে তারাই শোনায় স্কন্দকাটার কাহিনী।

যেখানে শুরু করেছিলাম সেই কালিম্পং এর মর্গান হাউসে ফিরে আসি আবার। যে কোনো ভূতের গল্পের পিছনে যেমন রাগ, হিংসা, লোভ, ক্ষোভ, ঘৃণা, অতৃপ্তির নবরসের ককটেল থাকে, এখানেও রয়েছে এক বেদনা রসের কাহিনী। ১৯৩০ এর দশকে পাটের কারবারী জর্জ মর্গান বিয়ের পরে নতুন বউ এর জন্য বানিয়ে ছিলেন এই বাড়ি। দার্জিলিং এর ভিড় থেকে অনেক দূরে, ছবির মত শহর কালিম্পং এর দুরপিন্ দারা তে ব্রিটিশ গথিক ভিক্টোরিয়ান স্থাপত্তে তৈরী প্রকাণ্ড এক বাড়ি। কিন্তু বিধি বাম, বেশি দিন থাকা হল না সেখানে। অল্প দিনের মধ্যেই মেমসাহেবের অকাল মৃত্যু হলে সাহেব মনের দুঃখে সব ছেড়ে ফিরে গেলেন দেশে। কিন্তু স্থানীয় মানুষের মতে মেমসাহেবের অতৃপ্ত আত্মা ঘুরে বেড়ায় বাড়ির আনাচে কানাচে। কখনও কখনও কাউকে দেখা দেন বটে (গুল গল্পও হতে পারে), কিন্তু বেশির ভাগ সময়ে সিঁড়িতে পায়ের শব্দ, এলোমেলো হাওয়া, বাতাসে ফিসফিসানির সুর প্রভৃতি ভূতের গল্পের স্টক সাউন্ডস্কেপই শোনা যায় কান পাতলে। আর সেই শব্দ শুনে তেঁতুলের টক কিংবা ঝাল লঙ্কা মুখে পড়ার মত শিহরিত, বিগলিত হওয়ার জন্য হুজুগে ভূত বিলাসী বাঙালি তল্পি তল্পা নিয়ে ছুটছে ভূতের খোঁজে। বাদল সরকারের লেখা সাম্প্রতিক কালের বাংলা ছবি 'বল্লভপুরের রূপকথা' এর মত বাঙালি এখন হেরিটেজ ট্যুরে গিয়ে অ্যাটাচড বাথরুম, ব্যালকনি, রুম সার্ভিসের সাথে দাবী জানায়- একটু ভূত হবে দাদা? আসল ভূত?



Photography: A Healing Pursuit for Doctors

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Introduction

In the demanding and often high-stress world of medicine, finding a creative outlet is essential for mental well-being and rejuvenation. For many doctors, photography provides not only a respite but also a lens through which they can view the world with renewed clarity. Photography has been more than just a hobby—it has been a lifeline, a window into stillness amidst chaos, and a means of expression beyond the boundaries of clinics and hospitals. With its unique blend of art and science, photography presents itself as an ideal practice for medical professionals to reconnect with mindfulness, creativity, and joy.

The Healing Lens: Photography as Therapy



As a doctor, I am constantly exposed to human suffering, critical decision-making, and long hours of responsibility. Photography acts as a counterbalance—a healing pursuit that restores equilibrium. Through the lens, one finds mindfulness and relief. Each frame becomes a meditation, drawing the mind away from anxiety and into the present moment.

The Art and Science of Photography: The Exposure Triangle

Understanding Aperture

At the heart of every great photograph lies a meticulous control of light, and aperture is a pivotal component in this artistic endeavor. Think of aperture as the iris of our camera's lens, much like the pupil of our eye, regulating the amount of light that reaches the sensor. It is measured in 'f-numbers' or 'f-stops' (e.g., f/1.8, f/4, f/16), where a smaller f-number denotes a larger aperture opening and a larger f-number signifies a smaller opening. This concept might initially seem counter-intuitive, but it's crucial to grasp this for creative control.

Beyond merely controlling light, aperture profoundly influences the 'depth of field' (DoF) – the area of an image that appears acceptably sharp. A wide aperture (small f-number like f/1.8 or f/2.8) results in a shallow DoF, rendering your subject sharply in focus while beautifully blurring the background and foreground. This effect, often termed 'bokeh', is highly sought after in portrait photography, allowing the subject to truly stand out. Conversely, a narrow aperture (large f-number like f/11 or f/16) yields a deep DoF, keeping nearly everything from the foreground to the background in sharp focus, which is ideal for landscapes, architectural photography, or group shots where you want all elements to be clearly visible.

Mastering aperture allows you to sculpt your images, directing the viewer's eye and adding an artistic dimension to your visual storytelling. For instance, a doctor might use a wide aperture to capture a candid portrait of a colleague, ensuring their face is sharp against a softly blurred hospital corridor, or a narrow aperture to photograph a vast natural landscape during a leisure trip, ensuring every detail from the immediate foreground to the distant mountains is crisp. Experimenting with different f-stops is key to unlocking the full creative potential of your camera lens.



Wide Aperture (e.g., f/1.8)

Allows more light in, creating a shallow depth of field. Ideal for portraits with blurred backgrounds (bokeh) and low-light conditions.



Narrow Aperture (e.g., f/16)

Allows less light in, resulting in a deep depth of field. Perfect for landscapes or group photos where everything needs to be in focus.

Freezing Motion and Capturing Time: Understanding Shutter Speed

The second pillar of the exposure triangle is shutter speed, which dictates the duration for which our camera's sensor is exposed to light. Measured in fractions of a second (e.g., 1/1000s, 1/60s) or even full seconds (e.g., 2s, 30s), shutter speed is our primary tool for controlling how motion is depicted in the photographs. It's the critical element that allows you to either freeze a moment in time or beautifully convey movement through blur.

A fast shutter speed, such as 1/500th of a second or quicker, is employed to 'freeze' action. This is invaluable when photographing fast-moving subjects like sports events, wildlife, or even a child running through a park. A high shutter speed ensures that every detail of the moving subject is sharp and crisp, without any motion blur. Conversely, a slow shutter speed, ranging from 1/30th of a second down to several seconds, is used to introduce motion blur. This technique is often used artistically to show the passage of time or the movement of elements like flowing water, light trails from vehicles at night, or blurred crowds against a static subject. For example, capturing a waterfall with a slow shutter speed can transform the gushing water into a silky, ethereal flow, adding a serene quality to the image.

