



SOUVENIR

IAPMR NATIONAL MID-TERM CME 2024

THEME: PMR - Roots and Emerging Trends



4th, 5th & 6th October, 2024
AIIMS Guwahati

EDITED & COMPILED BY:

DR. SATYARANJAN SETHI
AIIMS Guwahati

Designed By:
Surya Events
Guwahati, Assam.

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PATRONS



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*Executive Director,
AIIMS Guwahati*



PATRON

Prof. (Dr.) Manasi Bhattacharjee
*Dean Academics, HOD Physiology
AIIMS Guwahati*



PATRON

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*Dean-Research,
AIIMS Guwahati*



PATRON

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Pundalikappa Sinhasan,**
*Dean-Examination,
AIIMS Guwahati*



PATRON

**Prof. (Dr.) Neizekhotuo
Brian Shunyu**
*Medical Superintendent,
AIIMS Guwahati*

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Dr. (Prof.) Ajay Gupta
*President,
IAPMR*



Dr. Muralidharan PC
*Vice-President,
IAPMR*



Dr. Sanjay Kumar Pandey
*Hon. Secretary,
IAPMR*



Dr. Selvan P
*Joint Secretary,
IAPMR*



Dr. C Chethan
*Treasurer,
IAPMR*

ORGANISING COMMITTEE



ORGANISING CHAIRPERSON

Dr. Diganta Borah
AIIMS Guwahati



ORGANISING SECRETARY

Dr. Satyaranjan Sethi
AIIMS Guwahati



TREASURER

Dr. Amit Kumar Mallik
AIIMS Guwahati



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SCIENTIFIC COMMITTEE**

Dr. Raj Kumar
IGIMS Patna



**CO-CHAIRPERSON
SCIENTIFIC COMMITTEE**

Dr. Raj Kumar Yadav
AIIMS Rishikesh



**CO-CHAIRPERSON
SCIENTIFIC COMMITTEE**

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AIIMS Nagpur



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Dr. (Lt. Col.) Mohit Kataruka
AIIMS Kalyani



**MEMBER
SCIENTIFIC COMMITTEE**

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AIIMS Guwahati



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**CO-CHAIRPERSON
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**MEMBER
SOUVENIR COMMITTEE**

Dr. Jay Kishor Soren
AIIMS Guwahati

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SARATHI HOSPITAL NALBARI



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AIIMS Guwahati



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AIIMS Guwahati



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AIIMS Guwahati



**MEMBER
TRANSPORT &
ACCOMMODATION
COMMITTEE**

Dr. Saptarshi Hazra
AIIMS Guwahati



प्रो.(डॉ.) अतुल गोयल

Prof. (Dr.) Atul Goel

MD (Med.)

स्वास्थ्य सेवा महानिदेशक

DIRECTOR GENERAL OF HEALTH SERVICES



सत्यमेव जयते

भारत सरकार
स्वास्थ्य एवं परिवार कल्याण मंत्रालय
स्वास्थ्य सेवा महानिदेशालय

Government of India
Ministry of Health & Family Welfare
Directorate General of Health Services



MESSAGE

I congratulate you and your team on the organization of National mid-term CME 2024 being held under the aegis of Indian Association of Physical Medicine and Rehabilitation at AIIMS, Guwahati.

I am glad that physiatrists are working all over the country to enhance the quality of life of those suffering from various physical ailments. Very aptly going by the theme of the conference "PMR - Roots and Emerging Trends", the conference will justify its commitment to continuous growth and development of medical post graduates. By nurturing young and budding talents and imparting advancing healthcare knowledge will make them well prepared, knowledgeable and empathetic futuristic professionals.

Once again, I extend my warm wishes to you all for a successful and impactful conference. Let us continue to work together to advance the frontiers of knowledge and compassion in our quest for wisdom to alleviate the burden of suffering. I encourage you all to seize every opportunity to learn, share, connect and inspire during this academic fiesta.

New Delhi
24th Sept. 2024

(Atul Goel)

MESSAGE



**GOVERNMENT OF ASSAM
OFFICE OF THE DIRECTOR OF MEDICAL EDUCATION, ASSAM
SIXMILE, KHANAPARA, GUWAHATI-22**

Tele-Fax No.0361-2366236, E-mail-dmeassam@gmail.com, dme@assam.gov.in

No. DME/

Dated: 06 /09/2024

MESSAGE

It is a matter of immense pleasure that Department of PM&R, AIIMS, Guwahati, under the aegis of IAPMR is going to organize National mid-term CME 2024 from 5th October 2024 to 6th October 2024 at AIIMS, Guwahati with a theme "PMR-Roots and Emergency Trends".

I hope that this National level CME shall be attended by many resource personalities in the field of Physical Medicine and Rehabilitation from all the north eastern State of India as well as throughout the Country.

The discussions and deliberations as well as the exchange of views and experience of speakers from different corner of the country would create a good academic environment, industry updates and numerous other first-time experiences.

I convey my best wishes for the grand success of the Conference.

[Prof. (Dr.) Anup Kr. Barman]
Director of Medical Education, Planning &
Research, Assam

MESSAGE



अखिल भारतीय आयुर्विज्ञान संस्थान (एम्स), गुवाहाटी
All India Institute of Medical Sciences, Guwahati
स्वास्थ्य और परिवार कल्याण मंत्रालय, भारत सरकार के तत्वावधान में एक वैधानिक निकाय
(A statutory body under the aegis of Ministry of Health and Family Welfare, GoI)
Changsari, Guwahati-781101

Prof. (Dr.) Babul Kumar Bezbaruah
President, AIIMS Guwahati
Mobile: 98640 66772
[Email: president@aiimsqwahati.ac.in](mailto:president@aiimsqwahati.ac.in)

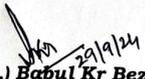
MESSAGE

I would like to take this opportunity to send a hearty welcome to everyone attending "IAPMR MIDTERM CME 2024- the Midterm Annual Conference of the Indian Association of Physical Medicine and Rehabilitation (IAPMR)" hosted by Department of Physical Medicine and Rehabilitation, AIIMS Guwahati on 5th and 6th October 2024, preceded by pre-conference workshops on 4th October.

The theme of the conference is "**PMR - Roots and Emerging Trends**",. These changing patterns suggest that the integration and use of rehabilitation medicine will transform it from a field focused on disabilities to one focused on abilities. While embracing advancements, the subject should also remember its historical foundation in order to become more dynamic and collaborative. The theme beautifully justifies this idea of progression.

All participants and collaborators will have the esteemed opportunity to demonstrate their expertise in this conference. Additionally, I think that this will pave the way for future partnerships in the areas of applied and recent breakthroughs in PMR and medical education. I look forward to the valuable insights and connections that will emerge from the conference.

I extend my warmest welcome to you all at AIIMS Guwahati.


Prof.(Dr.) Babul Kr Bezbaruah
President, AIIMS Guwahati
& Principal Cum Chief
Superintendent
Nalbari Medical College & Hospital
Nalbari, Assam

MESSAGE



Prof. (Dr.) Ashok Puranik

Executive Director

AIIMS, Guwahati

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अखिल भारतीय आयुर्विज्ञान संस्थान (एम्स), गुवाहाटी
All India Institute of Medical Sciences, Guwahati

(स्वास्थ्य और परिवार कल्याण संस्थान, भारत सरकार के तत्वावधान में एक वैधानिक निकाय)
(A statutory body under the aegis of Ministry of Health and Family Welfare, Govt)
Changsari, District-Kamrup, Assam, PIN-781101

Chief Patron, IAPMR MIDTERM CME 2024

Esteemed Attendees and guests, it brings me immense joy and honour to extend my heartfelt welcome to everyone present at the IAPMR MIDTERM CME 2024- the Midterm Annual Conference of the Indian Association of Physical Medicine and Rehabilitation (IAPMR). As the leader of the organizing institution, I feel privileged to greet you all at this distinguished event, where we will come together to exchange the thrill of the scientific showcase.

At its core, every scientific programme is fuelled by a sense of wonder, teamwork, and dedication to pushing forward understanding for the improvement of society. This gathering stands as a perfect illustration of these principles, uniting specialists, scholars, and fans from various fields to swap thoughts, impart knowledge, and uncover significant relationships.

To mark this fantastic scholarly occasion, I'm excited to introduce you to the scientific memento. This memento is more than a simple keepsake; it stands as a symbol of our collective successes and dreams within our dynamic scientific community. Inside, you'll discover a treasure trove of information, perspectives, and motivation that embody our joint quest for greatness and creativity. I urge you to delve into this memento with an open heart and inquisitive mind, letting it kindle fresh ideas, foster productive partnerships, and energize your enthusiasm for exploration. Allow it to remind you of the remarkable voyage we're embarking on together and the limitless opportunities that await us.

On behalf of the host institute, I extend my deepest gratitude to all the organizers, speakers, sponsors, and participants who have contributed to the success of this event. It is a privilege to be a part of such a dynamic and inspiring community. May this event be a source of inspiration, learning, and connection for all, and may it pave the way for a brighter, more innovative future for science and society.

I would like to express my sincere gratitude to all of the sponsors, speakers, organizers, and participants who helped make this event a success on behalf of the host institute. Being a part of such a vibrant and thought-provoking group is an honour. I hope that everyone finds inspiration, knowledge, and connections from this event, and that it opens doors to a more promising and contemporary future for the society.

I'm hoping for a hugely successful conference.

श्री. अशोक पुरानिक / Dr. Ashok Puranik
कार्यकारी निदेशक / Executive Director
एम्स गुवाहाटी / AIIMS Guwahati

MESSAGE



It gives me immense pleasure to write a few words for the 2024 IAPMR National midterm CME souvenir. Physical Medicine and Rehabilitation forms the pillar of the medical service for differently abled people (DIVYANGJAN) and its importance as a subject can never be undermined. Moreover, with the blurring borders between various disciplines in the medical curriculum, and the advent of multidisciplinary approach to teaching, patient care and research, Physical Medicine and Rehabilitation, as a subject has come a long way.

I congratulate the organizing team and the office bearers of the IAPMR National MIDTERM CME 2024 for successfully planning the Indian Association of Physical Medicine and Rehabilitation (IAPMR) Midterm National Conference.

I have no doubt that the conference theme, PMR - Roots and Emerging Trends, will be an academic treat for all Physiatriests, and encourage creative teaching and research in the field of Physical medicine and rehabilitation. Additionally, it will serve as an eye opener for the medical fraternity in general thereby opening up newer avenues for interdisciplinary research and collaboration for the betterment of patient care.

Best wishes for a grand success of this conference.

Warm Regards,

Prof. (Dr.) Manasi Bhattacharjee
*Patron
Dean Academics, HOD,
Dept. of Physiology, AIIMS Guwahati*

MESSAGE



It gives me immense pleasure that the Department of PMR, AIIMS Guwahati, is organising IAPMR National Mid-Term CME 2024, in our Institute. This conference will definitely be a platform of high caliber of exchange of ideas and knowledge with the presence of many eminent National & International faculties. My heartiest congratulations to the Department of PMR, for making this happen in AIIMS Guwahati and wish the conference a great success.

Warm Regards,

Prof. (Dr.) Neizekhotuo Brian Shunyu
*Patron
Medical Superintendent,
AIIMS Guwahati*

MESSAGE



I am delighted that the IAPMR National Mid-Term CME 2024 is being held at AIIMS, Guwahati. It will be the first time that a meeting of IAPMR is being held at Guwahati and this is the privilege we get as new department are coming up in INIs with leading faculty. The organizers are ensuring that every part of the event goes without a glitch and though limited in numbers but limited in strength. The bouquet of pre-conference skill workshops will be useful for residents and practitioners alike to refresh and add new skills.

I was delighted to see the theme of the CME as 'Roots and emerging trends' so aptly kept in the Gateway to the Northeast. The roots of the PMR speciality are the gateway to the emerging trends. It would be wise for all physiatrists to be firmly rooted while riding the tides of emerging trends. We should endeavour to keep our hold on all the traditional skill of rehab while adapting newer technologies.

I wish the organizers all the best and hope for a huge participation in the event. It is our participation that encourages the organizer to venture into such effort and time-consuming responsibilities.

Long live IAPMR.

Warm Regards,

A handwritten signature in blue ink, appearing to read 'Ajay Gupta', written in a cursive style.

Dr. (Prof.) Ajay Gupta
President, IAPMR



Dr. Sanjay Kr Pandey
Secretary
Indian Association of Physical Medicine and Rehabilitation
Head, Dept. of Physical Medicine & Rehabilitation,
AIIMS Patna- 801507

e-mail: secretary@iapmr.in
drsanjaykr1@gmail.com



24 September 2023

MESSAGE

!!Greetings from the Indian Association of Physical Medicine and Rehabilitation!!

It gives me immense pleasure and joy that the Dept. of Physical Medicine and Rehabilitation, All India Institute of Medical Sciences, Guwahati is organising the IAPMR MIDTERM CME 20224 at AIIMS Guwahati in the month of October (04-06) 2024.

On behalf of IAPMR, I wish them all the very best. We all are eagerly looking forward to this wonderful scientific event. I am confident that it will be a huge success and a watershed moment in the history of IAPMR. On behalf of IAPMR, I assure the organising committee of all the support from the national body and also urge all the members across the country and abroad to attend this academic feast. The organising chairman Dr Diganta Borah and organising secretary Dr Satyaranjan has left no stone unturned to make it the most memorable event to date. As the Secretary of IAPMR, I too welcome all the participants to this unique event.

The theme of the CME is "PMR - Root and Emerging Trends" which is very apt keeping in mind the current scenario and also the need of the hour. It has wonderful topics, including recent advances in the field of medical and surgical rehabilitation. There are 3 per conference workshops on Gait & Motion Analysis, MSK USG - Diagnostic and Interventional Procedures & Cadaveric Rehab Surgery with delegates from across the country eagerly waiting to attend, which indicates the hunger for knowledge and learning new skills.

The main goals are to stay safe and healthy, as well as to stay informed.

I would like to invite everyone to this special and unique Conference to join in large numbers to make this a successful event.

I wish the best for a successful event for the organisers.

Long live IAPMR! Jai Hind!!

Sanjay. Pandey
(SANJAY KUMAR PANDEY)

MESSAGE



Dear Esteemed Colleagues and Participants,

It is my pleasure to extend a warm welcome to each one of you to the highly anticipated Indian Association of Physical Medicine and Rehabilitation (IAPMR) Midterm CME 2024. I would like to thank the association for considering us worthy of taking up this responsibility. I take this opportunity to express my sincere gratitude to the Executive committee of IAPMR and Executive Director, AIIMS Guwahati and his administrative team for providing support and guidance in organizing the event.

The conference's theme, "PMR - Roots and Emerging Trends" will showcase the wealth of knowledge, discoveries, and technological advancements in the journey of PMR. This rich tapestry of knowledge, from origins to the most recent developments in physiatrists' techniques to ground-breaking research and its applications in various disciplines will be woven during this CME.

I hope this academic extravaganza will be etched in the memory of all, for years to come and the knowledge gained within the confines of this gathering will be spread all across, for alleviation of human suffering.

As we work to expand the boundaries of Physical Medicine and Rehabilitation and make significant contributions to society, let's set out on this journey of exploration, education, and cooperation.

I also wish everyone a pleasant stay in the city of Guwahati along with a wholesome experience of its rich cultural heritage and natural beauty.

Warm Regards,

A handwritten signature in blue ink, consisting of a stylized 'D' and 'B' followed by a horizontal line.

Dr. Diganta Borah
Organising Chairperson
Professor & HOD,
Dept. of PMR, AIIMS Guwahati

MESSAGE



Dear Senior Colleagues and Friends, Namaskaram!

I am immensely pleased to extend my heartfelt greetings to all the participants who have gathered here for this enriching learning experience. The IAPMR Mid-Term CME 2024, hosted at AIIMS Guwahati, is a remarkable opportunity to explore the evolving landscape of PMR - Roots and Emerging Trends.

This CME beautifully reflects our mission: to honour the foundational principles of Physical Medicine and Rehabilitation (PMR) while embracing the transformative innovations shaping its future. It is a convergence of PMR's rich heritage and modern advancements, where we celebrate the enduring strength of our roots while exploring new frontiers.

The CME program covers a wide array of topics, including:

- Contemporary Practice in Physical Medicine: Pain interventions, musculoskeletal medicine, rheumatology, sports, and regenerative medicine
- Rehabilitation Medicine: Paediatric, stroke, brain, and SCI rehabilitation, alongside a visionary outlook on the future of PMR
- Emerging Trends in PMR: Delving into cardiac rehabilitation, artificial intelligence (AI), and advanced interventional and surgical rehabilitation techniques.

In addition, our three pre-conference workshops offer invaluable hands-on experience in MSK Ultrasound for Pain Interventions, Gait Analysis, and a first-of-its-kind opportunity in Cadaveric Surgical Rehabilitation.

This platform also serves as a wonderful opportunity for young physiatrists and trainees to showcase their research and clinical work through poster and oral presentations. I hope these interactions will foster collaboration and innovation that will continue to uplift the PMR community.

As we connect, share knowledge, and build relationships, we celebrate not only the rich legacy of PMR but also its future—a future that spans the continuum of care, from paediatrics to geriatrics, impacting rehabilitation outcomes. Together, we can empower individuals who are differently-abled or suffering, helping them reintegrate into society and contribute to our national productivity.

Let us grow, unite, innovate, and lead with compassion as we work toward a brighter future in PMR.

The Root of PMR, deep and strong,
Emerging trends will guide us along.
With the knowledge shared and spirits high,
Long live PMR, as we reach for the sky.

Warm Regards,

A handwritten signature in black ink, appearing to read 'Raj Kumar', with a stylized flourish at the end.

Dr. Raj Kumar
Chairperson, Scientific Committee
Additional Prof & HOD,
Dept. of PMR, IGIMS, Patna

MESSAGE



Respected Psychiatrists,

On behalf of the organising committee of IAPMR National Mid-Term CME 2024, it gives me immense pleasure & joy to welcome you all to Guwahati - the gateway to north-east India to participate in the upcoming National Conference on Physical Medicine and Rehabilitation to be held at AIIMS Guwahati. This prestigious event on the sacred territory of "Maa Kamakhya" on the banks of mighty Brahmaputra will bring together leading & eminent experts, clinicians, and researchers from across the country to share knowledge, exchange ideas, and discuss the latest advancements in the field of Physical Medicine & Rehabilitation. I sincerely hope that all participants will gain from and be able to advance their level of knowledge from the scientific talks and workshops. In order to make the conference a huge success, I am looking forward to your enthusiastic support and active involvement. We appreciate your unwavering dedication to furthering the area of physical medicine and rehabilitation. We genuinely hope that everyone will take pleasure in Guwahati's hospitality.

I would like to use this opportunity to express my gratitude to the Executive Committee of IAPMR, my department head, the Executive Director of AIIMS Guwahati, and his team of administrators for their guidance and support in putting this event together.

Long live IAPMR.

Warm Regards,

A handwritten signature in purple ink, appearing to read 'Satyanarjan Sethi'.

Dr. Satyanarjan Sethi
Organising Secretary
Associate Professor,
Dept. of PMR, AIIMS Guwahati

MESSAGE



It is a pleasure to have you join us at the IAPMR MIDTERM CME 2024, an event honouring the complex science of the human sufferings. The theme of our conference is "PMR - Emerging Trends and Roots." From the ground up Psychiatrists examine the crucial advancement, gaining insights from paediatric to geriatric patients. Our quest to solve the secrets concealed within ourselves takes us beyond textbooks and lecture halls.

I hope this conference will spark people's curiosity, build community, and advance science. Let's examine the complex fabric of life together. I appreciate your participation in this amazing journey. Come, let us write history in these sacred halls.

Warm Regards,

A handwritten signature in blue ink, appearing to read "A. Mallik". The signature is written in a cursive style and is positioned above the printed name.

Dr. Amit Kumar Mallik
Treasurer
Assistant Professor,
Dept. of PMR, AIIMS Guwahati

ASSAM

HISTORICAL BACKGROUND

Ancient Period: Guwahati, situated on the banks of the Brahmaputra River, has a history that dates back to ancient civilizations. Known as "Kamarupa," the region was a prominent kingdom mentioned in various historical texts, including the Mahabharata and Puranas. The ancient city served as a center for trade and culture, influenced by various dynasties, including the Kachari and the Pala.

Medieval Period: The medieval era saw the rise of the Ahom dynasty in the 13th century. The Ahoms ruled Assam for nearly 600 years, establishing a distinct culture and political structure. Under their rule, Guwahati became an important administrative and trade center. The Ahoms successfully resisted several invasions, notably from the Mughals in the 17th century, preserving their independence and cultural identity.

Colonial Period: The British annexed Assam in the mid-19th century, incorporating it into British India. This period marked significant socio-economic changes. The British introduced tea cultivation, leading to the establishment of Assam as a major tea-producing region. Guwahati became an administrative hub and saw infrastructural developments, including railways and roads, facilitating trade and migration.



Post-Independence Era: After India gained independence in 1947, Guwahati emerged as the largest city in Assam and a critical center for commerce, education, and culture in Northeast India. The region has witnessed various challenges, including ethnic tensions, insurgency movements, and issues related to illegal immigration.

PRESENT DAY GUWAHATI AND ASSAM

Guwahati: A Modern Metropolis Today, Guwahati is a thriving metropolis, known for its vibrant culture and economic significance. It serves as the gateway to Northeast India, attracting people from various parts of the country and beyond. The city's skyline is a mix of modern infrastructure and traditional elements, with landmarks such as the Kamakhya Temple, a UNESCO World Heritage site, the Assam State Museum, and the sprawling Brahmaputra River offering picturesque views and recreational opportunities.

Economic Landscape: Assam's economy primarily relies on agriculture, tea production, and petroleum. The state is among the largest tea producers globally, with numerous tea estates contributing to both local and international markets. Additionally, Assam has rich natural resources, including oil and natural gas, which have been key to its economic development.



ASSAM

In recent years, there has been a noticeable shift towards tourism, with initiatives aimed at showcasing the region's natural beauty, wildlife, and cultural heritage. Attractions like Kaziranga National Park, famous for its one-horned rhinoceros, and Manas National Park, a UNESCO World Heritage site, are drawing increasing numbers of visitors.

Cultural Heritage: The cultural landscape of Guwahati and Assam is incredibly diverse, shaped by various ethnic communities. Festivals like Bihu, celebrated with dance, music, and feasting, play a significant role in the social fabric. Traditional art forms, such as Sattriya dance and Assamese folk music, continue to thrive, reflecting the rich cultural heritage.