Understanding shutter speed is not just about stopping or blurring motion; it also directly impacts the amount of light hitting the sensor. A faster shutter speed lets in less light, making it suitable for bright conditions, while a slower shutter speed allows more light to enter, which is essential for low-light photography. However, using slow shutter speeds often necessitates a tripod to prevent camera shake from blurring the entire image. For a doctor, this might mean freezing a child's playful leap during a family outing or capturing the serene flow of a river during a relaxing getaway.



Fast Shutter Speed:

Freezes motion. Ideal for sports, wildlife, and capturing decisive moments without blur.



Slow Shutter Speed:

Creates motion blur. Perfect for flowing water, light trails, and conveying movement.

Sensitivity to Light: Understanding ISO

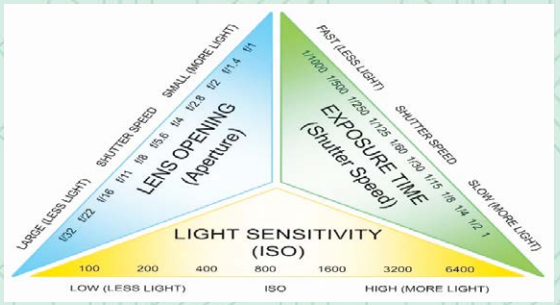
ISO, the third fundamental component of the exposure triangle, refers to the camera sensor's sensitivity to light. Originating from film photography, where different films had varying sensitivities (ISO 100, 200, 400, etc.), in digital photography, ISO allows you to electronically amplify the signal from your sensor. A lower ISO setting (e.g., ISO 100 or 200) indicates less sensitivity, requiring more light but producing the cleanest, most noise-free images with the finest detail. This is your preferred setting in bright, well-lit conditions.

As you increase the ISO setting (e.g., ISO 800, 1600, 3200, or even higher), the sensor becomes more sensitive to light, enabling you to capture images in dimmer environments where a slower shutter speed or wider aperture might not be feasible or desirable. For instance, in a dimly lit indoor event or during night photography, a higher ISO allows you to maintain a fast enough shutter speed to prevent blur or a narrow enough aperture for adequate depth of field. However, this increased sensitivity comes at a cost: digital noise. Noise manifests as tiny, random specks or grain in your image, particularly noticeable in darker areas. Higher ISO settings invariably lead to more pronounced noise, which can degrade image quality.

Weaving the Three: The Exposure Triangle in Harmony

Individually, aperture, shutter speed, and ISO are powerful tools, but their true magic unfolds when they are understood as an interconnected system – the Exposure Triangle. Imagine them as the three legs of a tripod; if one leg is adjusted,

the others must compensate to maintain balance and achieve a perfectly exposed photograph. A correct exposure is one where the image is neither too dark (underexposed) nor too bright (overexposed), capturing the scene as intended. Each 'stop' of adjustment in any of these settings either doubles or halves the amount of light reaching the sensor.



For example, if you decide to narrow your aperture from f/4 to f/8 to get more depth of field (thereby reducing the light by two stops), you must compensate by either slowing your shutter speed (e.g., from 1/125s to 1/30s) or increasing your ISO (e.g., from 400 to 1600) by two stops. This reciprocal relationship is fundamental to manual photography. The beauty of this system is the creative choices it offers. Do you prioritize a blurred background (aperture), freeze fast action (shutter speed), or capture an image in very low light (ISO)? Your artistic intent dictates which element you might adjust first, and then you balance the others accordingly.

Understanding this synergy empowers us to move beyond automatic modes and take full control of the camera, making deliberate creative decisions rather than letting the camera decide for us. For medical professionals, who are adept at understanding complex interconnected systems within the human body, grasping the exposure triangle will feel intuitive. It's a continuous learning process, where practice and experimentation in various lighting conditions will solidify your understanding and refine your photographic eye.

Genres and Techniques of Photography and Exposure Settings: Tailoring Your Craft

Different photographic genres demand distinct approaches to the exposure triangle. A versatile photographer, much like a specialist doctor, understands which tools and techniques are best suited for a specific scenario. Let's explore how the exposure triangle settings are typically tailored for some popular photography genres:

1. Portrait Photography



The focus here is on the subject. A wide aperture (e.g., f/1.8 to f/4) is usually preferred to achieve a shallow depth of field, blurring the background and making the subject stand out. Shutter speed should be fast enough to prevent blur from subject movement or camera shake (e.g., 1/125s or faster), especially for candid shots. ISO should be kept as low as possible for clean skin tones.



2. Landscape Photography

Landscapes typically require everything from foreground to background to be in sharp focus. This means a narrow aperture (e.g., f/8 to f/16) is often chosen for maximum depth of field. Shutter speed will vary based on lighting; in bright conditions, it can be fast, but often a slower shutter speed (and a tripod) is used to create silky water effects or capture dynamic skies. ISO should always be at its base (e.g., ISO 100) for pristine image quality.

3. Street Photography



Street photography is about capturing candid moments and daily life. A moderately wide to medium aperture (e.g., f/4 to f/8) offers a balance between subject isolation and context. Shutter speed needs to be fast enough to freeze unexpected movements (e.g., 1/250s or faster). ISO might need to be bumped up in low-light urban environments to maintain a fast shutter speed.



4. Macro Photography

This genre involves extreme close-ups of small subjects. Depth of field is incredibly shallow at macro distances, so a narrower aperture (e.g., f/8 to f/16) is often necessary to get even a tiny portion of the subject in focus. Shutter speed must be fast to counteract any slight movement, and ISO should be kept low. A tripod is almost always essential.

5. Wildlife Photography



Wildlife photography demands quick reactions and flexibility, as subjects are often unpredictable and constantly moving. A wider aperture (e.g., f/2.8 to f/5.6) is commonly used to achieve fast shutter speeds and create background separation that highlights the animal. Shutter speed should generally be high (e.g., 1/500s or faster) to freeze motion, especially during action shots. ISO may need to be raised depending on light conditions, but keeping it as low as possible ensures cleaner images. Patience, stealth, and knowledge of animal behavior are just as important as technical settings.



6. Bird Photography

Bird photography often requires even faster techniques since birds are small, quick, and frequently in flight. A long telephoto lens paired with a wide aperture (e.g., f/4 to f/6.3) helps isolate the subject while maintaining speed. Shutter speed should typically be very high (e.g., 1/1000s or more) to freeze wing movement. ISO is often increased to compensate for these fast settings, and continuous autofocus is vital for tracking moving birds.

7. Sports Photography



Sports photography is all about speed and precision. A wide aperture (e.g., f/2.8 to f/5.6) helps maintain fast shutter speeds, often 1/1000s or faster, to freeze athletes in action. Continuous autofocus and burst mode are essential for capturing critical moments. ISO is adjusted based on the venue—outdoor daylight allows low ISO, while indoor or night games may require higher ISO to prevent motion blur.



8. Photojournalism

Photojournalism focuses on capturing authentic, storytelling moments. Aperture settings vary depending on the scene, but moderate values (e.g., f/4 to f/8) are common to keep both subjects and context in focus. Shutter speed should be fast enough (around 1/250s or higher) to capture decisive moments sharply. ISO flexibility is crucial, as lighting conditions are often unpredictable, with image impact prioritized over technical perfection.

The Modern Arsenal: A Look at Photography Instruments

The world of photography instruments has evolved dramatically, offering an astounding range of devices tailored for every skill level, purpose, and budget. For a doctor looking to dive into this hobby, understanding the various camera types available can help in making an informed decision. Each category serves a distinct purpose, catering to different photographic needs and styles. The choice ultimately depends on your specific interests, budget, and desired level of involvement in the technical aspects of photography.

Point-and-Shoot Cameras

These are the simplest cameras, designed for ease of use. They feature fixed or small zoom lenses and automatic settings, making them perfect for casual photographers who want good quality photos without much fuss. Some high-end PnS (point-and-shoot) prosumer cameras, such as Nikon Coolpix P950, Panasonic LUMIX Tz99 for excellent output.

DSLR Cameras

Digital Single-Lens Reflex cameras offer interchangeable lenses and an optical viewfinder. They provide excellent image quality, manual control, and a vast ecosystem of accessories, appealing to enthusiasts and professionals.

Mirrorless Cameras

A newer breed, mirrorless cameras eschew the mirror box of DSLRs, resulting in more compact bodies while offering similar (or superior) image quality and interchangeable lenses. They feature electronic viewfinders and advanced autofocus.

Deep Dive: DSLR vs. Mirrorless Cameras in the Indian Market

For serious photography enthusiasts, the choice between a DSLR and a mirrorless camera is often the most significant. Both offer interchangeable lenses, manual controls, and excellent image quality, but their underlying technologies and form factors differ substantially. In the vibrant Indian market, both categories have robust offerings from leading brands like Canon, Nikon, and Sony.

Viewfinder

DSLR: Optical Viewfinder (OVF) - real-time, no lag

MIRRORLESS: Electronic Viewfinder (EVF) - digital preview, can show exposure/settings

Size & Weight

DSLR: Generally larger and heavier due to mirror box

MIRRORLESS: More compact and lighter; ideal for travel and discreet shooting

Autofocus

DSLR: Phase Detection (often faster for stills)

MIRRORLESS: Hybrid (Phase & Contrast) - excellent for video, improving rapidly for stills

Video Capabilities

DSLR: Good, but often limited by mirror mechanics

MIRRORLESS: Generally superior, with better autofocus and features like 4K recording

Battery Life

DSLR: Typically longer due to less reliance on electronic components

MIRRORLESS: Shorter due to power-hungry EVF and continuous autofocus

Lens Ecosystem

DSLR: Mature and vast, with many native and third-party options

MIRRORLESS: Growing rapidly, with adapter options for DSLR lenses

****For doctors in India, some popular basic models include:******DSLR:**** Canon EOS 1500D/200D II, Nikon D3500/D5600. These are excellent entry points, offering great image quality and manual control, perfect for learning the ropes.

****Mirrorless:**** Sony Alpha a6100/a6400, Canon EOS M50 Mark II, Fujifilm X-T200. These provide a more modern, compact experience with strong video features.

****For more seasoned enthusiasts or those looking to invest in pro models:****

****DSLR:**** Canon EOS 90D/5D Mark IV, Nikon D7500/D850. These cameras offer robust build quality, advanced features, and exceptional performance.

****Mirrorless:**** Sony Alpha a7 III/a7C, Canon EOS R6/R7, Nikon Z5/Z6 II. These full-frame and APS-C mirrorless systems represent the cutting edge, offering superior low-light performance, advanced autofocus, and professional-grade video.

The trend is leaning towards mirrorless systems due to their technological advancements and compact nature. However, DSLRs remain a solid choice, especially for those with existing lens investments or who prefer the optical viewfinder experience. It is advisable to visit a local camera store in India to handle both types and see which feels more comfortable and intuitive for your use.

Beyond the Camera: Smartphone, Action Cams & Drones in Photography

While DSLRs and mirrorless cameras dominate professional photography, the rapid advancements in technology have democratized image capture, bringing sophisticated capabilities to more accessible devices. For doctors who may not always carry dedicated camera gear, or who engage in specific activities, smartphones, action cameras, and drones offer compelling photographic solutions.

Smartphone Cameras

The camera in your pocket has become incredibly powerful. Modern smartphones, especially models like the Apple iPhone 15 series, Samsung Galaxy S24 series, and Google Pixel 8 series (all readily available in India), leverage computational photography to produce stunning images. Features like portrait mode, night mode, and advanced HDR allow even novice users to capture professional-looking photos. For doctors, a smartphone is perfect for documenting everyday moments, family events, or even capturing images for educational purposes in a non-clinical, consented context. Their convenience means you never miss a photo opportunity.

Key Strength: Convenience, computational photography, and instant sharing.

Market Leaders: Apple (iPhone), Samsung (Galaxy S/Fold series), Google (Pixel).