The cuisine of Assam, known for its simplicity and flavors, features dishes made from rice, fish, and local vegetables. The state's unique culinary traditions are a point of pride for its residents.

Infrastructure development remains a priority, particularly in improving connectivity and managing the impact of seasonal floods that affect the lives of many residents. The government is actively working to address these issues through various development programs and initiatives.

Future Prospects: Looking ahead, Assam and Guwahati are poised for growth, with a focus on sustainable development. There is a push towards enhancing tourism, promoting local arts and crafts, and leveraging the region's natural resources responsibly. The state government is also emphasizing education and skill development to empower the youth and boost economic growth.

Guwahati and Assam embody a blend of rich history and contemporary vibrancy. As the region navigates its challenges and opportunities, it continues to hold a unique position in India's cultural and economic landscape, reflecting resilience and diversity.



PROGRAMME SCHEDULE

4TH OCT 2024

WORKSHOP 1: GAIT AND MOTION ANALYSIS

Venue: R&D building, 1st floor, IIT Guwahati.

<u>SL NO</u>	<u>TOPIC</u>	<u>TIME</u>
1	<p>Let's get moving: Feeling the fundamentals of human movement</p> <ul style="list-style-type: none"> Feeling specially abled. Introduction to kinematics and kinetics in human movement. Understanding the basic principles of biomechanics. Tools and technologies used in movement analysis (e.g., motion capture systems, force plates). 	8.00 am to 9.00 am
2	<p>Step to stride: A deep dive</p> <ul style="list-style-type: none"> Detailed breakdown of the gait cycle and its phases. The role of muscles, joints, and ligaments in normal gait. Common deviations and their clinical significance. 	9.00 am to 10.00 am
Tea Break: 10.00 am to 10.20 am		
3	<p>Move as you grow: Paediatric gait</p> <ul style="list-style-type: none"> Developmental changes in gait patterns from infancy to adolescence. Common paediatric gait disorders (e.g., toe-walking, flatfoot). Movement analysis in children with neurological conditions (cerebral palsy). 	10:20 am to 11:30 am
4	<p>Brain on legs: Movement in neurological disorders</p> <ul style="list-style-type: none"> Movement analysis in patients with conditions such as Parkinson's disease, multiple sclerosis, and stroke. Identifying and treating spastic gait, ataxic gait, and other neurologically induced gait abnormalities. Role of assistive devices and rehabilitation strategies. 	11:30 am to 12.30 pm
Lunch Break: 12.30 pm to 1.30 pm		
5	<p>Leg 2.0: Impact on movement</p> <ul style="list-style-type: none"> Biomechanical challenges in amputees. Gait analysis for prosthetic fitting and optimization. The role of orthotics in correcting movement abnormalities. 	1.30 pm to 2.30 pm
6	<p>Walking in the matrix: Decisions from mountain of data</p> <ul style="list-style-type: none"> Steps involved in conducting clinical gait analysis. Translating gait analysis data into clinical practice. Case studies demonstrating successful interventions based on gait analysis. 	2:30 pm to 3:30 pm

PROGRAMME SCHEDULE

4TH OCT 2024

9	<p>Gait meets gadgetry</p> <p>Techniques for analysing and improving athletic performance. Latest advancements in motion capture, wearable sensors, and machine learning for movement analysis.</p> <ul style="list-style-type: none"> • Applications of artificial intelligence in predicting and diagnosing movement disorders. • Future trends in movement analysis and their potential impact on clinical practice. • Automated gait analysis and its implications for clinical practice. 	3:30 pm to 4:30 pm
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WORKSHOP 2: MSK ULTRASOUND - DIAGNOSTIC AND GUIDED PROCEDURE

Venue: Department of Physical Medicine & Rehabilitation, OPD Building, AIIMS Guwahati.

Registration: 8.30 am to 9.00 am

Session 1 : 9.00 am to 11.00 am

SL NO	TOPIC	RESOURCE FACULTY	TIME
1	Brief Introduction MSK Ultrasound	Dr. Anil Kumar Gupta	9.00 am to 9.15 am
2	Basics of Intervention	Dr. Navita Vyas	9.15 am to 9.30 am
3	Shoulder Ultrasound	Dr. Sreejith	9.30 am to 9.45 am
4	Elbow Ultrasound	Dr. Raj Kumar	9.45 am to 10 am
5	Wrist Ultrasound	Dr Debasish Jena	10 am to 10.15 am
6	Hip Ultrasound	Dr. Rajesh Pramanik	10.15 am to 10.30 am
7	Knee Ultrasound	Dr. Pranesh Mondal	10.30 am to 10.45 am
8	Ankle Ultrasound	Dr. Shehdad	10.45 am to 11 am

PROGRAMME SCHEDULE

4TH OCT 2024

9	Lumbar Spine Ultrasound	Dr. Nitesh Manohar Gonnade	11.00 am to 11.15 am
10	Cervical Spine Ultrasound	Dr. Rambeer Ghuleliya	11.15 am to 11.30 am
Tea Break: 11.30 am to 11.45 am			
Session 2: Hand-on live demonstration- Rotation after every 30 minutes (3 Rotations before lunch)			11.15 am to 11.30 am
11	Cervical Spine/ Upper Back	Dr. Navita Vyas	Station 1
12	Shoulder/ Arm	Dr. Sreejith	Station 2
13	Elbow & Wrist	Dr. Raj & Dr. Debashish	Station 3
14	Hip & thigh	Dr. Rajesh & Dr. Pranesh	Station 4
15	Knee & Ankle	Dr. Shehdad	Station 5
16	Lumbar Spine/ Lower Back	Dr. Nitesh & Dr. Anil	Station 6
Lunch Break: 1.30 pm to 2.15 pm			
Session 3: Hand-on live demonstration- Rotation after every 30 minutes (3 rotations after lunch)			2.15 pm to 4.00 pm
Tea Break: 4.00 pm to 4.15 pm			
Session 4			4.15 pm – 4.45 pm

PROGRAMME SCHEDULE

4TH OCT 2024

Practice Station/ Practical Pearls (hands-on)	Needling Practice (Blue Phantom)	4.15 pm – 4.45 pm
Felicitation of Faculty and Closing Remarks	Dr. Satyaranjan Sethi	4.45 pm – 5.00 pm

WORKSHOP 3: CADAVERIC REHAB SURGERY

Venue: Dissection Hall, Department of Anatomy, Medical College Building, AIIMS Guwahati.

Registration: 8.30 am to 9.00 am

Session 1 : 9.00 am to 11.00 am

SL NO	TOPIC	RESOURCE FACULTY	TIME
1	Welcome address	Dr. Swapnil Sonune	9.00 am to 9.10 am
2	Anatomy of upper limbs	Dr. Muralidhar Reddy Sangam	9.10 am to 9.30 am
3	Anatomy of lower limbs	Dr. Praveen K.	9.30 am to 9.40 am
4	Common principles and preparations for Rehabilitation surgeries	Dr. Sanyal Kumar	9.40 am to 10.00 am
5	Brief overview of upper limb surgeries	Prof. Dr. Anil Kumar Gaur	10.00 am to 10.30 am

Tea Break: 11.00 am to 11.10 am

Station 1 and 2 (parallel)

PROGRAMME SCHEDULE

4TH OCT 2024

7	Live demonstration of Tendo Achilles lengthening - Z lengthening	Dr. Pabitra Sahoo & Dr. Sanyal Kumar	11.10 am to 11. 40 am
8	Live demonstration of Medial and Lateral hamstring lengthening	Dr. Pabitra Sahoo & Dr. Sanyal Kumar	12.30 pm to 1.00 pm
9	Live demonstration of Tendo Achilles lengthening- Tongue in groove approach / gastrocnemius recession/ Vulpius procedure	Dr. Pabitra Sahoo & Dr. Sanyal Kumar	11.40 am to 12.30 pm
Lunch break- 1.00 pm to 2.00 pm			
10	Lower Limb Tendon Transfer	Dr. Pabitra Sahoo & Dr. Sanyal Kumar	2.00 pm to 3.00 pm
Station 1 and 2 (parallel)			
10	Upper limb Tendon transfer in Cerebral Palsy	Prof. Dr. Anil Kumar Gaur & Dr. Swapnil Sonune	11.10 am to 1.00 pm
11	Upper limb Tendon transfer in Cervical Spinal cord Injury	Prof. Dr. Anil Kumar Gaur & Dr. Swapnil Sonune	2.00 pm to 3.00 pm
12	Vote of Thanks	Dr. Amit Kumar Mallik	3.00 pm onwards

PROGRAMME SCHEDULE

5TH OCT 2024

DAY 1		
REGISTRATION & BREAKFAST 8:30 AM - 9:00 AM		
INAUGURATION CEREMONY VENUE: MAIN AUDITORIUM 09:00 AM TO 10:00 AM		
TEA BREAK 10:00 AM - 10:10 AM		
Chairpersons <i>Dr Rajendra Sharma</i>	Session – 1: Keynote Address	Venue: Main Auditorium 10:10 AM – 10:30 AM
	Prof U Singh, Professor & Head, PMR Mahatma Gandhi Medical College and Hospital, Jaipur	The root of Physical Medicine and Rehabilitation: Exploring the history & transformation
	Session – 2: Vision 2024 Rehab	Venue: Main Auditorium 10:30 AM – 11:00 AM
	Dr Sanjay Wadhwa, Professor & Head, PMR, AIIMS New Delhi	Strengthening PMR in India- Vision 2047
Session – 2: MSK & Rheumatology. Venue: Main Auditorium 11:00 AM – 11:45 AM 12 minutes for presentation + 3 minutes for discussion		
Chairpersons <i>Dr L Nilachandra Singh</i> <i>Dr Bhupen Barman</i>	Dr Partha Pratim Pan, Professor & Head, PMR, North Bengal Medical College, Siliguri	Psoriatic arthritis; recent advances in pharmacotherapy and rehabilitation
	Dr Pankaj Kumar Mandal, Professor & Head, PMR, R G Kar Medical College and Hospital, Kolkata	Therapeutic advances in RA
	Dr Manmohan Biswas, Consultant, PMR, SNP Hospital Kolkata	The Art and Science of Foot Ulcers Management
Session – 3: Neuro-Rehabilitation. Venue: Main Auditorium 11:45 PM – 01:30 PM 12 minutes for presentation + 3 minutes for discussion		
Chairpersons <i>Dr Muralidharan P C</i> <i>Dr. Masaraf Hussain</i> <i>Dr Henry Prakash</i>	Dr Selvan P Professor, PMR. Govt. Medical College, Thiruvananthapuram	Sensory Rehabilitation: A Path to Post-Stroke Healing
	Dr Srikumar V, Additional Professor, PMR, AIIMS, New Delhi	Motor recovery in stroke rehabilitation: From Lab to Rehab
	Dr Navin B P, Assistant Professor, PMR, NIMHANS, Bengaluru	Stroke Rehabilitation: Restoring Cognitive Ability
	Dr Priyadarshi Dixit, Associate Professor, Neurosurgery, AIIMS Guwahati	Acute Spinal Cord Injury: Recent Updates
	Dr Jane Elizabeth Sajan Associate Professor, CMC Vellore	Pharmacological and Rehabilitative Interventions in TBI: ICU to Ward
	Dr Mohit Kataruka, Associate Professor, PMR, AIIMS Kalyani	Unlocking Neuroplasticity: rTMS in Traumatic Brain Injury Rehabilitation
	Dr Raktim Swarnakar, Senior Resident, PMR, R. G. Kar Medical College & Hospital, Kolkata	Physiatrist approach to Movement Disorders rehabilitation
LUNCH. 01:30PM TO 2:15 PM		

PROGRAMME SCHEDULE

5TH OCT 2024

Session – 4: Sports Rehabilitation. Venue: Main Auditorium. 02:15 PM – 03:00 PM 12 minutes for presentation + 3 minutes for discussion

Chairpersons <i>Dr Dileep Kumar</i> <i>Dr Shehadad K</i> <i>Dr R Karthikeyan</i>	Dr Akoijam Joy Singh, Professor & Head Sports Medicine, RIMS Imphal	Wrist injuries in cricket and return to sports
	Dr Harleen Uppal, Assistant Professor (Sports Medicine) Sports Injury Centre VMCC and Safdarjung Hospital, New Delhi	Knee injuries in cricket and return to sports
	Dr Banoth Kiran Kumar, Assistant Professor, PMR, AIIMS Mangalagiri	Low back injuries in cricket & management including a return to sports.

Session – 5: Paediatric Rehabilitation. Venue: Main Auditorium 03:00 PM - 04:00 PM 16 minutes for presentation + 4 minutes for discussion

Chairpersons <i>Dr N Romi Singh</i> <i>Dr Shigy Francis</i>	Dr Ritu Majumdar, Professor & Head, PMR, LHMC & associated Hospitals, New Delhi	Paediatric Speech delay: A Mixed Bag
	Dr Sandeep Dhole, Associate Professor, PMR, AIIMS, Bibinagar	Optimising Motor Function in Cerebral Palsy: Current management & future Directions.
	Dr Pabitra Kumar Sahoo, Associate Professor & Head, PMR, SVNIRTAR, Cuttack	Management of flexed knee gait in Cerebral Palsy

Session – 6: Poster Presentation (Free Session). Venue: Hall – A 03:00 PM - 04:00 PM

Chairpersons <i>DR J. GEETHA</i> <i>KALPANA</i> <i>Dr Koustubh</i> <i>Chakraborty</i>	Dr Priyadarshini V S	Effective comprehensive rehabilitation of cauda equina syndrome with multiple long bone injuries – a single case study
	Dr Mansi Yadav	Developmental disorders mimicking cerebral palsy
	Dr Divyalakshmi I R	Management of Neurogenic Bladder in Post-Encephalomyelitis Sequelae with Transcutaneous Posterior Tibial Nerve Stimulation – A Case Report
	Dr Saamir Aslam	Enhancing the vocational skills with mechanical prostheses: a case report on bilateral trans-radial amputation
	Dr Sindhu S	Successful treatment of heterotrophic ossification (HO) with Risedronate: a single case study
	Dr Amit Kumar Upadhyay	An observational, cross - sectional study to evaluate the prevalence of shoulder pain in chronic spinal cord injury patients at Sawai Man Singh hospital and attached hospitals, Jaipur
	Dr. Vilam Kashung	Occurrence of urinary tract infection in reference to mode of bladder-emptying methods, its pathogen frequency and their antibiotic sensitivity pattern among traumatic spinal cord injury patient
	Dr Emmanuel Mathews	Rehabilitation approach to a child with Joubert syndrome: a case report
	Dr Athul Ved Krishnan	Alternative driving ability with adaptation of vehicles corresponding to the disability of bilateral trans-radial amputation

PROGRAMME SCHEDULE

5TH OCT 2024

<p><i>Chairpersons</i> DR J. GEETHA KALPANA <i>Dr Koustubh Chakraborty</i></p>	Dr Amala Sajeev	Arthritis robustus, abnormal rheumatoid in an elderly male with lower back pain - a case report
	Dr Abinaya Aarthi	A successful rehabilitation of left transtibial amputee- overcoming stump keloid challenges: a case report"
	Dr Rupesh Choudhary	Selective motor nerve block following landmark technique by aid of peripheral nerve stimulator in spinal cord injury patients with hamstring spasticity
	Dr. Saptarshi Hazra	Platelet-rich plasma (PRP) injection for the treatment of partial Achilles tendon tear- a case report
	Dr Lakshmi S S	Rehabilitation of a severe hemophilia patient who underwent total knee replacement
	Varshin bal	Outcome of re-positional osteotomy in congenital radio ulnar synostosis: a case series
	Dr.Senapathi Arun kumar	Management of pressure ulcer in spinal cord injury patients using various rotational flaps: case series
<p>Session – 8: Pain Physiatry. Venue: Main Auditorium 04:00 PM – 05:00 PM 16 minutes for presentation + 4 minutes for discussion</p>		
<p><i>Chairpersons</i> Dr Anil Kumar Gupta Dr Sreejith K</p>	Dr Preeti Soni, Assistant professor, PMR, JLN Medical College, Ajmer	Peripheral Interventional procedure for Cancer Pain: Indications & Techniques.
	Dr Chandanpreet Kaur, Professor, PMR, Guru Gobind Singh Medical College, Faridkot	Spinal Pain Interventions: Indication & Techniques.
	Dr Shipra Chaudhary, Professor & Head, PMR, ABVIMS & Dr RML Hospital, New Delhi	Surgical ergonomics recommendations for prevention of musculoskeletal Injuries
<p>HIGH TEA 05:00 PM ONWARDS</p>		

PROGRAMME SCHEDULE

6TH OCT 2024

DAY 2

Breakfast 8:00 AM to 8:30AM

Session – 9: Papers Presentation (Award Session). Venue: Main Auditorium 08:30 AM - 09:30 AM

<p><i>Chairperson</i> Dr Ajay Gupta Dr Deepak Kumar Dr Puri Vithal Prakash</p>	Dr Mongjam Anganba Khumancha	Ozone nucleolysis for failed back surgery syndrome: a case series of 6 patients
	Dr Priyanka S U	Towards universal accessibility: architectural barriers in Ukhrul, a hilly district of Manipur
	Dr Jyotsna J	Role of mirror therapy on upper limb functions in 6 patients at subacute stage of stroke.
	Dr Sithara M	Cartilage thickness and functional improvement in primary knee osteoarthritis: a randomized controlled trial comparing ultrasound-guided intraarticular injection of platelet-rich plasma and high molecular weight hyaluronic acid
	Dr. Anupam	Effect of integrated intervention program on score of autism treatment evaluation checklist in children aged 3-5 years with autism spectrum disorder
	Dr Ebenezer C Kyndiah	Disability in rheumatoid arthritis: patients' perspective
	Dr. Prasenjit Ghata	Effects of genicular nerve block on quality of sleep in advanced osteoarthritis knee
	Dr Puja Sannyashi	A comparative study of the effectiveness of total contact casting (TCC) in the treatment of forefoot vs hind-foot neuropathic plantar ulcers
	Dr Adarsh T	Comparison of early versus late initiation of rehabilitation intervention in patients of lateral epicondylitis treated by platelet rich plasma injection
Dr. Ivanah P Nongrum	Role of autologous 'platelet rich fibrin' in chronic non-healing ulcers with various etiologies in a tertiary care rehabilitation center	

Session – 10: Poster Presentation (Award Session). Venue: Main Auditorium 09:30 AM – 10:30 AM

<p><i>Chairperson</i> Dr Surendran Ankarath Dr Selvan P Dr Junis Ali</p>	Dr. Vishnu Bhardwaj	Is Dextrose Prolotherapy more effective than methyl prednisolone injection in patients with chronic lateral epicondylitis? A randomised clinical study
	Dr Chuka Kumari	An interventional comparative study to compare the effect of ultrasound guided methyl prednisolone acetate injection versus dextrose prolotherapy in management of plantar fasciitis
	Dr. Dheerendra Kumar Mishra	Effects of Platelets rich fibrin and normal saline dressing in chronic wounds
	Dr. Ravi Kumar	Evaluating the Impact of Virtual Reality on Cognitive Recovery in Stroke Patients: A Comparative Single-Centered Study in the Indian Context
	Dr. Khhyati Jain	An observational study for association between p25(OH)vitamin D and serum testosterone levels in men with chronic traumatic spinal cord injury

PROGRAMME SCHEDULE

6TH OCT 2024

Chairperson Dr.Surendran Ankarath Dr Selvan P Dr Junis Ali	Dr. Pawan Sharma	Comparison of efficacy of extracorporeal shock wave therapy (ESWT) and ultrasound therapy (UST) in the treatment of myofascial pain
	Dr.Arun Kumar Ojha	Rehabilitation of a patient with bilateral congenital limb deficiency – a case report.
	Dr Bidyabati Yumnam	USG guided gold-induced cytokine injection therapy in patients with knee osteoarthritis on improving pain and function: a case series
	Dr Lakshmi Sajith	A case of effective management of right equinovarus deformity after comprehensive rehabilitation following incomplete non-traumatic spinal cord injury: a case report
	Dr Zakir Hussain	Achieving mobility: "successful ambulation in paraplegia with transtibial amputation": a case report
TEA BREAK 10:30 AM – 10:40 AM		
Session – 11: Medical Ethics. Venue: Main Auditorium 10:40 AM – 11:00 AM		
Chairperson Dr Deependra K Rai	Dr Srikumar V, Additional Professor, PMR, AIIMS New Delhi	Ethics in Physiatry
Session – 12: Regenerative Medicine. Venue: Main Auditorium 11:00 AM – 11:45 PM 12 minutes for presentation + 3 minutes for discussion		
Chairpersons Dr Rajesh Pramanik Dr Sandeep K Gupta	Dr Siddharth Rai, Associate Professor, PMR, Apex Trauma Centre, SGPGIMS, Lucknow	Regenerative Approaches in Neurological Conditions
	Dr Hafeeza Tamton, Assistant Professor & In-charge, PMR, KMCT Medical College, Kozhikode Kerala	Regenerative Medicine in Musculoskeletal Disorders
	Dr Amit Ranjan, Associate Professor & In-charge, PMR, All India Institute of Medical Sciences, Gorakhpur	Emerging Trends and Future Directions in Regenerative Medicine
Session – 13: Poster Presentation (Free Session). Venue: Hall – A 11:00 AM – 12:00 PM		
Chairpersons Dr Jagannatha Sahoo Dr Nitesh Gonnade Dr Raj Kumar Yadav	Dr Deshik Nekkhalapudi	Ambulatory outcomes after comprehensive rehabilitation in a child with cerebral palsy and spastic diplegia with crouch gait: a case report
	Dr Wuppi Miku	A rare case of cerebral palsy with congenital absence of vi and vii nerves: a case report
	Dr Saha A	Trauma-induced exacerbation of the chronic inflammatory back pain: insights from a case of aggravated sacroiliitis
	Dr Helana Jabeen	A case report on organophosphorus induced delayed neuropathy: rehabilitation point of view
	Dr Mohd Farid Ahamad	Rehabilitation of spastic shoulder pain in hemiplegic patient – a case report