Action Cameras (GoPro, DJI Osmo Action)

Built for adventure, action cameras like the GoPro HERO 12 Black or DJI Osmo Action 4 are compact, rugged, and waterproof. They are designed to withstand extreme conditions and capture immersive wide-angle footage and stills. For doctors who enjoy trekking, diving, cycling, or other outdoor pursuits, an action camera is indispensable for documenting their adventures from unique perspectives. Their advanced stabilisation features ensure smooth footage even in challenging environments.

K**ey Strength:**Durability, portability, wide-angle, excellent video stabilisation.

Market Leaders: GoPro, DJI, Insta360.

Drones

Drones have revolutionised aerial photography, offering breathtaking perspectives previously only accessible from helicopters. Brands like DJI (Mavic series, Mini series) and Autel Robotics are popular in India, providing drones with high-quality cameras capable of capturing stunning landscapes, architectural shots, or even event coverage from above. For a doctor interested in unique vantage points or landscape photography on a grand scale, a drone can be a game-changer, revealing the world from an entirely new angle. Always be mindful of local regulations regarding drone usage.

Key Strength: Aerial perspectives, cinematic video, unique compositions.

Market Leaders:DJI, Autel Robotics.

Each of these instruments offers a distinct creative avenue, proving that impactful photography is no longer confined to traditional camera setups alone.

The Doctor-Photographers: Inspiration



The unique perspective that doctors cultivate through their profession – an eye for detail, a deep understanding of human conditions, and a methodical approach to problem-solving – can significantly enrich their photographic journey. This fusion of medical acumen and artistic expression leads to a profound way of seeing the world, translating into compelling imagery. Many medical professionals globally have seamlessly integrated photography into their lives, using it as a powerful medium for storytelling, personal expression, and even advocacy.



Beyond the Hobby: Teaching, Sharing, and Inspiring

Photography extends beyond personal healing, becoming a means of communication and inspiration. Doctors can integrate images into lectures, patient awareness campaigns, or personal storytelling. Many doctor-photographers worldwide share their work on platforms like Instagram, blending clinical insight with artistic vision. Personally, sharing my work through @diponzeye has allowed me to connect with colleagues, students, and a broader audience.

Conclusion



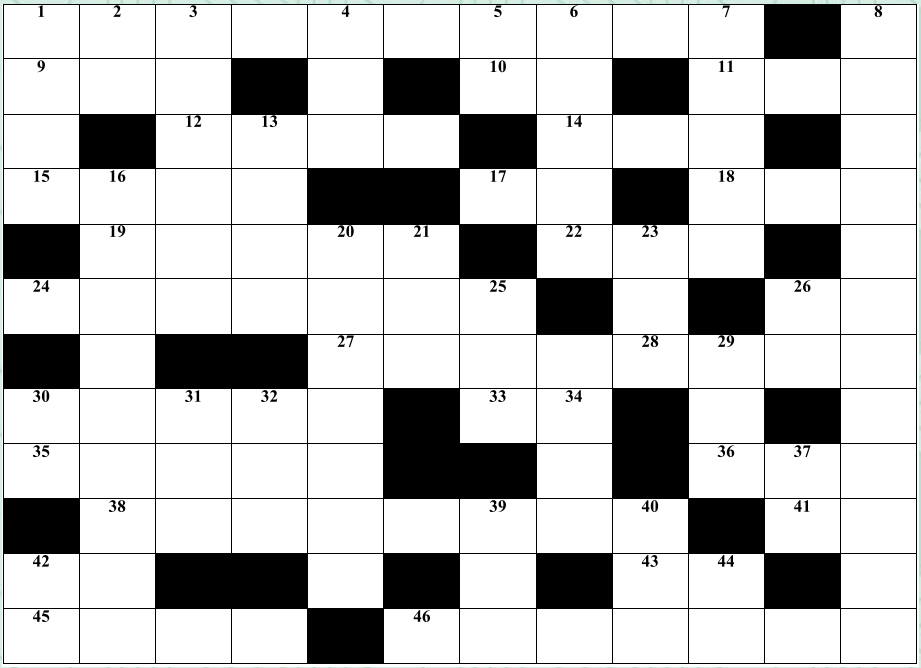
Photography is far more than clicking a button—it is a therapeutic escape, a practice of mindfulness, and a form of creative expression. For doctors, it restores balance, sharpens observation, and nurtures empathy. Whether through a professional-grade camera or a smartphone, the true power of photography lies in its ability to reconnect us with beauty, meaning, and self-awareness. By embracing this pursuit, medical professionals can rediscover the world—and themselves—through the healing lens of photography.

I am a practicing physiatrist with a passion for photography. Balancing the rigors of rehab medicine with the art of observation, I try to capturewildlife, landscapes, and cultural moments through my lens.

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CROSSWORD PUZZLE



By
Dr Nabarun Gupta
&
Dr Siddhartha Sinha Ray

CLUES ACROSS

1. ROM METER
9. HEARD ANYTHING IN LATIN?
10. SMALL JOINT STORY
11. LACK OF OPPOSITION
12. LATEST FORMAT FOR EXAMINATION
14. IT'S A LUNG STORY
15. GRAMMAR THERAPY
17. SILENT KILLER OF LUNG
18. IRRITATING CALL OF NATURE
19. PUBLICATION
22. LEG BRACE OF PARALYSIS
24. MOVING
26. ___DEPENDENCE
27. BLOOD BORNE VIRUS
28. +/- RA
29. INTERNAL WALL
33. MAY BE FOUND IN SPINE OR AORTA (ABBR)
35. PRACTICE
36. TYPE OF INCO-ORDINATION
38. WHEN MS MEETS BURGERS
41. EITHER YOU SWEAT OR BLEED (ABBR)
42. DIEBETICS GET THIS SILENTLY
43. YOU GET CARVALLO'S SIGN
45. WE DIAGNOSE AND CLASSIFY SPA
46. INDIA USE MDT

CLUES DOWN

1. BAN MEAT AND ALCOHOL
2. COMMON IN SURGERY AND PMR
3. MALE, DEVELOPMENTAL DELAY, WIDELY SET EARS, BLUE/ GREEN EYES
4. STOOL TEST
5. HOTTEST SPOT IN A HOSPITAL
6. WE DO THIS TO CORTICO STEROID
7. PROPORTION
8. ROTATOR CUFF TO TENDOACHILLES- YOU CAN FIND IT ANY-WHERE
13. FATAL COMPLICATION OF MEASLES
16. PROTECTS AND BEUTIFIES
20. RELAXES BRAIN, NUMBS NERVE
21. NATURAL THORAX GUARD
23. POST VIRAL WEAKNESS
25. STROKE
26. THE LIGHT CAN VISUALISE MR INDIA
29. BLUE SKIN/ JOINT
30. DEPRESSED HEART
31. ANAESTHESIA OPD
32. 8 HOURLY
34. ONCOLOGY ALLARM
37. PEADIATRIC REHAB
39. MARKER FOR SARCOIDOSIS
40. HAMMER 42. RE/__ 44. ANA PROFILE COMPONENT

(Answer at Page 124)

Brush & Shutter

Painting



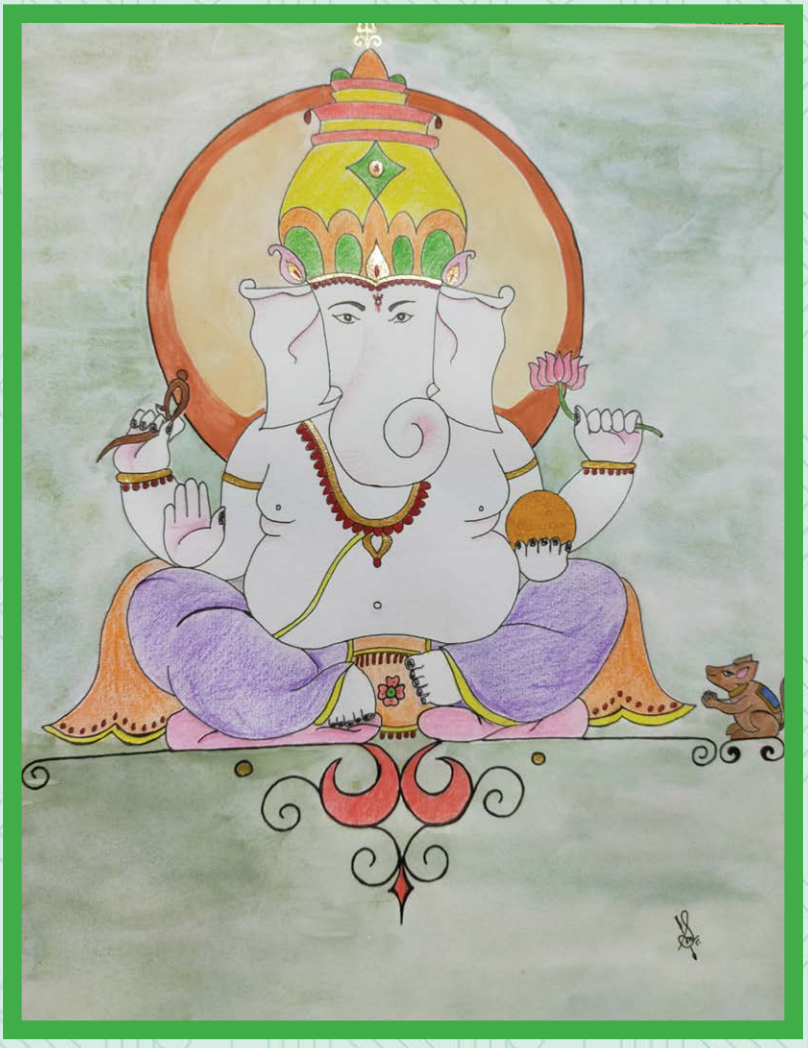


Sun and The Stork

by **Dr Vasundhara Ghosal**
Associate Professor,
IPGMER, Kolkata

Brush & Shutter

Painting





Shree Ganesha

by **Dr Swarnali Mandal**
Assistant Professor,
IPGMER, Kolkata



Brush & Shutter

Beyond Pain, Towards Possibility- A Visual Tribute to PMR

Dr Subhasish Pati
Assistant Professor, NBMCH



"Pain feels like a balloon about to burst – PMR helps deflate it safely without fear.



"Rehabilitation is like painting hope back into life – PMR restores function, strength, and color."



"Living with disability is like rowing in fog – PMR guides you towards clarity and independence."



"Every patient's potential is unique – PMR helps them find their wings again."

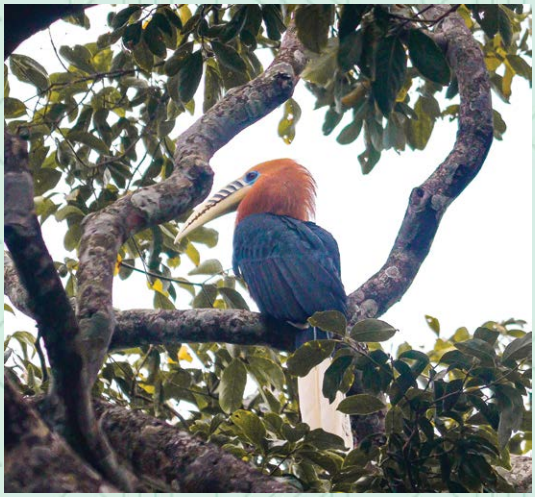


"Healing is teamwork – PMR thrives on collaboration between patient, family, and doctor."



"Just like the Himalayas rise beyond the clouds, PMR helps patients rise above pain and disability."

Brush & Shutter



"Strength with elegance – PMR teaches balance in life, just like nature teaches balance in wings."



"Rehabilitation is about standing tall again – PMR gives patients the courage to soar."



"Healing may look delicate, but with PMR, resilience grows strong even against the toughest mountains."



"Every storm feels heavy – but with PMR support, patients learn to hold on and heal."

Brush & Shutter



"Persistence heals – like the woodpecker shapes the tree, PMR shapes recovery step by step."



"Pain and disability can feel like frozen blocks – PMR brings the sunrise of movement, melting barriers one step at a time."



"Rehabilitation is patience – sometimes you need to pause, sit, and gather strength before climbing again."



"Even when life feels broken, PMR helps patients rediscover balance and resilience against the waves."