PROGRAMME SCHEDULE

6TH OCT 2024

<p><i>Chairpersons</i> Dr Jagannatha Sahoo Dr Nitesh Gonnade Dr Raj Kumar Yadav</p>	Dr Shruti Pandey	Hoffmann syndrome: a reversible myopathy in a young adult—the impact of early diagnosis and multidisciplinary rehabilitation: a case report
	Dr. Sonali Sahani	Case of paroxysmal sympathetic hyperactivity secondary to traumatic brain injury
	Dr Ankit Sarkar	Tuberculosis in symphysis pubis: a rare case report
	Dr Lavanya K	Unravelling the complexity of severe sensory and motor demyelinating polyradiculoneuropathy—an interesting case report
	Dr Swarnakar R	Complex regional pain syndrome of upper limb following herpes zoster: a case report of interventional physiatry
	Dr Khwairakpam Selina Devi	Non traumatic spinal cord injury in a case of third trimester pregnancy
	Dr. Shubham Goyal	Apixaban induced delayed leukocytoclastic vasculitis: a case report
	Dr Merlin V Cherian	A report of rehabilitation in a recurrent intramedullary neuroenteric cyst
	Dr. Bhuvaneshwari. B	50 years of Indian physiatry
	Dr Paras Yadav	A case of paediatric SCIWORA without any abnormality on MRI
Dr Sanyal Kumar	Evidence based common spine interventions	
<p>Session – 14: Current Trends in Rehabilitation. Venue: Main Auditorium. 11:45 AM – 01:00 PM 12 minutes for presentation + 3 minutes for discussion</p>		
<p><i>Chairpersons</i> Dr Sanjay K Pandey Dr S Kanagraj</p>	Dr Gita H Thukral, Professor, PMR, AIIMS New Delhi	Policy Analysis for Inclusion of AT in Health Systems - A Review of AIDP and PMJAY Scheme
	Dr Srikanth Venkatakrisnan, Consultant and Head, PMR, Narayana Health City, Bangalore	Cardiac Rehabilitation - roots, recent advances and future trends.
	Dr Swapan Mishra, Professor & Head, PMR, Calcutta National Medical College & Hospital, Kolkata	Role of AI in the Delivery of Rehabilitation Services to Outreach Populations
	Dr Debanga Raj Neog, Assistant Professor, Mehta School of Data Sciences & Artificial Intelligence, IIT Guwahati	AI-based Human Pose Estimation and its Applications in Healthcare
	Dr Sumanjit Boro, Associate Professor, Burns, Plastic & Reconstructive Surgery, AIIMS Guwahati	Recent advances in management of pressure ulcers
<p>Session – 15: Success Stories, Innovations, Novel approaches. Venue: Main Auditorium 01.00 PM - 02.00 PM 6 minutes for presentation + 4 minutes for discussion</p>		
<p><i>Chairpersons</i> Dr A K Joy Singh Dr V S Gogia</p>	Dr Jagannatha Sahoo, Prof & Head, PMR, AIIMS, Bhubaneswar	No-Scalpel trigger finger release - A novel approach
	Dr Anindita Mahanta, Assistant Professor, Physiology, AIIMS Guwahati	The rubber hand illusion model: Understanding the paradigm of body ownership illusions and implications in rehabilitation
	Dr N Jugindro Singh, Associate Professor, PMR, JNIMS, Imphal	A case of Astasia-Abasia by Psychosocial Stress
	Dr Kashif Akhtar Ahmed, Assistant Professor, Orthopaedics, AIIMS Guwahati	Ergonomic Conservative treatment of fractures - AIIMS Guwahati series
	Dr Dhrubajyoti Deka, Consultant, PMR, Govt of Assam	Accelerated Ponseti Technique
	Dr Satyasheel Singh Asthana, Assistant Professor, PMR, AIIMS Raebareilly	Injection Hyaluronidase in Carpal tunnel syndrome: A new avenue
<p>02:00 PM ONWARDS: VENUE: MAIN AUDITORIUM VALEDICTORY & PRIZE DISTRIBUTIONS FOLLOWED BY LUNCH</p>		

ABSTRACTS OF SCIENTIFIC SESSIONS

ROOTS OF PMR: EXPLORING HISTORY AND TRANSFORMATION

Dr. U. Singh

Professor and Head, Dept. of PMR, Mahatma Gandhi Medical
College and Hospital, MGUMST, Jaipur (Rajasthan)



Physical Medicine and Rehabilitation has been practiced the world over in the ancient eras as well. In the Hindu Vedas and stories of Wars or social norms has mentions about giving ambulatory aids, artificial limbs or philanthropic advances towards the persons with disability. Formal inclusion into modern medicine or the birth of PMR happened along with the year of India's independence though efforts had started to an extent after the first world war and more so after the second world war. Spread of Rehabilitation to other countries happened due to the efforts of World Rehabilitation Fund with the driving force of Dr Howard A Rusk. Training of medical personnel and opening the departments of PMR in the country, up-grading from the existing Artificial Limbs Centres or the Physiotherapy facilities started happening in the 60s. It took a while before the speciality could hold the ground and the doctors be recognized with the acceptance into the modern medicine as specialists. With the efforts of the pioneers establishing the departments of PMR, the speciality has shown steady growth over the years. No doubt the number of departments have risen in the country but still struggle for undergraduate medical education is a challenge with the departments of PMR not being compulsory in medical colleges. Probably, it is due to lack of specialists available to run the departments. It is good to see that independent departments headed by PMR specialists having indoor and outdoor services doing surgical and other interventional management are emerging.

ABSTRACTS OF SCIENTIFIC SESSIONS

STRENGTHENING PMR IN INDIA – VISION 2047

Dr Sanjay Wadhwa

Professor and HOD,
Dept. of PMR, AIIMS New Delhi



India is currently the most populous country in the world! The need for PMR services is felt not only by persons with disabilities but also by those growing old, acquiring acute, subacute, and more importantly chronic illnesses. However, the increasing needs have not been matched by greater provision of rehabilitation services to the needy. Rehab needs are still largely unmet.

The Hon'ble Prime Minister shared the vision for Amrit Kaal and India @ 2047 in his Independence Day speech of 2021 which envisions to make India a developed Nation (Viksit Bharat) by 2047! The year 2047 will mark 100 years of independence of India! This will also mark 40 years of the launch of UNCRPD (to which India is a signatory), and over three decades of the RPwD Act, 2016!

The above-mentioned dream of Viksit Bharat will have to include Healthcare for All, with Rehabilitation services for All who need it.

For strengthening PMR in India, there is an urgent need for coordination among the Department of Empowerment of Persons with Disabilities (the Nodal department) and the Ministry of Health and Family Welfare.

Strengthening PMR in India will also require huge amount of resources, financial, manpower related, training, research-innovation and others along with a high level of commitment. Going by the preliminary numbers provided by the NITI Aayog, Experts estimate that the economy will need to post an annual average economic growth of over 9.5% between 2024 to 2030, 9% between 2030 to 2040, and 8.8% between 2040 to 2047!

I hope and pray that by 2047, Physical Medicine and Rehabilitation (PM&R) gets its due recognition as the key and nodal specialty. But with the present state of affairs in India (including in IAPMR), it seems a Herculean task!

ABSTRACTS OF SCIENTIFIC SESSIONS

THERAPEUTIC ADVANCES IN RA.

Dr. Pankaj Kumar Mandal

Professor & Head, Dept. of PMR
R. G. KAR Medical College, Kolkata



Rheumatoid Arthritis (RA) is a common, chronic immune mediated inflammatory disease, present with pain, swelling and stiffness typically involving small and large joints symmetrically, results in joint deformity and functional disability if not managed properly. A prolonged period of autoimmunity exists in the presence of circulating autoantibody including Rheumatoid Factor(RF) & Anti-citrullinated Peptide Antibody(ACPA) where it can be designated as Preclinical RA with progression to clinical RA and "At Risk" status in those who have not developed Inflammatory Arthritis(IA) but exhibit predictive biomarkers for future clinical RA. Immune phenotypes of preclinical RA/at-risk states can help in developing RA prevention strategies. Diagnosis of RA is clinical and biomarkers assist in the process. The 2010(ACR/EULAR) classification criteria having 84% sensitivity and 60% specificity, define scoring system including history, physical examination and biomarkers for the purpose of standardization in clinical trials in RA. Management of RA has changed dramatically reflecting a shift towards early aggressive pharmacological treatment related to improved understanding of etiopathogenesis and availability of new drugs for targeted treatment, resulting in significantly higher levels of remission and better outcome. Interestingly, a significant patient population fails to attain adequate treatment target after addition of biological/targeted synthetic DMARDs. The discussion highlights current as well as investigational biomarkers which may be helpful towards prevention and better control of the disease along with the areas of debate, unmet needs including difficult to treat RA, individualized treatment approach, importance of imaging in clinical decision making towards sustained drug free remission.

ABSTRACTS OF SCIENTIFIC SESSIONS

ART AND SCIENCE OF ISCHEMIC FOOT ULCERS AND ITS MANAGEMENT.

Dr. Manomohan Biswas

Sr. Visiting Consultant & Sr. DNB Faculty and HOD Ex,
Dept. of PMR, SNP Hospital, Kolkata



The international definition of an ischemic foot ulcer is: "A full-thickness wound (extending through the epidermis, dermis, and into the subcutaneous tissue) located on the foot or ankle, resulting from ischemia (reduced blood flow) to the affected area, and not healing within a predictable timeframe." Neuropathy and Ischaemia are the Principal disorders underlying foot problems of a Diabetic foot. Whenever a patient presents with an active lesion, it is essential to decide at an early stage whether the foot problem is:

*..Neuropathic with an intact circulation.

.*.Ischaemic with (usually) or without neuropathy (neuroischaemic foot)

*Critically ischaemic needing urgent attention.

The NEUROPATHIC FOOT: Ulcers develop on the tips of the toes and on the planter surface of metatarsal heads and are often preceded by callus formation. Ulcers can be secondarily infected by bacteria causing sepsis resulting gangrene of the toes. The foot is invariably warm with intact, often bounding pulses.

The NEUROISCHAEMIC FOOT: The absence of foot pulse must always alert physicians to the possible presence of ischaemia, which requires specific assessment and often treatment. Lesion on the margins of the foot and absence of callus are characteristic features. Gangrene may be present as well. It is essential to identify critical ischaemia with its characteristic pink, painful, pulse less and sometimes cold foot. The pain is sometimes extreme and persistent during the day and night.

- Estimated 3-5% of the global population has an ischemic foot ulcer (approximately 200-300 million people)- Highest prevalence in:
 - People over 65 years old (10-20%)
 - Those with diabetes (15-25%)
 - Individuals with peripheral artery disease (PAD) (20-30%).

Prevalence in India :

- 16%: The prevalence of diabetic foot ulcers among diabetic patients in India .

- 10.4%: Another study found a diabetic foot ulcer prevalence of 10.4%².

- 25%: There is a 25% risk probability of developing a foot ulcer among people with diabetes during the disease course³.

Various types of patients with problems of their feet attended in the RALC, NRS Medical College Hospital, Kolkata and Shambhu Nath Pandit Hospital, Kolkata, since January 1997 to September 2015 for foot Orthosis. Majority of them having planter fasciitis with Calcaneal spur(30%), Pes planus(20%), CTEV(15%), POSTCALCANEAL BURSTITIS(10%), Varus deformity(7%), Equinus deformity(5%), Planter ulcers(5%), Valgus deformity(2%), Calcaneal deformity(1%). Among 5% planter ulcers, diabetic foot ulcers were 4%, Leprosy foot ulcers were 0.5% and Rheumatoid foot ulcers were 0.5%. Appropriate Foot Orthosis were prescribed for Neuroischaemic foot ulcers. After proper evaluation of foot orthosis, were supplied to the patients and timely proper follow up were conducted. Results were quite satisfactory. We have followed the standard prescription criteria for making foot wears for neuroischaemic foot ulcers (diabetic).

ABSTRACTS OF SCIENTIFIC SESSIONS

SENSORY REHABILITATION: A PATH TO POST STROKE HEALING

Dr. Selvan P

Professor, Dept. of PMR,
Govt. Medical College, Thiruvananthapuram, Kerala



Lack of normal sensation makes the hands and other body parts vulnerable to damage. Sensory re-education is a rehabilitation technique that can help survivors regain sensory function by retraining the brain to process sensory signals.

This process promotes the return of sensation after stroke by providing stimulation to the brain that encourages sensory processing.

SPECIFIC SENSORY TESTS

- Proprioception
- Stereognosis
- Vibration
- Tactile localization
- Two-point discrimination
- Threshold tests – Touch, Pain & Temperature

TREATMENT

- Desensitization
- Protective Sensory Re-Education
- Discriminative Sensory Re-Education
 1. Localization
 2. Graded Discrimination

ABSTRACTS OF SCIENTIFIC SESSIONS

MOTOR RECOVERY IN STROKE REHABILITATION: FROM LAB TO REHAB

Dr. Srikumar Venkataraman,
Additional Professor, Dept. of PMR,
AIIMS New Delhi.



Stroke remains one of the leading causes of long-term disability worldwide, often resulting in significant motor impairments that severely impact a patient's quality of life. Effective motor rehabilitation plays a crucial role in maximizing recovery and fostering independence. The journey of motor rehabilitation in stroke progresses from laboratory research to practical application in clinical settings.

The fundamental mechanisms of motor recovery post-stroke encompass neuro-immune interactions, spontaneous motor recovery, activity-dependent plasticity, and motor learning. These processes are guided by the principles of neuroplasticity, which shape therapeutic interventions. A deeper understanding of these physiological bases has led to advancements in neurorehabilitation, including interventions such as transcutaneous vagal nerve stimulation, brain-computer interfaces, and non-invasive brain stimulation techniques, transforming contemporary rehabilitation strategies.

Incorporating cutting-edge laboratory research with foundational rehabilitation techniques—such as stretching, strengthening, and aerobic exercises—enables the development of evidence-based practices that enhance motor function and optimize patient outcomes.

Bridging the gap between laboratory research and clinical practice, while maintaining a comprehensive understanding of the current state and future directions of motor rehabilitation, leads to a more effective, science-driven approach to caring for stroke survivors.

ABSTRACTS OF SCIENTIFIC SESSIONS

PHARMACOLOGICAL AND REHABILITATIVE INTERVENTIONS IN TBI: ICU TO WARD

Dr. Jane Elizabeth Sajan

Associate Professor
Christian Medical College, Vellore



Traumatic brain injury (TBI) is a leading cause of disability and long-term cognitive and physical impairment globally. Effective management of TBI, from the intensive care unit (ICU) to the ward, requires an integrated approach combining pharmacological and rehabilitative strategies. This presentation will focus on the continuum of care for TBI patients, addressing key aspects such as disorders of consciousness (DoC), prognosis, neurorehabilitation, and neuroplasticity, all within the framework of the International Classification of Functioning, Disability, and Health (ICF).

Pharmacological interventions in the ICU primarily aim at stabilizing the patient, managing intracranial pressure, preventing seizures, and addressing disorders of consciousness like coma and minimally conscious state. As patients progress to the ward, pharmacotherapy adapts to support cognitive recovery, motor function, and neuroplasticity, utilizing medications such as neurostimulants, anti-spasticity agents, and neuroprotective drugs.

Simultaneously, early rehabilitation targeting physical, cognitive, and communicative domains begins in the ICU and expands as patients regain consciousness and progress to the ward. The integration of neuroplasticity-driven therapies enhances recovery of function, supporting motor and cognitive improvements. Rehabilitation interventions are designed in alignment with ICF principles, focusing on enhancing activity, participation, and quality of life by addressing both impairments and environmental factors. The presentation will provide an overview of the current standard of care and newer advances.

This session will also explore prognostic factors in TBI recovery, emphasizing the role of multidisciplinary neurorehabilitation in predicting and improving outcomes. Through case-based discussions and the latest evidence-based practices, participants will gain insights into how pharmacological and rehabilitative interventions can be optimized for each phase of TBI recovery, from the ICU to the ward, maximizing functional gains and patient-centered outcomes.

Keywords: Traumatic brain injury (TBI), disorders of consciousness (DoC), neurorehabilitation, neuroplasticity, pharmacological interventions, prognosis, International Classification of Functioning, Disability and Health (ICF).

ABSTRACTS OF SCIENTIFIC SESSIONS

UNLOCKING NEUROPLASTICITY: RTMS IN TRAUMATIC BRAIN INJURY REHABILITATION

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Traumatic brain injury leads to gait, balance, and motor deficits, significantly impacting patients' quality of life. Repetitive TMS, aim to enhance recovery by modulating cortical excitability. Approximately 30% of patients with traumatic brain injury (TBI) have motor dysfunction, gait and balance which vary depending on the injured area which significantly affects physical function, independence, and quality of life. Moreover, injury may occur owing to a fall or RTA and community participation may be limited, placing significant economic strain on society.

Cortical excitability is generally decreased after traumatic brain injury affecting the motor cortex, in the affected primary motor cortex relative to the unaffected motor cortex. This might result from a shift in interhemispheric interactions, with increased transcallosal inhibition from the intact to the damaged motor cortex. TMS and tDCS are applied over the intact hemisphere allow safe cortical stimulation in humans in order to promote restoration of activity across bihemispheric neural networks and help towards more adaptive plasticity.

Transcranial Magnetic Stimulation (TMS) generates a transient magnetic field, which in turn, induces a secondary current in the brain that is capable of depolarising neurons. Depending on the frequency, duration of the stimulation, the shape of the coil, and the strength of the magnetic field, TMS can activate or suppress activity in cortical regions.

There are some studies are available for cognitive improvement in TBI with rTMS but very limited studies are available in rehabilitation of TBI with rTMS that shows improvement in locomotor and balance & coordination.

A married male patient in late 20's, only earning member in his family, case of TBI, presented to OPD with difficulty in standing and walking following traumatic brain injury in 2020. On NCCT brain, subdural hematoma with diffuse axonal injury was detected. In Aug 2023 patient reported with his care giver to the PMR OPD and was tetraplegic due to traumatic brain injury and had difficulty in maintaining balance. Initially the patient was advised home based exercise which was demonstrated to his care giver and follow up was done after 2 months but no improvement was observed. After that patient was planned for rTMS. Low frequency r-TMS was given over the right hemisphere and high frequency rTMS over left hemisphere for ten days. Immediately after rTMS the patient perform 45 mins neuromotor rehabilitation training. It was observed that rTMS combined with neuromotor rehabilitation showed significant improvement in both upper and lower motor function as well as balance even 4 years after TBI. Modulation in cerebral cortex (primary motor cortex) helps to facilitate further motor recovery as well as balance. It suggests that neuromodulation of cerebral and cerebellar circuits through rTMS along with neuromotor rehabilitation facilitated recovery of motor and balance & coordination. Improvement in upper limb and lower limb can be explained by role of cerebellum in movement execution and motor control and its connection with M1 through CTC pathway. At the end of therapy there was much improvement in gait, he was able walk with stick. As improvement was observed in upper limb, his ADL became independent to some extent in eating, grooming, bathing and toileting and ultimately vocational training was started. Unfortunately, there are very few studies on gait, and balance rehabilitation with TBI and very limited evidence exists regarding the use of r-TMS for TBI. rTMS in traumatic brain injury may be helpful for which more studies and RCT are required.

ABSTRACTS OF SCIENTIFIC SESSIONS

REHABILITATION OF WRIST INJURIES IN CRICKET: A JOURNEY BACK TO THE CREASE

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Cricket, a sport that demands finesse, power, and precision from the wrists, often sees players grappling with wrist injuries. Whether it's a batsman's flourishing cover drive or a spinner's deceptive delivery, the wrist plays a pivotal role in executing these skills. When injury strikes, the path to recovery and return to the pitch is a journey that requires patience, dedication, and a carefully structured rehabilitation program.

The rehabilitation process begins immediately after the injury occurs. Quick and accurate diagnosis is crucial, often involving a combination of clinical examination and advanced imaging techniques such as X-rays, MRIs, or ultrasounds. These provide a clear picture of the injury's nature and extent, enabling sports medicine professionals to craft a tailored rehabilitation plan. In the acute phase, the primary focus is protecting the injured wrist and managing pain and inflammation. This often involves rest, ice application, compression, and elevation – the classic RICE protocol. In some cases, immobilization through splints or casts may be necessary to provide optimal conditions for healing.

As the acute phase subsides, typically after a few days to weeks, depending on the injury's severity, the rehabilitation journey enters its next crucial phase: restoring the wrist's range of motion. This stage is characterized by gentle, controlled exercises designed to gradually increase flexibility without compromising the healing tissues. Physiotherapists play a key role here, guiding the cricketer through wrist rotations, flexion and extension movements, and gentle stretches. The importance of this phase cannot be overstated – it lays the foundation for more intensive rehabilitation.

Strengthening the wrist and surrounding muscles forms the cornerstone of rehabilitation in cricket. This phase introduces resistance training, starting with light weights or resistance bands and progressively increasing the load as the wrist grows stronger. Exercises target not just the wrist but also the forearm muscles, which play a crucial role in supporting wrist function. Grip strength, essential for both batting and bowling, receives special attention through specific exercises like squeezing stress balls, using hand grippers, or manipulating putty. The goal is to rebuild the strength and endurance necessary for the repetitive and high-impact nature of cricket.

As strength improves, the rehabilitation program begins to incorporate more sport-specific exercises. For batsmen, this might involve gentle knock-ups with a lighter bat, progressing to full swings and eventually facing slower deliveries. Bowlers begin with shadow bowling, focusing on technique without releasing the ball, before gradually advancing to full-pace deliveries. Fielders start with ground fielding drills before moving on to catching practice, initially with softer balls before progressing to regulation cricket balls. Throughout this phase, technique refinement is crucial. Coaches and physiotherapists work closely to ensure that the recovering player doesn't develop compensatory movements that could lead to re-injury or reduced performance.

An often overlooked but vital component of wrist rehabilitation in cricket is proprioception training. Proprioception refers to the body's ability to sense joint position and movement,

a crucial skill in a sport that demands precise control of the wrist. Exercises include wrist balancing tasks, catching and throwing drills with varying ball weights and sizes, or using specialized equipment like wobble boards for the wrists. Enhancing proprioception not only aids in recovery but can also improve overall performance and reduce the risk of future injuries.

The mental aspect of rehabilitation cannot be underestimated. Many cricketers work with sports psychologists to overcome the fear of re-injury and build confidence in their recovering wrist. Visualization techniques, where players mentally rehearse their actions, can be particularly effective. Gradual exposure to match-like situations in a controlled environment helps in mental conditioning, preparing the player for the pressures of competitive cricket.

As the rehabilitation progresses, regular assessments are conducted to track progress and adjust the program as needed. These include strength tests, range of motion measurements, and functional assessments specific to cricket skills. The final phase involves a carefully monitored return to full training and match play. This process is gradual, often starting with participation in lower-intensity practice sessions before progressing to full-intensity training and, eventually, competitive matches.

Throughout the rehabilitation journey, communication between the player, medical team, coaches, and team management is crucial. Clear, realistic goals are set at each stage, and progress is regularly reviewed. The player's input is valuable as they navigate the fine line between pushing their limits and avoiding re-injury.