Purulia Chronicles: SHOTS & THOUGHTS















Purulia Chronicles: SHOTS & THOUGHTS



















Purulia Chronicles: SHOTS & THOUGHTS

WBPMRCON Purulia 2025
82 online

Dr Mouli Madhab Ghatak

Thanks to all members, PGTs, residents and accompanying family members for whole hearted participation and our organising team members for such sincere efforts. through which it was nicely operated in all steps. Looking forward for more development in coming days.

Prof (Dr) Rajesh Pramanik

Thanks to all PGTs, speakers and chairpersons for making the academic event successful.Special thanks to Dr Vasundhara and Dr Arupratan to make scientific program successful. Heartiest thank to Dr Keshab, Dr Tuhin, Dr Ushnish , Dr Nabarun and SRs for arranging such a seamless transportation and excellent venue management. Special thanks to Dr Siddhartha, Dr Aniketa Banerjee, Dr Pranesh for bringing out such a colourful souvenir. We are thankful to Dr Pradip for such a beautiful lunch and Dr Ashoke for evening snacks. We are grateful to Dr Amalesh and our Secretary Dr Premesh for spending sleepless nights to arrange this mega events. Special thanks to Dr Khatua and Dr Firdaus Kamal to be with as pillar behind the scenes. We are privileged to have our National secretary Dr Pandey with us. Our seniors Dr MM Biswas, Dr Avishek Biswas, Dr J Roy, Dr J Saha, Dr Pankaj Mandol, Dr S Misra, Dr Prabir Mandal etc made this event successful with their wisdom and active participation. Such a great team effort has been organised due to the leadership of our secretary Dr Premesh Sarkar and our president Dr M M Ghatak.We are grateful to both of them.

Dr Premesh Kumar Sarkar

I thank you all for your attendance and active participation in this year's conference. I would like to extend my heartiest regards to the PGTs, speakers and chairpersons for making the academic session a grand success. I wish to reiterate that none of this would have been possible without the continuous efforts of all of you in organizing this event. It was a pleasure working with all of you and I hope that our collaborative efforts will take WBPMR to new heights in the coming years.

Prof (Dr) Dilip Kumar Khatua

Excellent location and arranging in a very short time with so little registration fees. Kudos goes to organising team. My heartfelt ❤ thanks. Organisers... তোমারে সেলাম

Dr Manomohan Biswas

Grand success of Annual Conference of IAPMR WB, thank you Organisers for hoisting such a conference. Thank you for your good hospitality, very nice Scientific session, it was a very tough job, special thanks to President, Secretary, Chairman of Academiccommittee for making great success of Annual Conference of IAPMR WB chapter, Long Live IAPMR

Dr Jayanta Saha

Excellent arrangements by organising committee. Venue was superb, hospitality out of the world. Sabash .... Premesh bhai and team

Type a message

Purulia Chronicles: SHOTS & THOUGHTS

WBPMRCON Purulia 2025
82 online

Prof (Dr) Sanjay Pandey

It was a great experience. A Milestone which was crossed where no where dare to venture. This WBPMRCON 2025 was grand in all aspects and a vision for future generations. Academics, Hospitality, Food and Journey itself were entirely enjoyable. PG's really had very excellent presentation on various aspects of PMR. Posters were very good. Faculty lectures were very enriching. Quiz everyone enjoyed. The level of participation and Energy was so high with positivity all around...Remarkable achievement...This shows the collective strength, determination and commitment of entire organising team. Thanks to All PGs, SR's, Faculty and leaders. (Dr MM Ghatak, Dr Premesh Sarkar, Professor Pramanik, Professor Khatua).The initiative of Best Audience Award was a humble learning tool.Award was really honoured by recipient (Dr Manmohan Biswas).A big challenge for NEXT. I humbly pay my gratitude to all of you for this memorable Conference with Best wishes.Always a proud life member of WBPMR.

Dr Prabir Mandal

Fortunately, I was the sole representative in the registration desk of 1st PMR conference of west Bengal chapter in NRS medical college in the year 1995 as I have been posted as Medical Officer in Physical Medicine & Rheumatology Department of NRS Medical college. Prof. Dr. Nani Gopal Sarkar was the HOD and convenor of the program. That was in the Hall of ALC of NRS in the month of April (?May) without AC. Hardly 10/15 people gathered to discuss different issues with tea and snacks. It has taken almost 30 years to reach this new height. A remarkable change we are observing in recent years. Now students are coming in this subject by their choice. Many thanks to the members organizing committee for doing this herculeanjob successfully in such a short period of time. Wishing all the success of PMR West Bengal chapter in coming years.

Dr Mausumi Sen

Wonderful conference amidst nature. Great hospitality and food with good academic feast. Thanks to the Organising Team and all participants who have travelled so far from Kolkata to join the conference.

Dr Vasundhara Ghosal

As a member of team IAPMR WB chapter, I want to take a moment to express my heartfelt gratitude and appreciation for the exceptional conference that was organized. From conceiving the idea to finally executing it was a herculean task. Every aspect, from the venue to the program, was meticulously planned and executed. The hospitality was outstanding. The arrangements for travel to and from the venue were seamless, making it easy for all the delegates and faculties to focus on the conference without worrying about anything. The thoughtfulness and care shown to the families of delegates, the arrangements for sightseeing, and leisure activities were wonderful, allowing us to experience the local culture and beauty. The attention to detail, dedication, and hard work by each member of the organising committee have made this conference an unforgettable experience. Thank you once again for a fantastic conference!

Finally, as a parent, I'm still smiling about the wonderful birthday surprise you arranged for my son during the conference. It was such a thoughtful gesture, and he felt like a rockstar! As a parent, it meant the world to me to see him so happy. Thank you for making our conference experience even more special. Also, I want to thank all the PGTs who helped in the anchoring of the entire event.

Type a message

Purulia Chronicles: SHOTS & THOUGHTS

WBPMRCON Purulia 2025
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Dr Pradip Kumar Mallick

Literally it's a new height in PMR.....NEXT LEVEL OF ACHIVEMENT IN THE LAP OF NATURE.....Thanks to entire team specially PROF Rajesh Pramanik sir, Dr M MGhatak sir & Dr Premesh sir for excellent Arrangements. We are grateful that venue is @PURULIA ...so called less important destination. Now we can say that Bankura & Purulia is not underdeveloped district. We are Bengali & we love Bengal ..... Hats off to TEAM PMR ..... Both organiser &participants..

Dr Tanvir Ahmed

Heartiest Congratulations to the whole organising committee for a fabulous WBPMRCON 2025

Dr Madhusree Sengupta

Undoubtedly the most glamorous state conference till date. Fantastically arranged.
"Asche bochhorabarhobe"

Dr Piyali Basak

Commendable efforts by organisers...thanks for providing such a nice hospitality

Dr Arupratan Ghosh

The WBPMR community is now emerging to hit the peak with blessing from senior Faculties, belonging to Government sector as well as Private sector. The Senior Residents and PGT s are excellent with their exhaustive works and gill for knowledge.

Dr Nabarun Gupta

Thanx to all for this steep ascent I have experienced in my days of PMR. It's a rise from the dark allies of basement of SNPH to the 4-star resort at the hill top of Ajodhya! It's more than a dream come true ... I really wish this ascent doesn't stop in the coming years.

Dr Soumadip Mandal

I'm still buzzing from the incredible state conference! The entire team deserves a standing ovation for pulling off such a phenomenal event. The venue was absolutely stunning, and the seamless execution made for a truly unforgettable experience. I've never attended a conference that's left me feeling so inspired and energized - kudos to everyone involved for a job exceptionally well done!
I had an absolute blast coordinating the bus journey for our group! I know that the journey wasn't without its imperfections, but I was truly impressed by everyone's patience and understanding. Your flexibility and positive attitudes made all the difference. I think I speak for Usnish da, Nabarun da, and Basudev as well when I say that we all appreciated your cooperation and camaraderie throughout the journey. Thanks again for making it such a memorable experience

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With warm regards,
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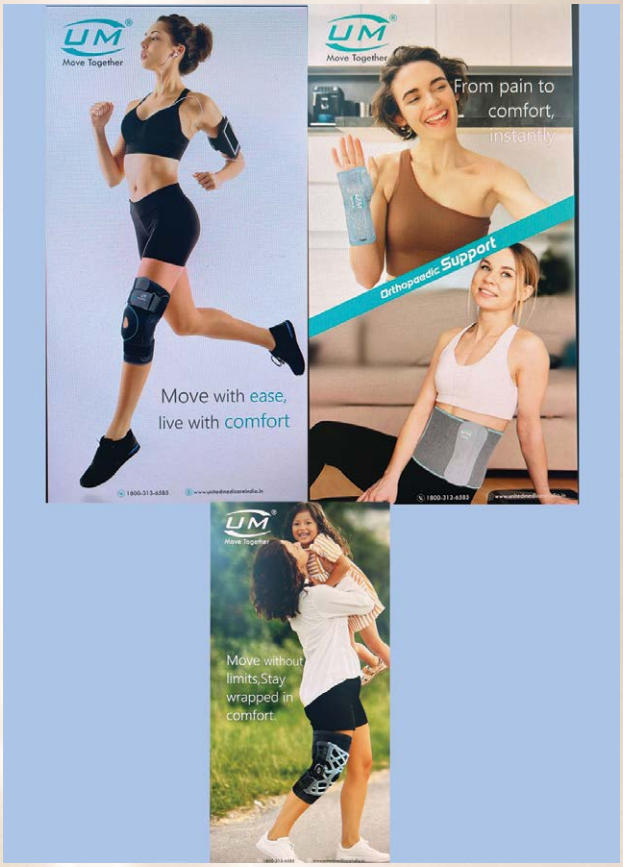
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9 O	T	O	■	P	■	10 R	A	■	11 A	P	E
U	■	12 O	13 S	C	E	■	14 P	F	T	■	N
15 T	16 E	N	S	■	■	17 P	E	■	18 I	B	D
■	19 P	A	P	20 E	21 R	■	22 R	23 G	O	■	I
24 K	I	N	E	T	I	25 C	■	B	■	26 I	N
■	D	■	■	27 H	B	V		28 S	29 E	R	O
30 S	E	31 P	32 T	A	■	33 A	34 S	■	D	■	P
35 T	R	A	I	N	■	■	O	■	36 S	37 C	A
■	38 M	C	D	O	N	39 A	L	40 D	■	41 P	T
42 M	I	■	■	L	■	C	■	43 T	44 R	■	H
45 E	S	S	G	■	46 L	E	P	R	O	S	Y