Successful rehabilitation of wrist injuries in cricket is a testament to the advances in sports medicine and the resilience of athletes. It's a journey that transforms challenges into opportunities for improvement, often resulting in players returning to the game with enhanced body awareness, refined technique, and a deeper appreciation for the sport. As cricket continues to evolve, so do the strategies for injury rehabilitation, ensuring that players can return to the crease stronger and more prepared than ever.

ABSTRACTS OF SCIENTIFIC SESSIONS

PEDIATRIC SPEECH DELAY- A MIXED BAG

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Normal development of speech and language is predicted on the infant's ability to hear, see, comprehend and remember, equally important are sufficient motor skills to imitate oral motor movements and the social ability to interact with others.

Speech and Language impairment is defined as a disorder, deviation or delay in verbal, gestural or vocal skills including articulation, fluency, voice quality or language to the extent that academic learning, social adjustment, communication skills are hindered. Speech is crucial to communicate with those around us.

Speech and language delay affects 5% to 8% of preschool children, often persists into the school years and may be associated with lowered school performance and psychosocial issues.

Speech and Language disorders in children fall broadly into two categories: Developmental and Acquired.

Speech-language skills screening offers opportunities to identify not only speech language impairments but other developmental disabilities also. Assessment is often done as part of a multidisciplinary evaluation, and input from other disciplines is often vital in providing the most comprehensive diagnosis and treatment plan.

It is important to have a clear understanding of a child's medical history and any contribution that medical status may have made to the child's communication disorder. A clear understanding of a child's cognitive level is also crucial in making appropriate diagnoses.

Proper assessment will determine whether the deficit is considered developmental or acquired and the diagnosis will then drive the treatment recommendations, including specific goals and objectives, treatment timeframe, and projected outcome.

ABSTRACTS OF SCIENTIFIC SESSIONS

OPTIMIZING MOTOR FUNCTION IN CEREBRAL PALSY: CURRENT MANAGEMENT & FUTURE DIRECTIONS

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Cerebral palsy (CP) applies to an insult of the developing brain that produces a disorder of movement and posture.

In order to improve motor function in these patients' early diagnosis and early intervention should be done.

There are various neuromotor approaches available like Bobath approach, Goal Directed therapy, Constraint Induced Movement Therapy (CIMT), Bimanual Therapy, Strength training programme.

We can take help from technology in the form Robotic assisted therapy, virtual reality.

Aquatic Therapy has various advantage to optimize the motor function. Hippotherapy improves child's posture, balance, coordination, strength.

Management of hypertonia and dystonia is important to improve function in cerebral palsy patients.

We can manage tone with oral medications, Injection Botulinum Toxin, Intrathecal Baclofen Therapy and various Neuro ablative procedures like Selective dorsal Rhizotomy and selective motor fasciculotomy. We can do various soft tissue surgeries and bony surgeries to improve motor function.

ABSTRACTS OF SCIENTIFIC SESSIONS

FLEXED KNEE GAIT IN CEREBRAL PALSY

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SVNIIRTAR, Cuttack



Correction of gait abnormalities to an energy-efficient gait is an important objective in CP rehabilitation. The major gait anomaly that attracts clinician attention is the flexed knee deformity. Two common clinical problems-

- Excessive knee flexion during stance phase – Flexed knee gait
- Limited knee flexion during the swing phase

Factors contributing to Knee flexion deformity are:

- Spasticity of knee flexors
- Shortening of Hams
- FFD
- Weakness of knee extensors
- Patella tendon lengthening

Flexed knee gait is a highly energy-consuming gait that puts a tremendous load on the quadriceps to keep the child erect posture. It pulls the patella up causing patella alta and lengthening of the patella and at times pathological fracture. In the early stage, non-operative treatments such as Stretching of the hamstring, Splinting, Casting, Neuromuscular blocks, Dorsiflexion limiting orthosis, etc., prevent developing spasticity to contracture. In late presenting neglected cases where knee fixed contracture developed required surgical correction such as Hamstring lengthening with ST transfer, Patella tendon shortening, Growth modulation distal femur, and Distal femur extension osteotomy depending on age and severity of deformity.

ABSTRACTS OF SCIENTIFIC SESSIONS

PERIPHERAL INTERVENTIONAL PROCEDURES FOR CANCER PAIN EXPLORING INDICATIONS AND TECHNIQUES

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"Nobody dies of pain, but many die with Pain"

Pain, which is now considered the 'fifth vital sign' is the most feared symptom in oncology practice. Around 90% of patients with advanced cancer and 30-40% of newly diagnosed cancer complain of pain. Around 60% of them complain of inadequate pain relief and around 30-40% die with severe pain. There was a world of misery between conventional conservative WHO three step analgesic ladder and operative management for pain. This gap was filled by Interventional Pain Management techniques. Nowadays very precise USG and Fluoroscope guided interventions are done to maximize relief and minimize side-effects.

Interventional procedures for cancer pain has been broadly divided in to 5 major categories

- 1. Neuro-axial Analgesia- Epidural, intrathecal
- Minimally invasive procedures for vertebral pain- VP, KP, RF, Cryoablation
- Sympathetic Block- Stellate ganglia, Celiac plexus, SHP, Ganglia impar
- Percutaneous cordotomy
- Peripheral Nerve Blocks

Peripheral nerve interventions itself been divided based on topography on

1. Peripheral Interventions for Head and Neck- Glossopharyngeal, Maxillary, Mandibular, Greater and lesser occipital, auriculotemporal, greater auricular nerves etc.
2. Peripheral Interventions for Upper limbs and trunk- Brachial plexus Block, Interscalene block, Serratus Anterior Plane block, PEC block, Erector Spinae plane block, Intercostal block, TAP Block, QL Block etc.
3. Peripheral Interventions for Lower Limb- Ilioinguinal, Genito-femoral, Femoral, Sciatic block etc.

Indications for these interventions are Resistant pain, Well localized pain, Intractable S/I of conventional therapeutics. Prerequisites for interventions are- Detailed history and Physical examination, informed written consent, Diagnostic block with LA. Contraindications are Patient Refusal, Local Site infection, Coagulopathy.

These Minimally Invasive Pain Interventions (MIPI) can be applied at any step on WHO ladder. The Goal of any intervention should be to Optimal pain relief with minimal side-effects. Pain management and anticancer treatment should go hand in hand and Early intervention can significantly Reduce opioid requirement with significantly better Quality of Life of cancer patients.

ABSTRACTS OF SCIENTIFIC SESSIONS

SPINAL PAIN INTERVENTIONS: INDICATIONS AND TECHNIQUES

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Spine related pain is a prevalent condition that affects a significant portion of the global population, leading to functional impairment and decreased quality of life. Spinal problems are complex and multidimensional and are the most common musculoskeletal complaints that we as physiatrists face. They are the bread and butter in our day-to-day clinical practice. As physiatrists we learn to address issues through conservative approach dealing with the patient as a whole identifying the deficits that can be treated but unfortunately, despite our best efforts with conservative non-invasive protocols, many patients continue to live with pain that affects their daily activities, causing a strain in their day-to-day activities including work, home activities, social activities and hobbies.

Interventional procedures are an excellent tool in our armamentarium and have emerged as a minimally invasive alternative for managing chronic spinal pain when conservative treatments such as physical therapy and medications, fail to provide adequate relief. These procedures aim to target specific pain generators in the spine, including facets, intervertebral discs and nerve roots.

Common interventional spine procedures include epidural steroid injections, facet joint injections, nerve blocks, radiofrequency ablations, percutaneous discectomy and SI joint injections with advanced procedures vertebroplasty /kyphoplasty, spinal cord stimulation . Each procedure is selected based on the underlying pathology such as herniated discs, spinal stenosis, degenerative disc disease. Advances in image guidance, including fluoroscopy and ultrasound have improved precision and safety of these procedures, reduced complications and enhancing outcomes.

In conclusion, interventional pain procedures provide a valuable option for patients suffering from chronic spinal pain, offering targeted relief with reduced recovery time compared to traditional approaches.

ABSTRACTS OF SCIENTIFIC SESSIONS

ABSTRACT: SURGICAL ERGONOMICS RECOMMENDATIONS FOR THE PREVENTION OF MUSCULOSKELETAL INJURIES

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Musculoskeletal disorders (MSDs) are a significant occupational health concern among surgeons and surgical staff, arising from prolonged periods of standing, awkward postures, repetitive motions, and the high physical demands of surgical procedures. Without proper ergonomic interventions, these factors can lead to chronic pain, reduced job performance, and, in severe cases, career-ending injuries.

The first line of prevention involves optimizing the surgical workspace. This includes adjustable operating table heights, proper monitor positioning to maintain a neutral head and neck alignment, and surgical tool designs that minimize grip force and awkward wrist angles. Robotic-assisted surgery systems, while costly, can offer enhanced precision and reduce physical strain on surgeons during prolonged operations. Moreover, the introduction of ergonomic aids, such as footrests and anti-fatigue mats, can alleviate stress on the lower back and legs during long surgeries.

Another crucial recommendation is the integration of ergonomic training into surgical education. Surgeons and assisting staff should be educated on correct posture, dynamic movement, and the importance of micro-breaks to prevent muscle fatigue. Institutions should also promote ergonomic awareness through ongoing assessments and adjustments in the operating room (OR).

By prioritizing ergonomic interventions, healthcare institutions can improve the well-being and longevity of their surgical teams while enhancing overall procedural efficiency and patient care outcomes. Addressing the physical demands of surgery through these preventative measures is essential in mitigating long-term MSD risks.

ABSTRACTS OF SCIENTIFIC SESSIONS

MEDICAL ETHICS IN PHYSIATRY

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In psychiatry, the emphasis extends beyond acute care to optimizing function, quality of life, and providing long-term support for patients with disabilities, chronic pain, and other impairments. Medical ethics plays a crucial role in guiding psychiatrists through these complex clinical situations, ensuring that patient care is grounded in the fundamental ethical principles of autonomy, beneficence, non-maleficence, and justice. Mastery of these principles is essential for addressing the unique ethical challenges encountered in psychiatry.

Ethical issues often arise in areas such as informed consent, shared decision-making, and goal setting, particularly when working with vulnerable populations, such as those with cognitive impairments or chronic disabilities. Additional dilemmas may involve resource allocation, the integration of advanced rehabilitation technologies, end-of-life care, and the ethical implications of emerging therapeutic interventions.

By thoroughly understanding and applying these ethical principles, psychiatrists can navigate complex dilemmas thoughtfully, delivering patient-centred and compassionate care in their clinical practice.

ABSTRACTS OF SCIENTIFIC SESSIONS

POLICY ANALYSIS FOR INCLUSION OF ASSISTIVE TECHNOLOGY IN HEALTH SYSTEMS

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Assistive Technologies (ATs) play a crucial role in enhancing the quality of life for individuals with disabilities is well known but they are also important for the effective health care delivery to persons needing treatment in the health systems. The National List of Essential Assistive Products (NLEAP), developed by the Indian Council of Medical Research (ICMR), identifies 21 essential assistive products that address needs in diagnostics, rehabilitation, mobility, communication, and daily living activities (ICMR, 2023). Despite their recognized importance, access to these products is often limited and persons needing them often have no access or information regarding the same especially during the acute care and rehabilitation phase.

A preliminary analysis of 1591 health benefits packages under ABPMJAY reveals that more than 60% indicate the possible inclusion of ATs. Insufficient funding for ATs can result in suboptimal patient outcomes and higher long-term healthcare costs due to the lack of supportive technologies that aid in recovery and daily functioning. Policymakers should consider revising funding guidelines to ensure that assistive technologies receive the necessary financial support especially for strengthening of rehabilitation in health systems. There are schemes for Assistive technology provision in the Department of Empowerment of persons with disability which are totally separate from health care delivery platforms such as hospitals and the primary health care system which come under Health Ministry. The welfare schemes don't cater to health related temporary or permanent need for Assistive Technology for patients in hospital and post discharge and those not preferring to get benefits from welfare schemes for persons with disabilities.

Comparison of the AIDP Scheme with some international insurance schemes can give us the ideas to bridge the gap between the health care and welfare schemes so that the appropriate AT is provided when it is most needed in the health care provision system in India.

ABSTRACTS OF SCIENTIFIC SESSIONS

CARDIAC REHABILITATION, ROOTS, RECENT ADVANCES AND FUTURE TRENDS

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Background: Cardiac Rehabilitation (CR) is a nascent discipline taking roots in observations from the 19th century with formal descriptions being given from the 1960s onwards. The service delivery is fragmented with limited awareness even in developed nations. Practicing cardiac rehabilitation is an exciting way for physiatrists to be involved and remain relevant in an anticipated revolution that will take place in the management of cardiovascular diseases.

Observations: As decades have passed formal descriptions of cardiac rehabilitation have been developed. Classical practices include segregating stages of CR into Phases 1, 2 and 3; being in-patient, out-patient and long-term community-based CR. The core pillars of CR include risk assessments, exercise testing, exercise prescription, execution of rehabilitation, reassessments and follow-up. Assessments have been fine tuned to include questionnaire based functional assessments- such as the Veterans Activity Status Questionnaire and Duke Activity Status Index; simple tests such as the 6-minute walk test, 2 minute step test; and exercise tolerance tests such as treadmill, bike based tests or more recent use of physiologic Cardio-Pulmonary Exercise Tolerance tests with detection of anaerobic threshold, Muscle Near Infra-Red Spectroscopy based physiological tests add specificity to assessments. Novel exercise prescription techniques utilizing Mets achieved on testing and protocols that balance safety and efficacy of CR intervention, are useful developments. Various protocols such as interval training, continuous training; further subdivided into Low, moderate and high intensity protocols have been tested and evidence base for the use of each and the target population for their use are becoming clearer over the years. Use of telerehabilitation, telemonitoring and disruptive wearable technologies that make customized care more cost effective, are exciting developments in this field.

Summary: Cardiac rehabilitation (CR) is a novel and challenging domain with ample scope for advancement. Competence in clinical medicine, cardiology, ECG interpretation, knowledge on exercise testing, risk profiling and prescription in CR will ensure greater opportunities for interested clinicians.

ABSTRACTS OF SCIENTIFIC SESSIONS

ROLE OF AI IN DELIVERY OF REHABILITATION SERVICES TO OUTREACH POPULATION

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INTRODUCTION:-Rehabilitation provides interventions early recovery, reduce disability & optimize functioning with maximisation of health outcomes(4).

BUT several barriers reduces implementation in traditional in-person rehabilitation model, including transportation needs, appointment scheduling and related conflicts, financial constraints, staff shortages in the healthcare sector(5).

Studies shows up to 50% of women tend to drop out of their rehabilitation program in many patient populations, due to these issues and other social and cultural factors.

Thus, traditional in-person rehabilitation is being stretched to its limits, and many people (especially older adults) may not be able to access these services to improve their physical and mental well-being(6).

Therefore, virtual rehabilitation (VR rehab) or Tele-rehabilitation is prevalent and become mainstream in rehabilitation services with similar outcome to in-person rehabilitation and is better than no rehabilitation.

The use of technology creates opportunities for Artificial Intelligence (AI) to be utilized in the VR rehab setting to address research questions involving assessment, recognition, and prediction of various patient health outcomes. Applications of AI in VR rehab include but are not limited to patient's movement and physical activity analysis, physical exercise assessment, pain detection and measurement, affective state analysis, and compliance prediction.

Why Outreach and home-based VR rehab?

In traditional rehabilitation programs involving in-person hospital/ clinic visits, the presence of clinicians is required at different stages of the program, necessitating that patients commute to and from the hospital or clinicians travel to patients' homes or long-term care homes.

This imposes several barriers to the successful completion of the program among patients including:

Transportation constraints pose difficulties for patients with disabilities and older adults.

Patients residing in remote regions may lack access to nearby rehabilitation centres, requiring them to undertake long-distance travel to participate in rehabilitation programs.

The rehabilitation sector experiences a shortage of staff, leading to scheduling limitations and conflicts resulting in further delays in recovery.

In-person participation becomes particularly challenging during pandemic situations that enforce social distancing measures.

Role of AI in VR rehab?

VR rehab programs typically include a clinical assessment and clinician meetings with patients virtually or in person, and then the prescription of individualized VR rehab programs. It include regular educational sessions and aerobic and resistance training exercises targeting improvement of function and mobility as well as avoiding sedentary lifestyles. After regular assessment rehabilitation goal setting also can be done virtually considering progress of rehabilitation plan and also reassessing the rehabilitation need, preference and financial ability of the person undergoing the rehabilitation session. A variety of sensing devices may be used to conduct the initial clinical assessment virtually at home or other outreach areas and subsequently collect physiological, ambient, and contextual data from patients at home during

ABSTRACTS OF SCIENTIFIC SESSIONS

VRehab sessions. AI algorithms using sensor data to make inferences about various patient health outcomes can be classified into three main approaches: end-to-end, feature-based, and hybrid. End-to-end approaches involve employing deep learning-based artificial neural networks to make inferences using raw sensor data. Prior to deploying AI algorithms on VRehab platforms for making inferences about patients' health outcomes, it is essential to train them using relevant data.

OBJECTIVE:-

To find out Benefits of Artificial Intelligence (AI) in OUTREACH REHABILITATION

To find our Scope to achieve the Rehabilitation Goal using AI Technology in Delivery of Rehabilitation Care to Outreach Population in Community.

To find out limitation of AI Technology in delivery of Outreach Rehabilitation

To identify the opportunity of future research in the field of Rehabilitation care using AI driven Outreach Rehabilitation in Community amongst the young researchers.

MATERIAL & METHOD:- Analysis of PubMed Search data on various publications of Original Research in this Field of use of AI Technology in Outreach and community Rehabilitation.

RESULT & DISCUSSION:- Study by Ali Abedi ,Tracey J. F. Colella, Maureen Pakosh and Shehroz S. Khan(1) concludes Personalized and ambulatory rehabilitation services can be delivered to patients at home by integrating AI into VRehab platforms. AI algorithms are able to make individualized and real-time inferences about patients' rehabilitation progress based on data collected from various sensors. Study by Ciro Mennella, Umberto Maniscalco, Giuseppe de Pietro and Massimo Esposito (2) concluded that AI-based solutions offer contributions in the form of quality improvement and enhancement of existing practice, as well as support new models of care based on decentralized services. In the future, Study by Olivier Lambercy, Rea Lehner, Karen Chua, Seng Kwee Wee, Deshan Kumar Rajeswaran, Christopher Wee Keong Kuah, Wei Tech Ang, Phyllis Liang, Domenico Campolo, Asif Hussain, Gabriel Aguirre-Ollinger, Cuntai Guan, Christoph M. Kanzler, Nicole Wenderoth and Roger Gassert (3) concluded an approach to implement neurorehabilitation from a distance, through the use of digital connected interventions (e.g., minimally supervised robot assisted therapy) that could accompany stroke patients along the continuum of care, from the hospital to their home.

Limitations:- Technology-based models of neurorehabilitation from a distance to become successful, three factors are crucial for their implementation: firstly, Right technologies at right cause i.e., the most suitable device according to patients' needs. Secondly, Technology must be measurable/scalable considering implications of social, technical, economical and infrastructure considerations to make appropriate impact. And Thirdly, AI tool to be embedded needs to be clinically motivated and transparent to patients, caregivers and healthcare practitioners

CONCLUSION:- AI technology has the potential to revolutionize Rehabilitation in Community, Home and particularly for outreach population by providing personalized support, improving outcomes, and enhancing patients' quality of life. Rehabilitation Team can expect to see even more innovative solutions to support any person in need of rehabilitation services and care with regular monitoring in their recovery through comprehensive rehabilitation.

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requiring them to undertake long-distance travel to participate in rehabilitation programs.

1. The rehabilitation sector experiences a shortage of staff, leading to scheduling limitations and conflicts resulting in further delays in recovery.
2. In-person participation becomes particularly challenging during pandemic situations that enforce social distancing measures.

Consequently, patient enrolment rates may be lower and dropout rates may be high; thus, preventing patients from successfully integrating into their community and living independently. On the other hand, VRRehab aims to deliver rehabilitation programs virtually to patients at their homes and other outreach areas has the potential to overcome many barriers to program attendance and completion.

Integrating AI into VRRehab to automate different stages of rehabilitation holds significant potential for complementing clinicians and improving the quality of care they provide to patients in their homes. AI-driven VRRehab platforms offer promising solutions for addressing the shortage of rehabilitation staff and optimizing operational efficiencies. By delivering rehabilitation services virtually to patients' homes and to mother outreach population in the community, VRRehab expands access to healthcare for diverse populations, including those who are under-represented and reside in remote communities without access to rehabilitation centres.

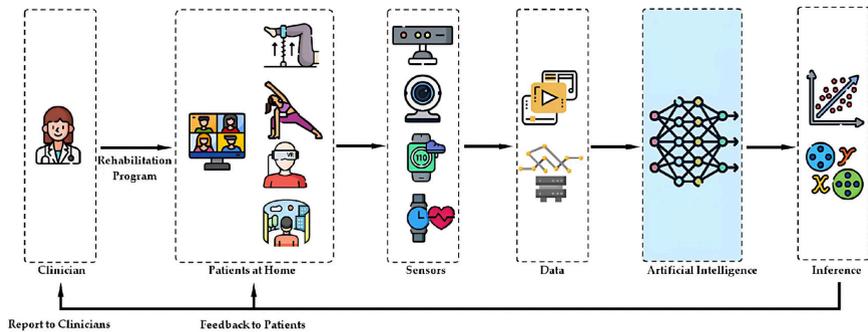
However, for VRRehab to be effective, patients need access to computers or smart devices, sensors, and an internet connection at home. Additionally, patients should be digitally literate and familiar with technological infrastructures.

What role can AI play in VRRehab?

VRRehab programs (figure-below) typically include a clinical assessment and clinician meetings with patients virtually or in person, and then the prescription of individualized VRRehab programs. Usually, these programs include regular educational sessions and aerobic and resistance training exercises targeting improvement of function and mobility as well as avoiding sedentary lifestyles. After regular assessment rehabilitation goal setting also can be done virtually considering progress of rehabilitation plan and also reassessing the rehabilitation need, preference and financial ability of the person undergoing the rehabilitation session. A variety of sensing devices may be used to conduct the initial clinical assessment virtually at home or other outreach areas and subsequently collect physiological, ambient, and contextual data from patients at home during VRRehab sessions. For instance, a webcam/camera on a personal computer or smartphone can be used to capture videos of patients while performing rehabilitation exercises which could provide important information on their functional recovery. A smartwatch with a built-in accelerometer can provide vital data on mobility parameters, including the number of steps taken and sedentary lifestyle. These single or multi-modal data can be used to build AI algorithms for measuring patients' overall improvements in their rehabilitation program and providing feedback, resources, and encouraging notifications to patients to complete their programs successfully. AI algorithms using sensor data to make inferences about various patient health outcomes can be classified into three main approaches: end-to-end, feature-based, and hybrid. End-to-end approaches involve employing deep learning-based artificial neural networks to make inferences using raw sensor data. On the other hand, feature-based approaches involve extracting features from raw sensor data, which are then utilized by machine learning or deep learning models to make inferences. In feature-based approaches, clinical domain knowledge may be utilized to extract or select the most suitable features for specific inference tasks. Hybrid approaches combine the two approaches described above. As an example, raw video data of patients during VRRehab sessions can be analysed by deep-learning models (in an end-to-end approach) or the eye gaze direction, head movements, and range of motions as features extracted from the raw video data can be analysed by machine-learning or deep

learning models (in a feature-based approach) to make inferences about patients' emotions and behaviours.

Prior to deploying AI algorithms on VRehab platforms for making inferences about patients' health outcomes, it is essential to train them using relevant data. To illustrate, in assessing exercise quality, annotated data of previous patients performing both correct and incorrect exercises can be used to train the AI algorithms. Once the algorithms are trained, they can be deployed on VRehab platforms to automatically assess exercise quality for new patients. Inferences made by trained AI algorithms can be utilized in a variety of ways. For example, the results of the measurement of the correctness of exercises can be input to a virtual coach (avatar) on a computer screen to provide real-time feedback and guidance for patients to correct their technique and movements in order to complete the exercises correctly. The number of steps taken each day can be reported to the patient/ clinician through the VRehab platform. In the case of a low step count and a sedentary lifestyle, the patient would then receive customized notifications on the VRehab platform and/or specific instructions from the VRehab clinician.



A conceptual diagram depicting various stages of AI-driven VRehab platforms

OBJECTIVE:-

- To find out Benefits of Artificial Intelligence (AI) in OUTREACH REHABILITATION
- To find our Scope to achieve the Rehabilitation Goal using AI Technology in Delivery of Rehabilitation Care to Outreach Population in Community.
- To find out limitation of AI Technology in delivery of Outreach Rehabilitation
- To identify the opportunity of future research in the field of Rehabilitation care using AI driven Outreach Rehabilitation in Community amongst the young researchers.

MATERIAL & METHOD:- Analysis of PubMed Search data on various publications of Original Research in this Field of use of AI Technology in Outreach and community Rehabilitation.

RESULT & DISCUSSION:- Study Conducted by *Ali Abedi ,Tracey J. F. Colella, Maureen Pakosh and Shehroz S. Khan(1)* concludes Personalized and ambulatory rehabilitation services can be delivered to patients at home by integrating AI into VRehab platforms. AI algorithms are able to make individualized and real-time inferences about patients' rehabilitation progress based on data collected from various sensors. Since improving functional and mobility outcomes is the central focus of rehabilitation programs for different patient populations, the majority of the studies reviewed targeted facilitating prescribed exercise completion at home in the absence of clinicians.

In another study, conducted by *Ciro Mennella, Umberto Maniscalco, Giuseppe de Pietro and Massimo Esposito (2)* concluded that AI-based solutions offer contributions in the form of quality improvement and enhancement of existing practice, as well as support new models of

care based on decentralized services. In the future, AI is expected to increasingly play a crucial role in driving the clinic-centred model toward a decentralized healthcare model that will overcome challenges of health service delivery due to time, distance, and logistic issues, enabling cost-effectiveness and better access to long-term therapies.

In another study by *Olivier Lambercy, Rea Lehner, Karen Chua, Seng Kwee Wee, Deshan Kumar Rajeswaran, Christopher Wee Keong Kuah, Wei Tech Ang, Phyllis Liang, Domenico Campolo, Asif Hussain, Gabriel Aguirre-Ollinger, Cuntai Guan, Christoph M. Kanzler, Nicole Wenderoth and Roger Gassert* (3) concluded an approach to implement neurorehabilitation from a distance, through the use of digital connected interventions (e.g., minimally supervised robot assisted therapy) that could accompany stroke patients along the continuum of care, from the hospital to their home.

They also opined that for technology-based models of neurorehabilitation from a distance to become successful, three factors are crucial for their implementation:

Firstly, the technologies need to meet technical requirements such as robustness, safety and usability since patients train with at least one device at home (i.e., the most suitable device according to patients' needs).

Secondly, rehabilitation technologies should be scalable (i.e., easily applicable to the increasing number of patients in need of such treatment, which implies social, technical, economical and infrastructure considerations) in order to be impactful.

Thirdly, the implementation of artificial intelligence embedded in neurorehabilitation technologies needs to be clinically motivated and transparent to patients, caregivers and healthcare practitioners in order to increase the trust in technology-assisted rehabilitation in a home-centred model.

CONCLUSION:- AI technology has the potential to revolutionize Rehabilitation in Community, Home and particularly for outreach population by providing personalized support, improving outcomes, and enhancing patients' quality of life. The practical applications of AI in outreach rehabilitation are numerous, and as the technology continues to advance. Rehabilitation Team can expect to see even more innovative solutions to support any person in need of rehabilitation services and care with regular monitoring in their recovery through comprehensive rehabilitation. Study conducted from various resources as described under references shows the benefits as well as limitation of AI in in clinic Rehabilitation and benefits of AI driven outreach rehabilitation both at home and within the community to overcome the limitations.

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ABSTRACTS OF SCIENTIFIC SESSIONS

THE RUBBER HAND ILLUSION MODEL: UNDERSTANDING THE PARADIGM OF BODY OWNERSHIP ILLUSIONS AND IMPLICATIONS IN REHABILITATION

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Body ownership illusions refer to the illusory perception of non-bodily objects (e.g. artificial limbs) as being parts of one's own body and as being the source of the associated bodily sensations such as touch. In the rubber hand illusion (RHI), one hand of the subject is hidden, and is replaced by a same-sized artificial rubber hand. During the illusion, two brushes strike both hands simultaneously and subjects feel the artificial hand as their own hand (Botvinick & Cohen, 1998).

20 healthy subjects volunteered to experience RHI. The subjects were seated with their non-dominant hand hidden inside a black Perspex box, 13cm in height, placed on a table. The dominant hand and the life-sized rubber hand was placed on top of the Perspex box in front of the volunteer. The real hand and the rubber hand were separated by a distance of 13cm vertically. The volunteer sat with his eyes fixed on the rubber hand, while a trained operator used 2 small paintbrushes to stroke the rubber hand and the volunteer's hidden hand, synchronizing the timing of the brushing as closely as possible. After 10 minutes, the volunteers completed a two-part questionnaire that asked for an open-ended description of their experience and asked to rate the occurrence of nine specific perceptual effects on a five-point Likert scale.

All the volunteers reported experiencing the illusion. 90% of the volunteers strongly agreed that they were feeling the touch of the paintbrush in the location where they saw the rubber hand being touched. 85% volunteers reported feeling that the touch they felt was caused by the paintbrush touching the rubber hand and as if the rubber hand were their own hand. Increasing the vertical separation between the real hand (non-dominant) and the rubber hand and repeating the experiment on the dominant hand did not change the RHI experience.

Spatiotemporal congruence between the seen and the felt stimulation is a key determinant for induction of body ownership illusions. However, spatial congruency of visuo-proprioceptive triggers is not essential for induction of body ownership illusions, provided the fake body (body part) is seen in an anatomically plausible configuration and in the presence of congruent visuo-tactile or visuomotor stimulation. Body ownership illusions are also affected by the semantic information that visual triggers from the fake body part bring along, in terms of shape, anatomical plausibility of their spatial configuration and structure. Even if some forms of anatomical violations (e.g. larger or smaller bodies, longer or multiple limbs) can be tolerated and overcome by congruent multimodal stimulation, other forms of violation may not. The exact boundaries of tolerable violations are still to be determined.

Understanding the mechanism of body ownership illusions like RHI and possible modulation techniques may be useful in the rehabilitation of patients for their acceptance of prosthetics and their integration into the body model within the brain.

Application of a total contact cast, light weight scotch cast boot or air cast boots may help healing. These conform to the contours of the foot; there by reducing shear forces on the planter surface .Great care must be taken especially with the fitting of plasters, to prevent chafing and subsequent ulcers formation elsewhere on the foot.

Advancement in kinesiology and biomechanics and material sciences were applied in the design of the orthotic component for foot orthosis for neuroischaemic foot ulcers that is lighter , stronger, and more resilient .Before the specific types of prescription of foot wear it is first necessary to identify the objectives in the pediorthic care of diabetic foot.

This can be stated as follows:

1. Relief of areas of excessive planter pressure.
2. Reduction of shock& shear.
3. Accommodation of deformities.
4. Stabilisation & support of deformities.
5. Limitation of joint motion.

It is important to note that pedorthic care for ulcer is intended strictly as a long term management technique for maintaining healed ulcer and preventing further ulceration.

Key words:

ISCHEMIC FOOT ULCER, (DIABETIC), FOOT ORTHOSIS

ABSTRACTS OF AWARD PAPER PRESENTATIONS

1. OZONE NUCLEOLYSIS FOR FAILED BACK SURGERY SYNDROME: A CASE SERIES OF 6 PATIENTS

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Introduction: Failed Back Surgery Syndrome (FBSS) is a condition characterized by persistent or recurrent pain following spinal surgery, where conventional treatments often offer limited relief. Ozone nucleolysis, a minimally invasive technique, has emerged as a potential alternative for managing FBSS. This case series evaluates the efficacy and safety of ozone nucleolysis in FBSS patients.

Methods: Six patients with persistent symptoms despite prior surgical interventions were treated with ozone nucleolysis at RIMS Imphal. An ozone-oxygen gas mixture was injected into the affected intervertebral disc(s) under fluoroscopic guidance. Patients were followed for six months, and outcomes were assessed using the Visual Analog Scale (VAS) for pain and the Oswestry Disability Index (ODI) for functional impairment.

Results: All six patients reported significant pain relief and improved function following the procedure. The mean VAS score decreased from 8.2 pre-procedure to 3.1 at six months, and the mean ODI score improved from 65% to 30%. No major complications were observed, indicating the procedure's safety.

Discussion: Ozone nucleolysis proved effective for treating FBSS, with patients experiencing substantial pain relief and functional improvement. The strong safety profile and positive outcomes warrant further research. However, the small sample size and limited follow-up period call for larger studies to confirm these findings.

Conclusion: Ozone nucleolysis appears to be a safe and effective treatment for FBSS, offering significant pain relief and functional improvement. Further studies are recommended to validate these results and refine treatment protocols.

2. TOWARDS UNIVERSAL ACCESSIBILITY: ARCHITECTURAL BARRIERS IN UKHRUL, A HILLY DISTRICT OF MANIPUR

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Introduction: Architectural barriers significantly impede access and mobility, especially for persons with disabilities. Rural areas like Ukhrol, a hilly district in Manipur, face unique challenges in creating accessible environments due to their geographical constraints. This study aims to identify and evaluate these barriers in Ukhrol, their impact on accessibility for persons with disabilities and to address the need for effective solutions to eliminate mobility limitations.

Materials and Methods: A descriptive cross - sectional study was conducted from April to June 2024, assessing 50 buildings in Hungphung village, Ukhrul. The study included residential areas, public buildings, and community spaces. A standardized accessibility checklist, based on national and international guidelines were used. Researcher independently assessed each site, documenting architectural features such as ramps, signage, parking, doorways, thresholds, lifts, toilets, and other necessary amenities. Data were analysed in percentage form to quantify the prevalence of various barriers.

Results: The study revealed that only 12% of buildings met basic accessibility standards. Major barriers included the absence of ramps (76%), inaccessible toilets (82%), lack of signage (94%), inadequate doorway width for wheelchair (68%), inaccessible parking (87%), problematic thresholds (79%), railings (75%), inaccessible corridors (73%), windows (78%), stairways (81%), and absence of lifts (95%). These barriers severely hinder independent navigation and community participation for persons with disabilities.

Discussion: Study highlight a significant gap in accessibility within Ukhrul. The lack of essential features such as ramps and toilets, along with insufficient signage poses major obstacles for persons with disabilities. This indicates a need for targeted infrastructure improvements and inclusive design strategies to enhance accessibility and support independence.

Conclusion: This study underscores the critical need for comprehensive design improvements in Ukhrul to enhance accessibility for persons with disabilities. Addressing these barriers through universal design principles will foster a more inclusive environment, allowing persons to navigate and participate fully in community.

3. ROLE OF MIRROR THERAPY ON UPPER LIMB FUNCTIONS IN PATIENTS AT SUBACUTE STAGE OF STROKE

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Introduction: Upper limb weakness is the most prevalent impairment following stroke. Restoring upper limb function is crucial in stroke rehabilitation. Mirror therapy is a cost effective, patient directed treatment that could improve upper limb functions.

Materials and Method: This study is conducted in the Department of PMR, VMMC & Safdarjung Hospital, New Delhi. It is a prospective interventional study done among 30 subacute stroke patients. Mirror therapy with standard rehabilitation was given for the patients for 30 minutes for four weeks. Patient assessment was done before and after the study at 4 weeks and 12 weeks for muscle power, muscle tone, ADL and motor functions of upper limb using assessment tools.

Results: After 4 weeks of mirror therapy there was a statistically significant improvement in muscle power in all groups of muscles ($p < 0.0001$), motor function assessed by Fugl-Meyer assessment scale ($p < 0.0001$), ADL assessed by modified Barthel Index ($P < 0.0001$). There was improvement in tone for pronators (p value =0.046) and wrist extensors (p value = 0.011) . After 3 months reassessment was done and, there was a statistically significant improvement in muscle power in all groups of muscles ($p < 0.0001$), motor function ($p < 0.0001$), ADL ($P < 0.0001$). There was an improvement in muscle tone for elbow flexors (p value =0.044) and pronators (p value = 0.022).

Conclusion: Mirror Therapy along with standard rehabilitation program in subacute stroke patients has enhanced the motor recovery and level of independence in self-care.

4. CARTILAGE THICKNESS AND FUNCTIONAL IMPROVEMENT IN PRIMARY KNEE OSTEOARTHRITIS: A RANDOMIZED CONTROLLED TRIAL COMPARING ULTRASOUND-GUIDED INTRAARTICULAR INJECTION OF PLATELET - RICH PLASMA AND HIGH MOLECULAR WEIGHT HYALURONIC ACID

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Introduction: This study compared Platelet-Rich Plasma (PRP) and High Molecular Weight Hyaluronic Acid (HMHA) injections for knee osteoarthritis (OA), assessing pain, function, and cartilage thickness.

Methods: 60 knee OA patients received ultrasound-guided PRP or HMHA injections. Pain (VAS), function (WOMAC), and cartilage thickness were measured at baseline, 12, 24, and 36 weeks.

Results: Both treatments improved VAS and WOMAC scores over 36 weeks. PRP showed better VAS improvement at 12 weeks ($p=0.023$). No significant differences in WOMAC scores between groups. Neither treatment improved cartilage thickness.

Discussion: Both PRP and HMHA improved pain and function without significant differences, contrary to some previous studies favoring PRP. Cartilage thickness remained unchanged. Limitations: short duration, small sample, single injection.

Conclusion: Ultrasound-guided PRP injection improves pain and function in knee OA but doesn't enhance cartilage thickness. Single-dose PRP shows no advantage over HMHA. Further research with larger samples and longer follow-up is needed.

5. EFFECT OF INTEGRATED INTERVENTION PROGRAM ON SCORE OF AUTISM TREATMENT EVALUATION CHECKLIST IN CHILDREN AGED 3-5 YEARS WITH AUTISM SPECTRUM DISORDER

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Introduction: ASD is world's third most common neurodevelopmental disability. Parents of affected children present late for consultation in which early intervention plays integral part. They become frustrated by lack of evidence-based treatment, leading to increase parental stress.

Objective:

- 1) To determine effect of Integrated Intervention Program for 3 months in children aged 3 to 5 years with ASD on ATEC at baseline and after intervention.
- 2) Which sub scale of ATEC shows maximum improvement and to evaluate parental stress on Parental Stress Scale.

Results /Summary: Total 36 children were diagnosed during the study period. 36 belonged to severe and 1 belonged to mild category of ASD according to ATEC score. After 3 months of integrated intervention 7 of them improved to mild category, 14 to moderate and 15 remained

to severe one but with reduced score. Among ATEC subscale improvement was more marked in behavior sub scale and less on speech subscale. Parental stress score improved in some and worsened in others.

Discussion /conclusion: Mainstay of management of children with ASD is non-pharmacological. Integrated Early Intervention Program including Applied behaviour analysis, Sensory integration therapy, Speech and Language therapy to the children under 5 years of age at frequent and regular intervals results in significant improvement in adaptive behaviour, sensory issues and communication of children.

6. DISABILITY IN RHEUMATOID ARTHRITIS: PATIENTS' PERSPECTIVE

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Introduction: Rheumatoid arthritis (RA) is associated with poor quality of life and functional loss. Despite being the most common inflammatory arthropathy, data on quantum of impairment is lacking for Indian subcontinent and Northeast India in particular. With this background this study was conducted to assess the functional impairment in RA patients and its' importance in routine patient care.

Material and methods:

Setting: PMR OPD AIIMS Guwahati

Study design: Observational Cross sectional Study

Study population: Diagnosed patients of RA between 18 years to 80 years of age.

Data collection: After obtaining consent, disability index score was obtained using the Indian version of HAQDI questionnaire in Hindi/English. 70 patients were enrolled in the study.

Method of analysis: Data was analysed by SPSS 16.0. For all the values 95% CI shall be considered a variable shall be considered significant if p value is <0.05. Descriptive analysis shall be done and chi square test of statistics shall be done to determine significance of association between the dependent and independent variables.

Result: Majority of the participants were female (89%). Median age of presentation was 46 years. Mean disability index score (DI) is 1.47 which is categorised as moderate. 26 patients (37.14%) has score >1.5 (severe disability). Decrease joints range of motion, deformities and longer disease duration cause higher disability index.

Discussion: There was a significant correlation between functional disability and disease duration and it was the only significant predictor (statistically) of functional disability in RA patients.

Conclusion: The HAQDI questionnaire is a useful and easy to administer tool for disability assessment in RA patients.

7. EFFECTS OF GENICULAR NERVE BLOCK ON QUALITY OF SLEEP IN ADVANCED OSTEOARTHRITIS KNEE

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Introduction: Osteoarthritis knee causes significant pain, altered sleep quality and functional impairments. Genicular nerve block (GNB) is a non-surgical option for managing pain, but there is limited research on its effects on sleep quality in osteoarthritis. This study aims to evaluate the effectiveness of GNB in improving sleep quality in patients with knee OA (Kellgren-Lawrence Grade 3 and 4) using the Pittsburgh Sleep Quality Index (PSQI) and to assess pain intensity improvement using the Numerical Rating Scale (NRS), with evaluations conducted at baseline, 4 weeks, and 12 weeks post-intervention.

Materials and method: This single arm pre-post interventional study, conducted at tertiary care rehabilitation setting, included 14 participants with KL grade 3 or 4 osteoarthritis knee. Ultrasound-guided GNB [superior lateral, superior medial, inferior medial branch] was performed with 1 ml triamcinolone (40 mg), 2 ml lidocaine hydrochloride (2%), and 3ml normal saline solution for one setting only. Participants were evaluated at baseline (pre-intervention), 4th and 12th week post-intervention. Statistical analysis was done by SPSS 16.0.

Results: 14 participants [mean age \pm SD, 61.5 \pm 4.72 years, Male:42.90%, Female:57.10%] completed the study. Significant improvement in sleep quality was observed at the end of 4th week [10.29 \pm 2.16, p <.05] and at the end of 12th week [10.07 \pm 2.12, p <.05] compared with baseline [11.64 \pm 2.13]. Same was observed in pain intensity, at 4th week [06.14 \pm 0.86, p <.05] and at 12thweek [05.71 \pm 01.22, p <.05] compared with baseline [7.92 \pm 0.61]. No adverse effects were reported post-intervention.

Discussion: Literature on sleep quality in osteoarthritis is limited. Prior studies on GNB for osteoarthritis knee focused on pain relief without addressing sleep quality. Our study found significant pain reduction and improved sleep quality after 4 weeks, with benefits lasting 12 weeks.

Conclusion: US-guided GNB is a safe and effective method for pain control and enhancing sleep quality. Further randomized controlled trials with long-term follow-up are needed.

8. A COMPARATIVE STUDY OF THE EFFECTIVENESS OF TOTAL CONTACT CASTING (TCC) IN THE TREATMENT OF FOREFOOT VS HIND - FOOT NEUROPATHIC PLANTAR ULCERS

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Introduction: Foot ulceration is a known complication of diabetes mellitus. Off-loading (conventional TCC) is the first clinical choice for non-infected, non-ischemic neuropathic plantar ulcer. Neuropathic ulcers occur mostly at the plantar aspect and correspond to areas of peak plantar pressure. Reducing of plantar pressures is considered a key factor for wound healing and ulcer recurrence.

Objective: To observe the effectivity of total contact casting(TCC) in forefoot and hind-foot neuropathic plantar ulcers.

Materials and method: After ethical clearance a comparative study was performed at PMR Department, AIIMS Kalyani from December 2023- June 2024.Total contact casting(TCC) were done for 16 patients with neuropathic plantar ulcer attended during study period. And assessment was done according to size, volume of ulcers at the 1st visit(0 week) and then 2nd, 4th and 6th weeks.

Results: A one-way repeated measures ANOVA was performed. The test revealed statistically significant differences in the volume of the ulcer ($F = 7.742$, $p = 0.01$). Bonferroni's test for multiple comparisons found that statistically significant difference in volume of ulcer at first and second follow-up from before the start of treatment.

On applying split plot repeated measures ANOVA, no significant difference was found between the decrease in volume of the ulcer with respect to sex of the individual. ($F=0.99$, $p=0.757$).

Discussion: Plantar ulcer is one of the common complication of neuropathic foot , can lead to amputation. Very few study of TCC for hind-foot ulcer management, our study showed effectiveness of TCC for both forefoot and hind-foot plantar ulcers.

Conclusion: TCC is effective treatment for neuropathic plantar ulcers.

9. COMPARISON OF EARLY VERSUS LATE INITIATION OF REHABILITATION INTERVENTION IN PATIENTS OF LATERAL EPICONDYLITIS TREATED BY PLATELET RICH PLASMA INJECTION

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Introduction: Lateral epicondylitis is a painful debilitating condition of elbow. Platelet rich plasma (PRP) is an effective method of treatment of this condition. Through the study we intended to compare the outcomes of early versus late initiation of rehabilitation intervention clinically and radiologically in patients of lateral epicondylitis treated by PRP injection.