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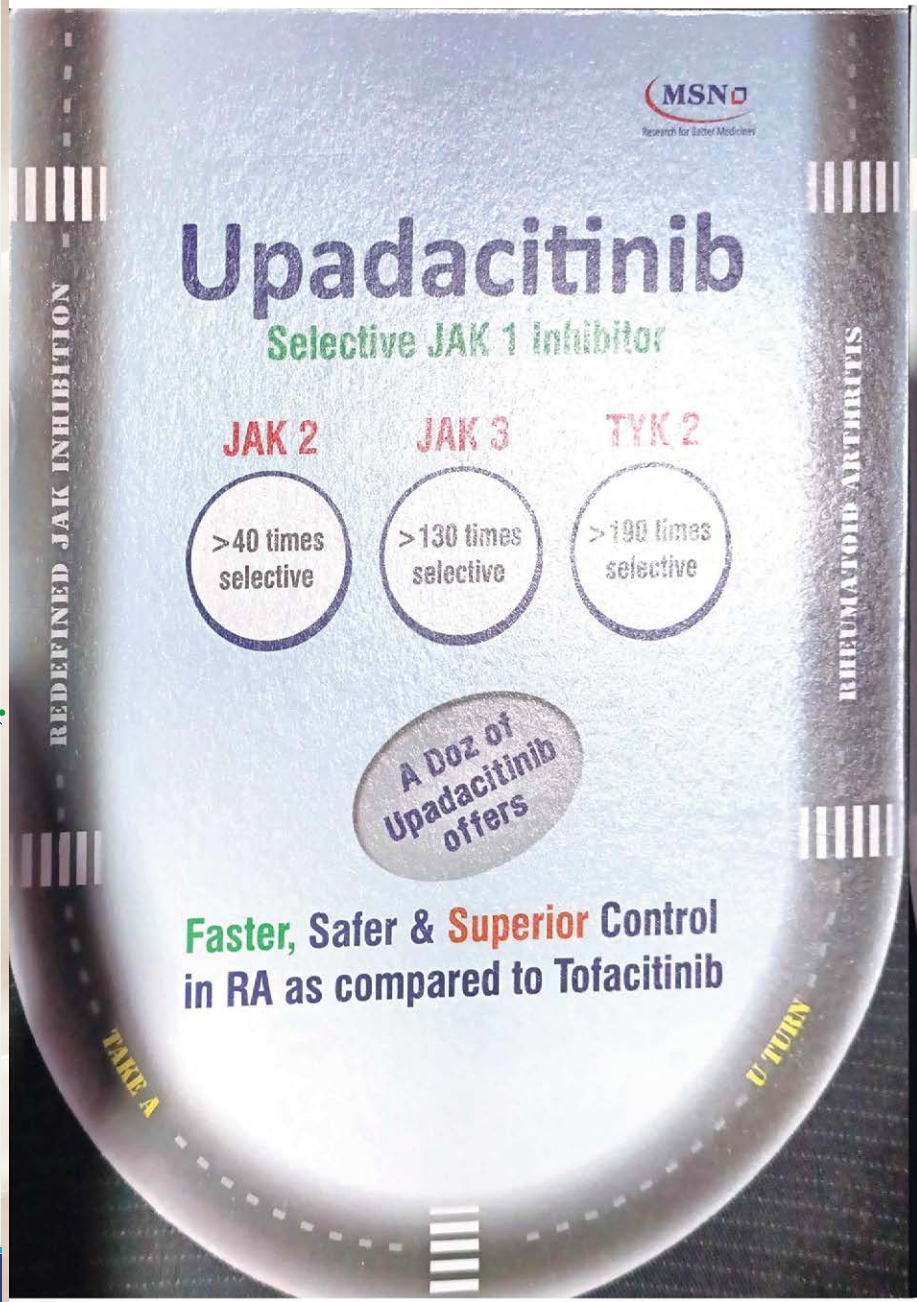
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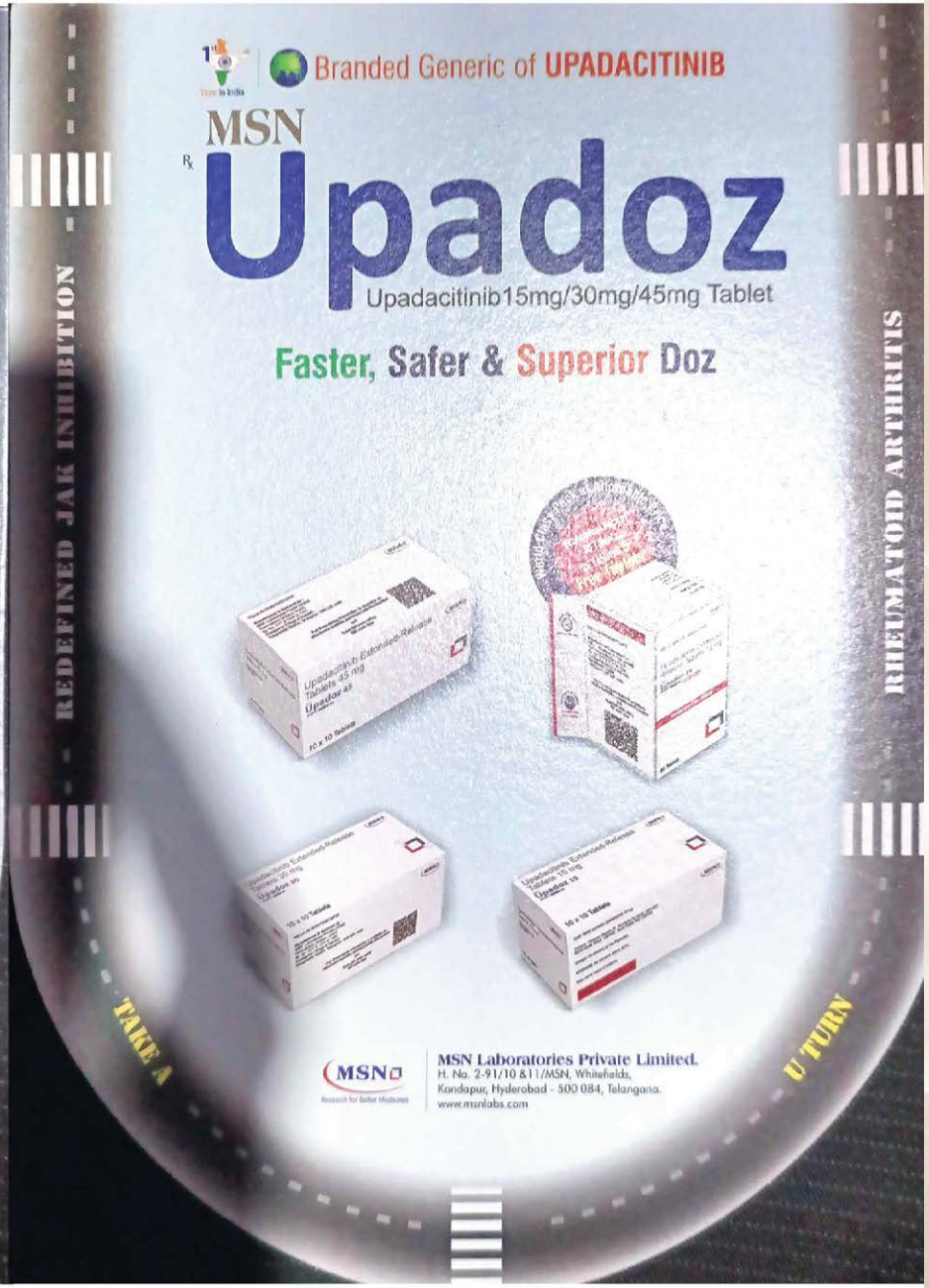
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AS - Ankylosing spondylitis; **ILD** - Interstitial lung disease; **NSAIDs** - Nonsteroidal anti-inflammatory drugs; **OA** - Osteoarthritis; **PJIA** - Polyarticular juvenile idiopathic arthritis; **PsA** - Psoriatic arthritis; **RA** - Rheumatoid arthritis; **SLE** - Systemic lupus erythematosus

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WBPMRCON 2025

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