Materials and Method: This comparative study in a sample size of 30 patients (calculated by sample size calculating formula for comparing two means) with lateral epicondylitis was conducted in the Department of PMR, VMMC & Safdarjung Hospital, New Delhi. Post PRP injection rehabilitation program including 10 days of ultrasound therapy and 2 weeks of exercise therapy was initiated on Day 2 for Group A and Day 9 for Group B with each group containing 15 patients each. Patient assessment was done at baseline & followed up at 4 weeks and 12 weeks using Visual Analogue Scale (VAS), Patient Rated Tennis Elbow Evaluation Score (PRTEE), grip strength and ultrasound changes.

Results: There was statistically significant difference in improvement of functional score (PRTEE) at 12-week follow-up (p value-0.004) in group A suggesting early rehabilitation resulted in functional improvement in post PRP lateral epicondylitis. However, there was no statistically significant difference in VAS, grip strength and ultrasound changes between the groups.

Conclusion: It was concluded from our study that early rehabilitation post PRP injection can provide better functional outcomes and therefore emphasizes on the early timely initiation of rehabilitation programme in post PRP patients with lateral epicondylitis.

10. ROLE OF AUTOLOGOUS 'PLATELET RICH FIBRIN' IN CHRONIC NON-HEALING ULCERS WITH VARIOUS ETIOLOGIES IN A TERTIARY CARE REHABILITATION CENTER

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Introduction: Chronic non-healing ulcers are difficult to completely heal, thus affecting progress of rehabilitation measures, compromising the functional improvement and quality of life.

Materials and methods:

Setting and location: Patients admitted in the In-patient facility under Department of Physical Medicine and Rehabilitation, AIIMS, Raebareli

Study population: Platelet rich Fibrin (PRF) was applied in eight wounds from six patients (limited number due to sepsis, non-acceptance, poor nutrition) of variable diagnosis (Spinal cord injury, Vascular Disease, Guillain Barre Syndrome) with chronic wounds over different anatomical locations. Functional Independence Measure, Pressure Ulcer Scale for Healing (PUSH), surface area and volume of all the wounds were monitored weekly after every PRF dressing and were followed for eight weeks. On an average, two PRF dressings were applied, maximum being three.

Results: The maximum healing rate in PUSH score was 3.84% and minimum was 1.19% per day. Maximum healing rate in surface area was 5.89% and minimum was 1.78% per day. Three of the wounds showed complete closure. Improvement in FIM score was seen.

Conclusion: We can conclude that PRF showed accelerated improvement of healing of chronic ulcers of various etiologies at different locations. It is a safe and effective method thereby improving their quality of life and functional independence in performing activities of daily living. In our knowledge till date no other study in a rehabilitation setting has been done on patients having non healing ulcers due to various etiologies over different locations.

ABSTRACTS OF AWARD POSTER PRESENTATIONS

1. IS DEXTROSE PROLOTHERAPY MORE EFFECTIVE THAN METHYL PREDNISOLONE INJECTION IN PATIENTS WITH CHRONIC LATERAL EPICONDYLITIS?: A RANDOMISED CLINICAL STUDY

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Introduction: This study aims to compare the efficacy of dextrose prolotherapy versus methyl prednisolone injection in the treatment of patients with chronic lateral epicondylitis.

Material and Methods: It is a Hospital based Prospective Interventional study. Seventy subjects with chronic lateral epicondylitis were randomly assigned into two groups of 35 participants each for Hypertonic dextrose and Methylprednisolone injection. Participants were assessed through Quick DASH and VAS scores, once before injection, and then after 1- and 3-months follow-up.

Results: Both groups started with similar pain levels, with mean VAS scores around 6.5, indicating moderate to severe pain. After 1 month, Dextrose Prolotherapy showed a significant reduction in pain intensity, with the mean VAS score dropping by 1.60 points (a ~25% reduction). In contrast, the Methyl Prednisolone group experienced a much smaller reduction in pain, with the VAS score decreasing by only 0.48 points (a ~7.3% reduction). Over the 3-month period, the mean VAS score in the Dextrose group decreased by 3.51 points (~55% reduction). In comparison, the Methyl Prednisolone group saw a reduction of only 1.45 points (~22% reduction). Similarly for Q-DASH Scores after 1 month, the Dextrose Prolotherapy group experienced a larger improvement, with a 10.17 point reduction (a ~23.5% improvement). In contrast, the Methyl Prednisolone group saw a smaller improvement of 7.95 points (a ~15.6% improvement). At the 3-month mark, Dextrose Prolotherapy demonstrated a significantly larger improvement in functionality, with the Q-DASH score decreasing by 26.80 points (~61.9% improvement) compared to 14.92 point reduction in Methyl Prednisolone Injection group.

Conclusion: Both methods were proven to be effective in the short-term treatment of chronic lateral epicondylitis, but Dextrose Prolotherapy demonstrated superior effectiveness compared to Methyl Prednisolone Injection in both reducing pain and improving functionality over a 3-month period.

2. AN INTERVENTIONAL COMPARATIVE STUDY TO COMPARE THE EFFECT OF ULTRASOUND GUIDED METHYL PREDNISOLONE ACETATE INJECTION VERSUS DEXTROSE PROLOTHERAPY IN MANAGEMENT OF PLANTAR FASCIITIS

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Introduction: Plantar fasciitis (PF) is the most common cause of heel pain, the characteristic complaints of PF is morning heel pain. The diagnosis is done based on a clinical symptoms and ultrasonography is used to confirm chronic PF based on findings of proximal PF thickness of more than 4 mm and area of hypoechogenicity. The purpose of our study is to evaluate and compare the therapeutic effect of ultrasound guided methylprednisolone acetate (MPA) versus dextrose prolotherapy injection in chronic PF. Most of the patients want to avoid steroid injection due to its possible side effects.

Materials and Method: A hospital based interventional comparative study was conducted among 64 patients of chronic plantar fasciitis outpatients in the Dept. of PMR, SMS Medical College. In this study we recruited the chronic plantar fasciitis diagnosis based on clinical signs

and symptoms ,Numeric Rating Scale score >4, duration of symptoms > 2 months, The participants were assessed using NRS ,FAAM-A,FAAM-S ,FFI and ultrasonographic measurement of plantar fascia thickness at baseline ,2 and 12 weeks

Result: Both interventions significantly improved pain and function at 2 and 12 weeks after injection. After 2 week compared with the dextrose prolotherapy the corticosteroid group had significantly lower daytime and morning NRS scores , higher FAAM-S and lower plantar fascia thickness FAAM-A was similar in both groups, after 12 weeks all study variables were statistically similar between both groups .

Conclusion: The study showed that ultrasound guided corticosteroid and dextrose injection are an effective treatment in chronic PF. The corticosteroid injection may reduce pain and Abnormal thickness of plantar fascia better early after treatment (up to 2 weeks) but corticosteroid and dextrose prolotherapy have similar effects for a few months (up to 12 weeks).

3. EFFECTS OF PLATELETS RICH FIBRIN AND NORMAL SALINE DRESSING IN CHRONIC WOUNDS

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Background: Chronic wounds are a significant burden on patients and healthcare systems due to their prolonged healing time and high risk of complications. Traditional wound care methods, like normal saline dressings, often fail to promote rapid and effective healing. Platelet-rich fibrin (PRF), an autologous product derived from the patient's blood, has emerged as a promising biological material for enhancing wound healing.

Aim and Objectives: This study evaluates PRF's effectiveness versus normal saline dressings, aiming to improve patient outcomes, reduce healthcare costs, and develop more effective wound care protocols.

Methods: A prospective randomized controlled study conducted in Department of PMR, KGMU, Lucknow over a period of 6 months. Patients aged 18-70 with chronic wounds lasting over 4 weeks without active infection or malignancy were included in the study and divided into two groups: Group A (PRF dressing) and Group B (normal saline dressing).Patients were monitored weekly for 8 weeks, with wound size, pain levels, healing progress, and any complications recorded.

Results: The PRF group showed a 65% average decrease in wound size, faster healing rates, and a noticeable reduction in pain levels. While, the normal saline group showed a moderate reduction in wound size, averaging a 30% decrease. Only 1 out of 5 patients achieved complete wound healing, and pain scores decreased by an average of 1 point. Two patients experienced mild infections, requiring additional treatment.

Conclusion: The study concludes that PRF dressings are more effective than normal saline in promoting wound healing, reducing wound size, and alleviating pain in patients with chronic wounds, suggesting their potential as a valuable treatment.

4. EVALUATING THE IMPACT OF VIRTUAL REALITY ON COGNITIVE RECOVERY IN STROKE PATIENTS: A COMPARATIVE SINGLE-CENTERED STUDY IN INDIAN CONTEXT

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AIIMS Patna

Abstract: This study investigated the feasibility and effectiveness of VR-based cognitive rehabilitation for stroke patients in India. A randomized controlled trial (RCT) compared VR-based therapy to conventional therapy on cognitive recovery in stroke patients. The results

showed that VR significantly improved cognitive function as measured by MMSE and MOCA scores, suggesting VR can be a valuable tool for enhancing stroke recovery in India.

Introduction: Stroke is a major cause of disability worldwide, often leading to cognitive impairments. Virtual Reality (VR) has emerged as a promising tool that enhances cognitive recovery.

Objectives: This study aimed to evaluate the impact of VR on cognitive recovery in Indian stroke patients. VR offers immersive, interactive environments for neurorehabilitation.

Methods: Thirty stroke patients were randomly assigned to either a VR group or a control group. The VR group underwent VR-based cognitive training while the control group received traditional therapy. Cognitive outcomes were measured using MMSE, MOCA and MSPAN.

Results: The VR group demonstrated significant improvements in MMSE and MOCA scores compared to the control group at 1 months and 3 months. While MSPAN scores declined in both groups, the decline was smaller in the VR group.

Conclusion: VR therapy significantly enhances cognitive recovery in stroke patients compared to traditional methods. These findings support the integration of VR into stroke rehabilitation programs in India, offering a promising avenue for improving patient outcomes.

5. AN OBSERVATIONAL STUDY FOR ASSOCIATION BETWEEN 25(OH) VITAMIN D AND SERUM TESTOSTERONE LEVELS IN MEN WITH CHRONIC TRAUMATIC SPINAL CORD INJURY

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Introduction: By investigating the association between vitamin D and testosterone, this study aims to contribute to our understanding of the complex hormonal dysregulation and this may pave the way for improved management strategies, enhanced quality of life, and better overall health outcomes for patients.

Materials and Methods: Hospital based observational cross sectional study done in IPD and OPD setting in PMR department of SMS Hospital . Assessment of men with chronic traumatic spinal cord injury through history taking , neurological examination and ASIA protocol scale and morning sample of serum 25 (OH) vitamin D and serum total testosterone .

Results: A deficiency of 25(OH)D (<20 ng/mL) was observed in 35 patients (70 % of the study population), 13 men (26% of the study population) exhibited sub-optimal 25(OH) levels . Only two men exhibited normal 25(OH)D levels

A biochemical androgen deficiency (total testosterone<300 ng/dL) was observed in 20 patients(40%) . It was exhibited by 20 of 35 with 25(OH)D deficiency (57.14%) (p = 0.02)

Discussion: Our study results are consistent with previous observational studies showing positive correlation between serum 25(OH)vitaminD and testosterone in men with chronic traumatic spinal cord injury

Conclusion: An evidence is here provided that in men with SCI, 25(OH)D correlates with total testosterone and exhibits an independent linear association.

6. COMPARISON OF EFFICACY OF EXTRACORPOREAL SHOCK WAVE THERAPY (ESWT) AND ULTRASOUND THERAPY (UST) IN THE TREATMENT OF MYOFASCIAL PAIN

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Introduction: Myofascial Pain Syndrome (MPS) presents a significant clinical challenge due to its high prevalence and impact on quality of life. This study focuses on comparing the efficacy of Ultrasound Therapy (UST) alone versus a combination of UST and Extracorporeal Shock Wave Therapy (ESWT) in managing MPS.

Methodology: This randomized, hospital-based comparative study was conducted from September 2022 to October 2023 at the Department of Physical Medicine & Rehabilitation, Mahatma Gandhi Medical College & Hospital, Jaipur. A total of 102 patients, aged 18-65, diagnosed with MPS were randomized into two groups: Group A received UST only, and Group B received a combination of UST and ESWT. Treatment efficacy was assessed using the Visual Analogue Scale (VAS) and the Short-Form McGill Pain Questionnaire (SF-MPQ) over a period of six months.

Results: Both groups showed significant improvements in pain reduction and functional status at the 6-week and 6-month marks. However, Group B (UST + ESWT) exhibited a more sustained and significant reduction in pain and tenderness compared to Group A (UST alone).

Conclusion: The combination of UST and ESWT provides a superior treatment modality for Myofascial Pain Syndrome, offering sustained pain relief and functional improvement over UST alone. This supports the adoption of a multimodal treatment approach in clinical practice for enhanced patient outcomes.

7. REHABILITATION OF A PATIENT WITH BILATERAL CONGENITAL LIMB DEFICIENCY – A CASE REPORT.

Dr. Arun Ojha

Background: Limb deficiency involves shortening or absence of limb segments. Congenital longitudinal deficiency of the tibia, affecting about 1 in a million births and may have a genetic basis, is characterized by absence of the tibia with an intact fibula. This can be an isolated issue or part of broader malformation syndromes. Here, we present an 11-year-old girl with complete absence of both tibias, partial tarsal bone absence, missing foot rays, bilateral knee flexion, and webbing, without other syndromes.

Case Presentation: An 11-year-old girl, born to non-consanguineous parents, exhibited deformities and leg shortening. Radiological findings showed complete absence of both tibias, partial absence of tarsal bones, absence of the 2nd, 3rd, 4th, and 5th rays in right foot, absence of the 3rd, 4th, and 5th rays in left foot, bilateral knee flexion and webbing. Following bilateral knee disarticulation surgery, she was fitted with transfemoral prostheses and underwent rehabilitation to achieve near normal gait parameters.

Discussion: Effective management involves achieving a prosthetic-fittable healthy amputation stump, identifying prosthetic demands and fabrication of appropriate prosthesis, Basic and advanced prosthetic training include focussing on early gross motor skills like standing and walking supports better integration of prosthetics and overall mobility. Combining these approaches enhances functionality and mobility.

Conclusion: This report highlights the importance of tailored treatment based on patient needs and cultural factors, considering both surgical and prosthetic solutions. Also, need of surveillance and early detection system to track and analyse congenital malformations for identification of causes and risk factors.

8. USG GUIDED GOLD-INDUCED CYTOKINE INJECTION THERAPY IN PATIENTS WITH KNEE OSTEOARTHRITIS ON IMPROVING PAIN AND FUNCTION: A CASE SERIES

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Introduction: Knee osteoarthritis is characterized by pain, functional impairment, disability and decreased quality of life. GOLDIC is a novel conservative approach for OA knee having tissue repair and regeneration by using the phenomenon of anti-inflammatory cytokine proliferation that occurs during a prolonged incubation of whole blood in tubes coated with gold particles stimulating the body's own regeneration ability.

Case1: 51 year/female nurse with Osteoarthritis KL Grade 2 was given 3 doses of Gold induced cytokine 1 week apart, followed up using visual analogue scale (VAS) and Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) at 1 month, 3 month and 6 months.

Case 2: 58 year/male, businessman with osteoarthritis KL Grade 2 was given 3 doses of gold induced cytokine 1 week apart, followed up using VAS and WOMAC at 1 month, 3 month and 6 months.

Case3: 62 year/female, Engineer with Osteoarthritis KL Garde 2 was given 3 doses of Gold induced cytokine 1 week apart, followed up using VAS and WOMAC at 1 month, 3 month and 6 months.

Discussion: Gold compounds (aurothiomalate) inhibit the production of nitric oxide (NO) from chondrocytes. It increases Gelsolin level and G-CSF (granulocyte-colony stimulating factor) and SCGF- β (Hematopoietic-stem cell growth factor-beta) by activation of monocytes resulting in regeneration and differentiation of cartilage.

Conclusion: GOLDIC is one of the emerging and promising minimally invasive procedures for conservative management of knee osteoarthritis in future. Comparative studies with long-term follow-up will supplement these promising early clinical results.

9. A CASE OF EFFECTIVE MANAGEMENT OF RIGHT EQUINOVARUS DEFORMITY AFTER COMPREHENSIVE REHABILITATION FOLLOWING INCOMPLETE NON-TRAUMATIC SPINAL CORD INJURY: A CASE REPORT

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Introduction: Non-traumatic spinal cord injuries can arise from a range of causes such as neoplastic, viral, inflammatory, vascular, and congenital disorders, as well as from the postoperative period. Ependymomas and astrocytomas are common intramedullary tumors, with the majority being benign. The symptoms experienced depend on the tumor's location, but patients typically present with acute or subacute neurological deficits. These can include loss of sensory and motor function, bowel and bladder issues, and deformities, which can all significantly impact daily life.

Case Presentation: A 10-year-old male patient a k/c/o Non traumatic SCI presented with complaints right lower limb weakness and foot deformity. Patient post L1 ependymoma surgery, gives h/o dragging of foot and raising his foot from ground while walking. He also gives h/o right LL weakness and one episode of fall. He developed foot drop with high stepping gait which gradually resulted in equinovarus deformity. On examination, he had unilateral calf atrophy. His motor level of injury was T12, NLI-T12, AIS-D.

Discussion: Upon admission detailed neurological examination and muscle charting was done. After appropriate testing and radiological investigations Right Tibialis Anterior Transfer + TA lengthening was done under GA, followed by above-knee casting. Further patient was given right solid ankle foot orthosis.

Conclusion: Prompt rehabilitation is crucial after spinal tumor excision to ensure optimal recovery. A comprehensive rehabilitation program typically includes surgical correction of foot deformities, the use of orthotic devices, and training in activities of daily living (ADLs). Early intervention can significantly enhance functional outcomes and facilitate a faster return to normal activities.

10. ACHIEVING MOBILITY: "SUCCESSFUL AMBULATION IN PARAPLEGIA WITH TRANSTIBIAL AMPUTATION": A CASE REPORT

Dr. Zakir Hussain

Introduction: Combining paraplegia with lower limb amputation presents complex rehabilitation challenges. While wheelchair use is common, personalized rehabilitation can enable functional ambulation and improve mobility, even in resource-limited settings.

Case Presentation: We report a case of a 38-year-old shopkeeper with 15 years of traumatic paraplegia (AIS-A, L2) neurogenic bowel & bladder with 11-year-old left transtibial amputation (cause: neuropathic ulcer sequelae) and a grade 4 pressure injury over bilateral ischial tuberosity. After undergoing extensive wound care and comprehensive transfer training, during which the patient achieved full independence in wheelchair propulsion, the patient was provided with a left-sided Patellar Tendon Bearing (PTB) prosthesis and a right-sided Ankle Foot Orthosis (AFO) and structured gait training program was initiated.

Discussion: This case emphasizes the importance of functional ambulation, which is not only vital for improving mobility but also plays a crucial role in preventing pressure injuries. Customized rehabilitation plans can significantly enhance mobility and support community reintegration, leading to a better quality of life.

Conclusion: Ambulation should not be dismissed in patients with lumbar spinal cord injuries along with transtibial amputations. The successful outcome focuses on the potential for enhanced functional independence and mobility in individuals with dual disabilities and complications. With the right approach, independence and return to work are achievable goals.

ABSTRACTS OF POSTER PRESENTATIONS

1. EFFECTIVE COMPREHENSIVE REHABILITATION OF CAUDA EQUINA SYNDROME WITH MULTIPLE LONG BONE INJURIES – A SINGLE CASE STUDY

Dr. Priyadarshini V S, Dr. P. Thirunavukkarasu, Dr. A. Rajakumar, Dr. K. Chitrarasu, Dr. K. Premalatha, Dr. R.M. Kamakshi, Dr. A. Guna

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Introduction: The incidence of spinal cord injuries in female is 21% and the incidence of bilateral femur fracture in spinal cord injury is 2.4% to 4.8%. This case study is about the rehabilitation of a paraplegic patient with non-union long bone fracture.

Case Presentation: A 32 years old female diagnosed as traumatic paraplegia due to L2 burst fracture, both femur fracture with non-union right femur for which intramedullary interlocking nail was done. She presented with weakness of both lower limbs, bladder and bowel disturbance. The patient had difficulty with mobility and ADL activities.

Discussion: On admission patient was walking with unequal weight distribution with walker support. The non-union of right femur and muscle weakness subject the intramedullary nail on right side to increased weight bearing. Also weakening of implant bone interface around the screws was found on the X-ray. The objective was to continue mobility by offloading right femur and avoiding implant failure so that the patient was given gait training with right proximal ischial weight bearing orthosis and left plastic AFO. All other conventional treatment protocol was followed.

Conclusion: A female patient with cauda equina syndrome with both femur fractures – non-union right femur posed a challenge for the rehabilitation. With comprehensive rehabilitation addressing both the neurological and orthopaedic challenges, patient had gained significant improvement which has improved her quality of life.

2. DEVELOPMENTAL DISORDERS MIMICKING CEREBRAL PALSY

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Cerebral palsy is a group of permanent disorders of development of movement and posture causing activity limitation, that is attributed to non-progressive disturbances that occurred in the developing fetal or infant brain.

The clinical presentation of many developmental disorders can mimic cerebral palsy at an early age.

This case series includes a group of patients who presented to OPD with clinical features that pointed towards cerebral palsy in the starting. But as we examined the child further, by more thorough history taking and by further investigating with MRI and genetic studies and taking help of our fellow departments, we were able to come to a different diagnosis.

The aim of this case series is to identify the clinical features that should alert the physician to the possibility of disorders that resemble cerebral palsy.

3. MANAGEMENT OF NEUROGENIC BLADDER IN POST - ENCEPHALOMYELITIC SEQUELAE WITH TRANSCUTANEOUS POSTERIOR TIBIAL NERVE STIMULATION -A CASE REPORT

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Introduction: Encephalomyelitic sequelae often result in neurological deficits with bladder dysfunction. Neurogenic detrusor overactivity(NDO) causes spontaneous reflex bladder contractions at low volumes, leading to urinary incontinence and upper urinary tract damage. The primary goal of treating NDO is to maintain a high-capacity bladder reservoir at low intravesical pressure while protecting the upper urinary tract. This case report highlights bladder capacity augmentation using Transcutaneous posterior tibial nerve stimulation (PTNS) in a patient with detrusor overactivity.

Case Report: A 19-year-old male with quadriplegia and bladder dysfunction, secondary to Acute disseminated encephalomyelitis, presented with increased urinary frequency, dribbling, and significant post-void residual urine. Cystometry revealed detrusor overactivity with a pressure rise of 50 cm H₂O at 100 ml of normal saline infusion. The patient was trained clean intermittent catheterization, each session draining 100 ml, and was started on oxybutynin. Since bladder volume did not improve, PTNS was given for 12 sessions. Post-treatment, bladder capacity increased to 300 ml, which was confirmed with Cystometry showing a pressure rise of 17 cm H₂O at 300 ml of saline infusion.

Discussion: Posterior tibial nerve is a terminal branch of sciatic nerve with lumbar and Sacral roots.(L4 to S3).Transcutaneous PTNS involves S3 fibres and inhibit detrusor activity by depolarizing somatic Sacral and lumbar afferent fibres.

Conclusion: PTNS enhances bladder capacity and reduces detrusor overactivity. Filling cystometry is a simple and feasible bedside test for assessing neurogenic bladder, even in peripheral hospitals.

4. ENHANCING THE VOCATIONAL SKILLS WITH MECHANICAL PROSTHESES: A CASE REPORT ON BILATERAL TRANSRADIAL AMPUTATION

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Introduction: Transradial amputation accounts 31% of upperlimb amputation procedures. Bilateral transradial amputation, poses significant challenges in terms of functional independence and quality of life. Use of prostheses with mechanical hand helps improving the functional outcomes and vocational skills which is evaluated in this report.

Case Presentation: 59-year-old male with bilateral transradial amputations resulting from a blast injury sustained 40 years ago was previously using cosmetic prostheses with adaptive modifications to perform basic tasks, which limited his ability to secure employment. He developed ability to write using residual limbs with adaptive modification and was working as petition writer outside government offices. Currently, patient has been rehabilitated with bilateral endoskeletal mechanical prostheses, which are intended to enhance functional capacity for specific job duties, ADLs, and improved cosmetic and aesthetic appeal.

Discussion: Rehabilitation program included comprehensive training sessions aimed at improving the patient's ability to control and utilize mechanical hands effectively. Training included writing, document handling, and other tasks crucial to his role as clerk.

With time and practice, he gained confidence and efficiency in fine motor tasks and bimanual activities. It was measured using Rating guide scale. Follow-ups showed sustained progress and adaptation to mechanical hands. Currently he is working as clerk in an advocate's office.

Conclusion: This case shows the importance of personalized rehabilitation programs in helping bilateral upper limb amputees not only to improve functionally but also cosmetically and vocationally. Patient's success highlights the potential for mechanical prostheses to significantly enhance quality of life and to become productive member of society.

5. SUCCESSFUL TREATMENT OF HETEROTROPHIC OSSIFICATION (HO) WITH RISEDRONATE: A SINGLE CASE STUDY

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BACKGROUND: Heterotrophic ossification is rare and debilitating condition characterised by an abnormal bone formation in soft tissue, joints , surrounding tissues and amputation sites, which occurs as complications in spinal cord injuries, traumatic brain injury, burns, orthopedic surgery, neurological disorders, combat , sports & blast injuries, compressive myelopathy and cauda equine syndrome. As per various literature incidence of heterotrophic ossification is 18 percent in compressive myelopathy cases and prevalence is 1 in 4 patients.

CASE PRESENTATION: 57 year old male diagnosed as quadriplegia due to compressive cervical myelopathy, volkmann ischemic contracture in left forearm, post traumatic sequelae resulting in limited ROM and significant pain in left hip.

TREATMENT GIVEN: Risedronate 35mg/ week orally for 2 months, which is monitored clinically (pain, ROM & swelling) and through radiographic imaging. Previously etidronate is recommended for patients with HO. Despite, we tried risedronate for this patient. He is tolerating well without any side effects and gradual improvement is seen in ROM, swelling and pain is reduced.

OUTCOME: Notable reduction in HO volume in imaging and clinical improvement are seen. However etidronate (1st Gen) is drug of choice for HO, due to ceased production of this drug, alternate drug risedronate (3rd Gen), which is 1000 times more potent and has far less side effects has tried.

CONCLUSION: Evidently, this case study has proved that risedronate has potential efficacy in HO management, which showed productive role in treatment option for this challenging disease.

6. POSTER OF AN OBSERVATIONAL, CROSS - SECTIONAL STUDY TO EVALUATE THE PREVALENCE OF SHOULDER PAIN IN CHRONIC SPINAL CORD INJURY PATIENTS AT SAWAI MAN SINGH HOSPITAL AND ATTACHED HOSPITAL JAIPUR

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Introduction: Shoulder pain mainly arises after some time in both paraplegic and quadriplegic patients due to change in use of shoulder joint. In quadriplegic patients, patients cannot use both upper and lower limb, which lead to lack of muscle balance, lack of movement in shoulder, muscular fatigue and weakness. In paraplegic patients, the cause of pain is overuse of upper limb in carry out daily life activities due to loss of power in lower limb.

Purpose Of Study: To assess prevalence of shoulder pain in chronic spinal cord injury patients

(> 6 months of injury) and to start early Rehabilitation exercises to prevent shoulder pain and improve quality of life in such patients.

Materials & Methods: Hospital based observational cross-sectional study done in Department of Physical Medicine and Rehabilitation, Sawai Man Singh Medical College and Associated Hospitals, Jaipur in Chronic spinal cord injury patients (> 6 months of injury) for prevalence of shoulder pain in 70 spinal cord injury patients. Pain scoring done by Wong-baker FACES pain rating scale and DASH questionnaire.

Result: The DASH score distribution by neurological level: Patients with incomplete injuries tend to fall in the <15 and 15.01-40 categories, suggesting partial preservation of upper limb Function. Complete injuries are associated with higher DASH Scores (>40), indicating severe disabilities due to extensive neurological dysfunction. The overall prevalence of shoulder pain was Prevalence of shoulder Pain in the cervical, the thoracic and lumbar group was 70%, 63.3%, and 20% respectively. Mean of DASH score in cervical, thoracic and lumbar group was 47, 33 and 12 respectively (P value < 0.001).

Discussion: Our study results are consistent with previous observational studies showing positive correlation between shoulder pain and higher spinal cord injury level.

Conclusion: Prevalence of shoulder pain increase with complete spinal cord injury level and higher spinal cord injury level. Result of our study, it seems that shoulder pain has a relatively high prevalence and is more severe in cervical quadriplegic spinal cord injury patients.

7. OCCURRENCE OF URINARY TRACT INFECTION IN REFERENCE TO MODE OF BLADDER-EMPTYING METHODS, ITS PATHOGEN FREQUENCY AND THEIR ANTIBIOTIC SENSITIVITY PATTERN AMONG TRAUMATIC SPINAL CORD INJURY PATIENT

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Introduction: The purpose of this study was to determine the occurrence of urinary tract infections (UTIs), correlate the mode of bladder emptying, identify the most frequently isolated pathogens associated with UTIs, and evaluate the antibiotic sensitivity of these pathogens in spinal cord injury (SCI) patients.

Material and Methods: A total of 110 patients of SCI were evaluated in this study. The demographic data of these patients, Mode of injury, SCI data, ASIA Scale, Mode of bladder emptying, Signs of UTI, Microorganisms isolated by urine culture, and Antimicrobial susceptibility tests were recorded.

Results: Of the 110 SCI patients, 97 were males and 13 were females. Signs of Urinary Tract Infections (UTIs) were prevalent in the study showing a presence in 25 patients, reflecting a common issue among individuals with spinal cord injuries. The prevalence of UTI was 22.7%. The CIC mode for Bladder emptying showed the highest count of individuals without UTI signs, with 27 counts, while only about 4 individuals show signs of UTI. This suggests that CIC is a prevalent method with a relatively lower association with UTIs. *Escherichia coli* (*E. coli*) showed the highest count of significant colonies (50.8%), indicating it is the most prevalent and significant pathogen in the study. The antimicrobial agents that were most frequently susceptible were Fosfomycin, Piperacillin/Tazobactam, and Imipenem.

Conclusion: The UTI prevalence in patients with SCI was high. The CIC mode for Bladder emptying showed the highest count of individuals without UTI signs. *E. coli* was the most common uropathogen, and Fosfomycin was the most frequently susceptible antimicrobial agent, emphasizing its potential as an effective treatment against certain bacteria, particularly *E. coli*, while also underscoring the importance of susceptibility testing for optimal therapeutic outcomes.

8. REHABILITATION APPROACH TO A CHILD WITH JOUBERT SYNDROME: A CASE REPORT

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Introduction: Joubert syndrome (JS) is a rare autosomal recessive disorder characterized by hypotonia, developmental delay, and intellectual disability, associated with the molar tooth sign on axial MRI. Despite known neuropathology, literature on rehabilitation management is limited. This report aims to document and explore rehabilitation strategies for a child with JS.

Case Report: An 18-month-old girl presented with difficulty in sitting and delayed speech development. She had hypotonia, facial dysmorphisms, and delayed milestones. MRI revealed characteristic features of JS. A comprehensive rehabilitation plan was initiated, including physical, occupational, and speech therapy. A sitting device and bilateral above-knee splints were prescribed. At 1-year follow-up, the child showed significant improvements in motor skills and trunk control, though speech development remained limited.

Discussion: Joubert syndrome is identified by clinical symptoms and distinctive MRI findings. Managing JS effectively requires a personalized, multidisciplinary rehabilitation plan. Our approach, which included neurodevelopmental therapy, sensory integration, and supportive devices, led to significant improvements in the child's motor skills over a year. This case highlights the importance of early diagnosis, including use of MRI to distinguish JS from other similar conditions, intervention and a comprehensive strategy to address developmental delays and support long-term functional gains and improved quality of life.

Conclusion: Early diagnosis and comprehensive rehabilitation are crucial for children with Joubert syndrome. A multidisciplinary approach, involving physical, occupational, and speech therapy, along with supportive devices, can bring about significant improvement in the clinical symptoms. Regular monitoring and individualized treatment plans are essential for optimising outcomes for children with JS.

9. ALTERNATIVE DRIVING ABILITY WITH ADAPTATION OF VEHICLES CORRESPONDING TO THE DISABILITY OF BILATERAL TRANSRADIAL AMPUTATION

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Introduction: Physical constraints frequently prevent amputees from achieving mobility, independence, and social life. Transportation in regular vehicles may not fulfil their needs. Adaptation of vehicles addresses these challenges.

In this case, his self-care, ADL and IADL are affected. This case-report emphasises innovative ideas for adaptation by suggesting rarest vehicle adaptation to integrate them into society and increase their quality of life.

Case presentation: 30-year-old male, bilateral transradial amputee came for fitness to drive LMV. His impairment is bilateral transradial amputation, disability is inability to do all ADL activities and handicap is inability to travel independently with family. Muscle strength, ROM, coordination, decision-making ability, reaction time, driving with adaptations were assessed. It was found that, reach to knobs for headlight, indicator, wiper were minimal. He was trained to drive with foot and after 1 month, was found that his driving was smooth and without jitteriness.

Discussion: Patient who came for driving license fitness was assessed and was found that his coordination, speed, reaction time was good and comparable enough with normal individuals.

Additional adaptations where recommended which includes –

- Automatic-gear transmission
- Steering operation with spinner knob at 3o'clock position for right foot control
- Accelerator, brake with left foot control
- Horn, headlight-flash, indicator, wiper with button switches for left elbow control
- Gearshift with right foot
- Upslope, downslope control with hill-hold assist

Conclusion: Even though he couldn't drive with the usual adaptations, rare form of driving adaptation was suggested based on his adaptive compensatory functional potential so that he is integrated into the society.

10. ARTHRITIS ROBUSTUS, ABNORMAL RHEUMATOID IN AN ELDERLY MALE WITH LOWER BACK PAIN - A CASE REPORT

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Introduction: Rheumatoid Arthritis (RA) typically presents with pain, stiffness, and small joint involvement. However, arthritis robustus, a rare RA subtype, often shows minimal clinical symptoms despite apparent signs of inflammation.

Case presentation: A male manual labourer, in his early fifties, presented at PM&R OPD with low back pain with radiation to the right posterior thigh region for the last 4 weeks; without any history of trauma or fall, walking difficulty or bowel-bladder symptoms. On examination, swelling is noted over his left elbow and right ankle, and bilateral hand deformity was noticed. There was no pain, or tenderness on palpation over the joint swellings. There was mild restriction of the left elbow, which did not hamper his ADL activities. Laboratory tests showed elevated inflammatory markers (ESR, CRP), and positive rheumatoid factor and anti-CCP antibodies. Radiographs indicated joint space narrowing, erosions, and periarticular osteopenia, suggesting chronic inflammation. The patient was educated about the condition, and treatment with DMARDs (Disease-Modifying Antirheumatic Drugs), low-dose prednisolone, and nonsteroidal anti-inflammatory drugs (NSAIDs) was initiated.

Discussion: Arthritis robustus differs from classical RA by the lack of pain and stiffness despite synovial inflammation and joint destruction. Delayed recognition can lead to disease progression and complications, including deformities and comorbid conditions such as autoimmune disorders and osteopenia which can further limit day-to-day activities.

Conclusion: This case highlights the rare variety of rheumatoid arthritis and highlights the importance of thorough clinical evaluation of a silent disease and prompt management for the prevention of progressive joint deformities.

11. TITLE: A SUCCESSFUL REHABILITATION OF LEFT TRANSTIBIAL AMPUTEE-OVERCOMING STUMP KELOID CHALLENGES: A CASE REPORT

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Introduction: Approximately 1.5% to 3.5% of females with diabetes will go through a lower-limb amputation (including TTA) each year, which have significant impact on quality of life.

Case Presentation: A case report of a rehabilitation of 47 years old female with tendency of keloid formation who underwent limb salvage procedure-fasciotomy in view of cellulitis left leg

due to DFS, followed by Left TTA developed irregular multiple hypertrophied scar in fasciotomy sites (two vertical 6.5" & 1.5" each, one transverse 6" length with breadth of 1cm – 1.5cm each) over anterior pressure sensitive, weight bearing area of stump with repeated ulcer formation, along with other nonideal stump features like Fibula lower than Tibia, bulbous stump, all interfering with prosthetic fit.

Our multidisciplinary rehabilitation team executed a personalized program, including:

1. Endoskeletal TT prosthetic modification by giving relief in anterolateral aspect of socket & 5° hyperextension to avoid friction. Eventhen she developed repeated ulcer & patellar tendon pain. A window was created in prosthetic socket & inner soft insert to avoid irritating the scar, with soft padding at the top edge for gentle tendon pressure. 2. Ulcer management with daily saline dressing & maintaining good glycemic control. 3. Other conventional rehabilitation program.

Discussion: Marked reduction in discomfort due to keloid scar during gait with prosthesis; The importance of surgeons and orthopedicians carefully planning and designing the ideal residual stump during amputation procedures.

Conclusion: This case report exhibits possibility of optimal outcomes with customised care and interdisciplinary collaboration; focuses on the magnitude of comprehensive rehabilitation in overcoming the challenges faced by Left TT Amputee.

12. AMBULATORY OUTCOMES AFTER COMPREHENSIVE REHABILITATION IN A CP CHILD WITH CROUCH GAIT: CASE REPORT

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Introduction: Cerebral Palsy (CP) is the most common chronic disability experienced by children our modern times. Any nonprogressive central nervous system injury occurring during the first 2 years of life is considered CP.

Case Presentation: A 14-year-old male, presented with complaints of difficulty in walking and sitting due to bilateral 'tightening' of his lower limbs. He had delayed attainment of motor milestones. Child is in 9th Grade and has limited mobility vis rollator. Child has poor postural control cannot stand without support. This is despite two sessions of Injection Botox in B/L hamstrings and hip adductors. On examination, child has increased tone in both of his lower limbs and spasticity of knee, ankle and adductors GMFCS – Grade III and MACS – Grade I.

Discussion: Along with physiotherapy, left tibialis anterior tendon lengthening was done as well as bilateral hamstring release, followed by above-knee casting. Further patient was given bilateral solid knee ankle foot orthosis.

Conclusion: Surgical intervention is a valid treatment option for patients not responding to conservative management of spasticity. Adequate rehabilitation and training are necessitated following surgical correction of deformities in CP children. Stage appropriate training in ADL and orthosis use along with adequate physiotherapy as well as sticking to a home-based training programme are keys to successful rehabilitation of CP children.

13. A RARE CASE OF CEREBRAL PALSY WITH CONGENITAL ABSENCE OF VI AND VII NERVES : A CASE REPORT

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Introduction: Moebius syndrome is a rare congenital, non-progressive condition characterized by facial and abducens nerve palsy. Cerebral Palsy is a disorder of muscle tone and posture, non-progressive, due to insult in a developing brain.

Case Presentation: A 2.5-year-old male was admitted with motor developmental delay. He had a history of forceps delivery due to maternal exhaustion, delayed crying, and seizures at 6 months of age. Clinical examination revealed incomplete closure of the eyelids during sleep, incomplete closure of the lips, a mask-like facial appearance, and drooling of saliva on the right side. MRI reports showed congenital absence of the right VI and VII cranial nerves.

Discussion: Moebius syndrome is a rare congenital condition, occurring sporadically, with the most common cause being infarction of the brainstem. Cerebral palsy is a disorder of the brain cortex resulting from irreversible damage to the developing brain. The presentation of both cerebral palsy and Moebius syndrome is rare. Following rehabilitation, the patient was able to walk.

Conclusion: The estimated prevalence of Moebius syndrome is 1 in 125,000 live births, and it affects both sexes equally. The prevalence of cerebral palsy is estimated to be around 2 to 3 per 1,000 live births. The simultaneous presentation of both conditions is very rare.

14. TRAUMA-INDUCED EXACERBATION OF THE CHRONIC INFLAMMATORY BACK PAIN: INSIGHTS FROM A CASE OF AGGRAVATED SACROILIITIS

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Introduction: Ankylosing Spondylitis (AS) is a significant cause of chronic inflammatory low back pain (LBP). Research indicates that biomechanical stress or trauma can trigger chronic inflammatory arthropathy. This case illustrates how trauma can exacerbate the inflammatory progression of AS.

Case Presentation: A 30-year-old male experienced worsening LBP and difficulty walking over the past one and a half years. Initially, five years ago, he had non-radiating LBP with morning stiffness and lethargy, which were manageable with medication and exercises for two years until he met a road traffic accident (RTA). He sustained significant trauma to his lower back and left hip, resulting in a comminuted sacral fracture and bilateral pubic rami fractures. For the first one and a half years post-trauma, his symptoms were stable, but subsequently, he developed severe LBP with morning stiffness, worse than before the trauma. Imaging studies in May 2023 showed progressive inflammatory changes, such as bone marrow edema in the left hip and sacroiliac joint. A follow-up MRI in May 2024 indicated worsening sacroiliitis in the left side. ESR and CRP levels were elevated.

Discussion: This case suggests that while the patient had underlying inflammatory LBP, the trauma from the RTA significantly aggravated this, leading to severe symptoms and functional impairment. Studies have shown that trauma may reveal undiagnosed spondyloarthropathy (SpA) and that post-traumatic patients with SpA often have higher ESR and CRP levels.

Conclusion: This case highlights the importance of thoroughly investigating post-traumatic joint pain to rule out exacerbation of underlying inflammatory conditions like AS.

15. A CASE REPORT ON ORGANOPHOSPHORUS INDUCED DELAYED NEUROPATHY: REHABILITATION POINT OF VIEW

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Introduction: OP intoxication occurs in three phases: first an acute syndrome with prominent neuromuscular weakness and autonomic features; then, an intermediate syndrome; and,

finally, a delayed peripheral neuropathy might occur which although is rare, but still, cases have been reported throughout the world. OP induced delayed neuropathy (OPIDN) may present as paraesthesia in the distal extremities, sensory loss, ataxia, and flaccid or spastic paralysis which usually appear within 1-4 weeks of exposure to toxin.

Case presentation: A 29/M, ingested OP containing pesticide. After 1.5 month of ingestion of toxin, he started having calf pain with dragging of foot which further progressed within 7 days such that, he was unable to stand and had difficulty in buttoning his clothes as well. He also lost control over urination and defecation. Nerve conduction study was done which was suggestive of predominantly lower limb motor axonal neuropathy. Injections of vitamin B3, B5, B6, B12 and tablet Levo-carnitine 500 was given. After rehabilitation he was able to walk for 12 meters with KAFO and walker and was started on CIC.

Discussion: Our patient had developed delayed neuropathy after surviving the acute cholinergic crises following accidental ingestion of organophosphorus pesticide. NCS showed axonal neuropathy. Both clinical and electrophysiological findings suggested OPIDN.

Conclusion: OP induced delayed neuropathy is a rare but known clinical condition which has delayed presentation and thus each patient of OP poisoning should be followed up for at least 2 months. Clinician must be vigilant to look for symptoms and nerve conduction study may further help in diagnosis. Rehabilitation program should be integral part of the management protocol.

16. REHABILITATION OF SPASTIC SHOULDER PAIN IN HEMIPLEGIC PATIENT – A CASE REPORT

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Introduction: Spastic shoulder pain in hemiplegic patients is a common clinical consequence of stroke. Hemiplegic shoulder pain can occur as early as 2 weeks post-stroke. Its incidence varies in up to 70% of patients and often appears in the first few days. 1 75% of patients complain of pain at some time in the first 12 months following a stroke. Patients with this problem lose movements around the shoulder and in hypertonia, a typical posture of adduction and internal rotation of the arm is seen².

Case Presentation: A 50-year-old male with 1-year-old h/o LT SIDE HEMIPLEGIA which was managed conservatively, presented with complaints of left spastic shoulder pain and restricted ROM (abd-700,IR-100). Difficulty in performing activities of ADL with UL and LL. Clinical examination revealed sensory intact, motor weakness & spasticity LT upper limb. Initially started on oral antispastic, exercise, & resting hand splint. No significant physical or functional improvement in 4 weeks. Lt side SSN block done, significantly improved in ROM. But no satisfactory improvement in pain. after 2 weeks Lt brachial plexus block done. Post-procedure. Biceps, thumb adductor, wrist, and finger flexor MAS-0. Oral antispastic medicines were tapered down.

Discussion: Management strategies include physical therapy, pharmacological treatments to reduce spasticity & possible intervention (SSNB & Brachial plexus nerve block) to alleviate pain and improve range of motion.

Conclusion: Spastic shoulder pain is managed with therapeutic strategy to promote comprehensive functional recovery to improve balance, mobility, activity of daily living, quality of life, and shoulder pain in post-stroke patients.

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17. HOFFMANN SYNDROME: A REVERSIBLE MYOPATHY IN A YOUNG ADULT — THE IMPACT OF EARLY DIAGNOSIS AND MULTIDISCIPLINARY REHABILITATION: A CASE REPORT

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Background: This case report details a 22-year-old male, Muslim by religion, with a one-year history of burning sensations and intermittent crampy pain in both lower limbs, progressive weight gain. These symptoms with specific physical findings and laboratory results, presented an intriguing clinical picture.

Case Presentation: The patient, was obese with calf muscle hypertrophy but no hypertrophy in other muscle groups and no pedal edema, motor power of 4/5 in both upper and lower limbs bilaterally, with delayed knee jerks. Laboratory findings showed significantly elevated creatine phosphokinase (CPK) levels at 10,119 U/L, along with elevated LDH, CRP, cholesterol, and TSH levels. However, CBC, LFT, blood sugar levels, and cardiac evaluations were normal.

Discussion: The combination of muscle hypertrophy, obesity, and the absence of prominent muscle weakness, elevated CPK, hypothyroidism presents diagnostic challenges. The differential diagnoses were metabolic myopathies and endocrinopathies. The absence of hypertrophy in other muscles and the lack of systemic features like edema, cardiomegaly, organomegaly, and neurological symptoms help narrow down the diagnosis. Given the patient's obesity and metabolic abnormalities, muscle function, mobility, and the potential for further deconditioning were concerns. Multidisciplinary approach was employed, involving other specialties. A carefully tailored rehabilitation program was designed, incorporating range of motion exercises, strengthening exercises, and aerobic activities, to promote overall physical fitness and metabolic health without exacerbating muscle damage.

Conclusion: Hypothyroidism is a very common endocrine disease and clinicians should be aware of this atypical and rare presentation of hypothyroid disease spectrum of Hoffmann Syndrome which is reversible and has good prognosis.

18. CASE OF PAROXYSMAL SYMPATHETIC HYPERACTIVITY SECONDARY TO TRAUMATIC BRAIN INJURY

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Paroxysmal sympathetic hyperactivity(PSH) is a rare but potentially life-threatening sequelae in patients with acute cerebral insult, especially traumatic brain injury(TBI). It clinically manifests as episodes of tachycardia, hyperthermia, sweating, hypertension, dystonic posturing that may last from a few minutes to hours. It can occur spontaneously or following a painful stimulus. The exact pathophysiology is, however, unclear.

This is a case of a 40-year-old male who suffered subdural hemorrhage after a road traffic accident. He underwent decompressive craniotomy and evacuation. Post-operatively, patient was referred to the PM&R department with GCS E2VtM3. During the in-patient rehabilitation for TBI, patient had 8-10 episodes of hypertension, tachycardia, tachypnea, diaphoresis, and extensor posturing each lasting for 15-25 minutes. After ruling out other causes of sympathetic stimulation - sepsis, neuroleptic malignant syndrome, thyroid storm, a diagnosis of PSH was made. Tab. Gabapentin, Tab. Propranolol were started as preventive drugs and oral baclofen was added for dystonia. However, the patient did not respond. A clavicular fracture was identified as a potential painful stimulus and Tab. Tramadol was added along with Clonazepam as an adjunct preventive drug and Clonidine as an abortive drug.

The dose of Propranolol was increased. Following this, the paroxysmal episodes decreased both in frequency and duration within next 5 days.

PSH can be easily missed and is under-diagnosed due to its similarity with other causes of sympathetic overactivity. This case report will bring attention to its clinical features, pathophysiology and treatment, helping clinicians make early diagnosis to prevent future complication in patients with TBI.

19. TUBERCULOSIS IN SYMPHYSIS PUBIS: A RARE CASE REPORT

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Introduction: Osteoarticular tuberculosis is responsible for approximately 15 % of extrapulmonary tuberculosis. Pubic symphysis TB, although uncommon, is again important as these infections once were in the prechemotherapeutic era. Only 9 cases are recorded in last three decades. Furthermore, no literature is available on functional aspect or rehabilitation interventions regarding such cases.

Case presentation: A 57-year-old female presented to PMR OPD (in wheelchair) with pain in pubic region along with progressive restriction of hip movement and activities for few weeks. Further, within few weeks she experienced evening time fever, night sweating and significant weight loss. Examination revealed decreased ROM of left hip along with pain and local tenderness. ADL was 70 initially (Barthel index) and Pain was 8 (NPRS scale). CT-Scan and MRI confirmed infective changes in pubis symphysis suggestive of tubercular involvement along with involvement of adjacent soft tissue. Blood showed CRP-123mg/dl and Mantoux test showed positive result indicating active tuberculosis. Whereas Chest x-ray and other biochemical parameters were normal. Appropriate rehabilitation along with ATD improved the hip ROM and pain (NPRS 2), ADL (Barthel index 100).

Discussion: This case illustrates about the atypical presentation of tuberculosis in an otherwise healthy patient. Also, the role of rehabilitation becomes prominent in regaining ADL early.

Conclusion: Tuberculosis of the pubis is a serious condition that can cause significant morbidity and mortality if left untreated. Early diagnosis and treatment with ATD are effective. Early rehabilitation in musculo-skeletal tuberculosis should be reassessed and advocated wherever necessary.

20. UNRAVELING THE COMPLEXITY OF SEVERE SENSORY AND MOTOR DEMYELINATING POLYRADICULONEUROPATHY – AN INTERESTING CASE REPORT

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Introduction: Severe Sensory and Motor Demyelinating Polyradiculoneuropathy is seen in 0.5-1.5 % in our clinical practice but involvement of more than 2 nerves in the same patient is seldom seen. Demyelinating sensory motor poly neuropathy is a peripheral nerve dysfunction caused by loss of myelination of axons of neurons. It affects large diameter axons first, initially producing motor weakness, loss of vibration and decreased proprioception .

Case Presentation: A 39 year old male treated for Acute necrotizing pancreatitis and Diabetic ketoacidosis in ICU was referred to our department with bilateral foot drop . Clinical examination showed bilateral common peroneal nerve palsy, right ulnar nerve palsy and thickening of superficial nerves. Severity of neuropathy was assessed by Neuropathy symptom score. Nerve conduction study showed Severe Sensory and Motor Demyelinating Polyradiculoneuropathy. Evaluated for Hansens disease and diabetic neuropathy . Slit smear test was negative . Sural nerve biopsy taken. Electrical muscle stimulation and bilateral ankle foot orthosis was given .Steroids were started. Patient showed improvement .

Discussion: This case is presented for its rarity of multiple peripheral nerve involvement . Clinical history and meticulous clinical evaluation of all peripheral nerves is necessary in Peripheral neuropathy which can be acute or chronic. Treatment may vary according to the underlying cause of neuropathy. Various differential diagnosis should be considered and ruled out as treatment is disease specific .

Conclusion: Detailed clinical evaluation with appropriate investigations to clinch the diagnosis is essential for holistic management.

21. COMPLEX REGIONAL PAIN SYNDROME OF UPPER LIMB FOLLOWING HERPES ZOSTER: A CASE REPORT OF INTERVENTIONAL PHYSIATRY

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Introduction: Herpes zoster is caused by the reactivation of the varicella-zoster virus. While most individuals recover within weeks, some may suffer persistent pain and complications, such as complex regional pain syndrome (CRPS). Post-herpetic CRPS in the upper limb is rare and atypical. This case explores a rare instance of this condition and its management in a rehabilitation setting.

Case Presentation: A 44-year-old patient experienced persistent radiating pain from the elbow to the hand, following herpes zoster vesicular eruptions over three months prior. Examination met the Budapest Clinical Criteria for CRPS, showing sensory, motor, vasomotor, and sudomotor signs and symptoms. Despite conservative treatments, pain persisted. The patient received an ulnar and median nerve block using a mixture of 10 mg methylprednisolone and 2% lignocaine. The ulnar nerve block was administered at two sites (Guyon's canal and one fingerbreadth distal to the ulnar styloid for the cutaneous branch). The median nerve block was performed at the carpal tunnel. Seven days post-intervention, the patient reported significant pain relief, and by day 15, pain remission was complete. The patient's range of motion improved, and swelling decreased notably.

Discussion: Post-herpetic CRPS in the upper limb is an uncommon complication of herpes zoster. Previous studies showed 'CRPS-like' symptoms following herpes zoster and this case showed the value of a multimodal treatment approach, combining interventional techniques with physical therapy.

Conclusion: This case illustrates the rarity of post-herpetic CRPS and the effectiveness of peripheral nerve blocks, medication, and exercise in achieving significant pain relief and functional recovery.

22. NON TRAUMATIC SPINAL CORD INJURY IN A CASE OF THIRD TRIMESTER PREGNANCY

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Introduction: Of all the many causes of back pain in pregnancy, spinal tumor is one unlikely cause. With increase in size of the tumor it causes compression of the cord presenting as non-traumatic spinal cord injury. Meningiomas are typically encapsulated slow-growing, benign tumor originating from the meninges, accounting for 33.8% of all primary brain and central nervous system tumors.

Case description: A 30 year old female, with 8 months gestation presented to PMR OPD with complaint of low back pain for the past 2 months, gradual weakness of both her lower limb with difficulty in passing urine. On examination, neurological deficit was present in both lower limb with neurogenic bladder. MRI showed intradural extramedullary cystic lesion at D11 to L1 level, eccentrically located at the left posterolateral aspect displacing and compressing the cord. Neurosurgery and Obstetrician consultation was done and underwent caesarean section and tumour resection surgery following which she got admitted in PMR ward for rehabilitation. At the end of 1 month postsurgery she was able to walk without support.

Discussion: Spinal meningiomas during pregnancy are rare and present unique clinical challenges. An association between hormones and meningioma risk has been suggested with increased incidence of post-pubertal disease in women versus men (2:1) with the highest ratio of 3.15:1 during the peak reproductive years.

Conclusion: The case underscores the importance of early recognition and multidisciplinary management of meningiomas during pregnancy to ensure optimal outcomes for both the mother and the fetus.

23. APIXABAN INDUCED DELAYED LEUKOCYTOCLASTIC VASCULITIS: A CASE REPORT

Dr. Shubham Goyal

Introduction: Apixaban, a novel oral anticoagulant, doesn't require dose adjustments or routine monitoring, therefore, preferred in hospital and outpatient settings for DVT prophylaxis over vitamin K antagonists. Rarely it's been shown to cause drug induced vasculitis.

Case Summary: A 22-year-old female, underwent surgery for D10-L2 intradural-extramedullary space occupying lesion (myxopapillary ependymoma grade-2), presented with post-op flaccid paraplegia. She was started on oral apixaban 2.5 mg bd for DVT prophylaxis. About 46 days later, she developed a non-itching, non-blanchable, purpuric rash which started over upper limbs and later progressed to involve lower limbs and buttock region within a span of 2 days. Skin biopsy demonstrated leukocytoclastic vasculitis with significant eosinophils. Possibility of drug induced vasculitis was considered. Apixaban was discontinued as it was hypothesised to be the cause and lesions were managed with local application of mometasone ointment over the affected area. Progression of the rash was slowed and it resolved within next 1 week.

Discussion: Leukocytoclastic vasculitis is a form of small-vessel vasculitis characterized by the deposition of immune complexes in the walls of small vessels. This leads to compromised vessel wall integrity and the leakage of RBCs, causing a distinctive purpura. The skin-related symptoms commonly appear in the lower extremities and buttocks. Almost 30% of all cases of Leukocytoclastic vasculitis are drug-induced; however, anticoagulants are rare cause of Leukocytoclastic vasculitis.

Conclusion: Apixaban is rare but important cause of drug induced vasculitis. Treatment is supportive and includes discontinuation of the offending medication.

24. A REPORT OF REHABILITATION IN A RECURRENT INTRAMEDULLARY NEURENTERIC CYST

Dr. Merlin V Cherian

Introduction: Neurenteric cysts are rare, benign cystic lesions of the central nervous system originating from the endoderm. Spinal neurenteric cysts represent about 0.7–1.3% of all spinal tumors. About 90% of neurenteric cysts are found in the intradural/extramedullary compartment, while the remaining are in the intramedullary and extradural locations. These cysts typically present in the second and third decades of life. Neurenteric cysts are associated with spinal bony abnormalities as well as gastrointestinal tract malformations.

Case Presentation: A 12-year-old female child diagnosed with recurrent cervicodorsal neurenteric cyst associated with Klippel feil syndrome and diaphragmatic hernia, presented with gradually progressing bilateral lower limb weakness. Imaging revealed recurrence of the intramedullary neurenteric cyst and she underwent surgery. Postoperatively she developed mild weakness in upper limbs and severe weakness in lower limbs with neurogenic bowel and bladder. A comprehensive in-patient rehabilitation programme was provided.

Discussion: Despite an extensive literature review, we could not find studies on rehabilitation in postoperative patients of neurenteric cysts. During the course of rehabilitation, she was able to do all the basic ADLs with minimal assistance and achieved long distance mobility with wheelchair. Bladder was managed with 3 hourly clean intermittent catheterizations. Higher scores were noted in the Barthel index and Spinal Cord Independence Measure at the time of discharge.

Conclusion: This case report discusses about a rare spinal tumor and highlights the functional improvement that a comprehensive rehabilitation can bring about in such rare tumors.

25. 50 YEARS OF INDIAN PHYSIATRY

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Introduction: Physical Medicine and Rehabilitation was introduced in India in the 1960s. With increasing burden of chronic diseases and disabilities, physiatrists play an integral role in providing comprehensive rehabilitation.

Materials and Method: To assess the growth of PMR over a 50 years time, a systematic literature review was done. Data were collected from PubMed, Google scholar and textbooks using keywords “ birth of PMR, emergence of PMR, PMR leaders, technology advances, rehabilitation team” and the subject area was narrowed down to align with the study objective. The abstract and articles were reviewed by three experts and discrepancies were resolved.

Results: As per IAPMR, there are 23 states in India providing rehabilitation services. There are 32 institutes providing MD PMR , 4 providing DNB PMR and 4 with Diploma in PMR. These include government, private medical colleges and Regional Rehabilitation Centre(RRCs). Fellowships in Pain Management, Spinal Cord Injury Rehabilitation, Sports Medicine, Neuro-Rehabilitation are provided by various institutes across India. Cardiac and Pulmonary rehabilitation are growing field in India.

Discussion: Despite increasing need, Rehabilitation services are available only in tertiary centres. Lack of infrastructure in low-resource settings leads to an uneven distribution of rehabilitation services. These gaps in demand and supply of rehabilitation services needs to be addressed.

Conclusion: PMR is to be made more visible and physiatrists should be given the central role to establish the comprehensive facilities.

26. A CASE OF PEDIATRIC SCIWORA WITHOUT ANY ABNORMALITY ON MRI

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Introduction- Spinal cord injury without radiological abnormality (SCIWORA) was first reported in 1974. The term was used to define “clinical symptoms of traumatic myelopathy without signs of fracture or spine instability on X-ray or CT scan.” With emergence of MRI, abnormality in spinal cord could be assessed using it. However, some of the patients may present with no significant abnormality on MRI as well, which may present as a diagnostic dilemma.

Case Presentation- We describe a case of 5-year-old boy who presented to PMR OPD at AIIMS Rishikesh with paraplegia. He had a history crush injury under a tractor in a field at 3 years of age. On further examination bilateral lower limb motor weakness was confirmed on MMT. Sensory impairment was also noted along with presence of neurogenic bladder. He had normal history and a normal Brain MRI. MRI whole spine was done which revealed no abnormality. Diagnosis of SCIWORA was made and rehabilitation measures were initiated.

Discussion- The main treatment option for patients with SCIWORA is external spinal immobilization for up to 12 weeks. Patients are also advised to avoid high-risk activities for six months to prevent the worsening of symptoms and reduce the risk of further injury. The term Real SCIWORA is also used to describe such cases without any MRI abnormality.

Conclusion- This case report highlights that although MRI is revolutionary in patients with SCIWORA in making a diagnosis. There are still cases in which MRI abnormalities are absent, leading to misdiagnosis and delayed rehabilitation.

27. SELECTIVE MOTOR NERVE BLOCK FOLLOWING LANDMARK TECHNIQUE BY AID OF PERIPHERAL NERVE STIMULATOR IN SPINAL CORD INJURY PATIENTS WITH HAMSTRING SPASTICITY.

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Introduction: Spasticity is defined as a motor disorder characterized by an increase in muscle tone. It is associated with exaggerated deep tendon reflexes, resulting from hyper-excitability of the stretch reflex. When spasticity is focal and segmental such as affecting a single muscle group or limb, it can be effectively treated by chemo-neurolysis or chemodenervation. Motor nerve block is a type of chemodenervation aimed at blocking the motor branches of the nerve as it exits the main nerve to supply the target muscle. There is significant reduction in muscle tone, relief from spasticity and improved range of motion. Most common muscle groups involved in spasticity following spinal injuries are the hip-adductor and hamstring muscle of lower limb.

Methods: The motor branches of the sciatic nerve to the hamstring muscles were identified using landmarks and peripheral nerve stimulation. 6% aqueous Phenol was used as the neurolytic agent for the nerve blocks. The procedure was performed bilaterally in a single session. All the motor entry points of the hamstring group of muscles where present in the middle-third of the muscle. Maximum number of motor nerve entry points were situated in the third-fifth of all muscles in hamstring group; long head of Biceps femoris had additional motor nerve entry points in the second fifth also; semimembranosus showed additional motor nerve entry points in the fourth-fifth of the muscle.

Results: The study demonstrated significant reduction in spasticity of the hamstring muscles, as measured by the Modified Ashworth Scale, over a 30 days follow-up period. Patients

reported improved range of motion and decreased pain. No major adverse events were recorded.

Conclusion: Selective hamstring motor nerve blocks using phenol are effective and safe for reducing spasticity in patients with upper motor neuron lesions, improving their functional outcomes and quality of life.

28. PLATELET-RICH PLASMA (PRP) INJECTION FOR THE TREATMENT OF PARTIAL ACHILLES TENDON TEAR- A CASE REPORT

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Introduction: Achilles tendon tear is a common tendon injury with increasing incidence. This case report outlines PRP injection as an effective minimally invasive intervention that may alleviate the need for surgery in TA tear.

Case Presentation: A 53 year old man with right ankle pain and weakness of right foot plantarflexion since 1 year presented in PMR OPD, AIIMS Guwahati. Examination showed asymmetric contour of right TA with reduced range of motion, negative Thompson test and difficulty to perform single heel raise test. USG showed partial TA disruption. VAS score - 7/10, VISA-A score-38. Injection PRP was planned. After written informed consent, 3.5 ml PRP prepared by standard methods. Under local anesthesia, 3 ml PRP injected intralesional, under USG guidance followed by casting, weekly for 4 weeks. One week after the 4th PRP, cast removed and solid AFO advised. Patient was asked to avoid TA loading activities. Post injection VAS score- 0/10, increased range of motion in 6 weeks. Negative Thompson test with successful heel raise test and VISA-A score of 75 showed improvement. Post-procedure USG showed near complete resolution.

Discussion: Findings reveal that PRP injections in partial TA tear yields good results with normal gait and normal ADL in 3 months. The results align with similar findings of David C et al. in an athlete. The study also agrees with healing benefits of PRP.

Conclusion: USG guided PRP injection could be considered an effective treatment considering its pivotal role in healing chronic partial tendon ruptures like TA, leading to complete resolution and quick return to daily activities.

29. REHABILITATION OF A SEVERE HAEMOPHILIA PATIENT WHO UNDERWENT TOTAL KNEE REPLACEMENT

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Introduction: Hemophilia can put the joints at risk of arthritic changes by causing frequent bleeds and synovitis. Of the major joints involved the knee is associated with most significant disability and quality of life issues. This paper highlights the rehabilitation of TKR in haemophiliia.

Case Details: 24 year old Mohammed Irshad with severe haemophilia was referred from haematology and orthopaedics for rehabilitation. The case was more challenging than a usual TKR due to the presence of an fixed flexion deformity at knee. Rehab began in the preop period and in the post op period was started on early weight bearing and strengthening exercises .Continuous passive motion machine was used for improving range of motion. Patient was discharged on 12th postop day as walking with minimal support.

Conclusion: This case highlights the importance of rehabilitation in haemophilia cases planning joint replacement surgeries. Rehab should begin in the preop period and should be effectively followed up postop.

30. OUTCOME OF RE-POSITIONAL OSTEOTOMY IN CONGENITAL RADIO ULNAR SYNOSTOSIS: A CASE SERIES

Dr. Varshin

Introduction: Congenital radioulnar synostosis (CRUS) is a rare anomaly that presents with fusion of proximal end of radius & ulna to variable extension. The deformity limits ADL when associated with severe pronation of forearm. The literature has detailed a wide range of management options with varying degrees of effectiveness, including rotational osteotomies, the Illizarov method, external fixation devices, free vascularized fascio-fat grafts. Fixing the forearm in desired position by repositional osteotomy surgery can improve ADL. This study aims to report the functional outcomes of the Re-positional osteotomy technique.

Material and Methods (Place: SVNIRTAR, Odisha.) (Study design: Case series):

We reviewed 5 cases of CRUS with mean age of 6.6 years that reported to PMR department following repositional osteotomy; 3 were boys and 2 were girls. According to Cleary & Omer radiological classification of CRUS, in this study 3 forearms were Type 2 and 2 forearms were Type 3. Five forearms with severe ADL limitations were managed with re-positional osteotomy of radius at distal 1/3rd and ulna at proximal 1/3rd followed by Above-elbow Plaster casting with the forearm in the desired functional position. The mean follow-up period was 6.2 months. Functional outcomes were assessed using difficulty in performing independent ADL and Liverpool elbow score.

Results: All forearms operated showed statistically significant improvement in mean Liverpool elbow score from pre-evaluation of 26 to post evaluation of 43.6 ($p = 0.007$). Significant functional independence was found post operatively for 12 ADL activities with a mean drop in difficulty from pre-evaluation of 7.4 to post evaluation of 0.8 ($p = 0.007$). No post operative neurological deficits were noted.

Conclusion: Re-positional osteotomy in CRUS is a simple, safe and reproducible surgical method. There can be significant improvement of ADL following this procedure.

31. MANAGEMENT OF PRESSURE ULCER IN SPINAL CORD INJURY PATIENTS USING VARIOUS ROTATIONAL FLAPS : CASE SERIES

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Introduction: Pressure injuries significantly increase the burden of illness and decrease the quality of life. Patients with traumatic and nontraumatic spinal cord injuries (sci) have higher morbidity and mortality rates and a 95% lifetime risk of getting pressure ulcers. Various operative procedures have been described and include direct closure, skin grafting, skin flaps, musculocutaneous flaps, fasciocutaneous flaps and free flaps in limited resource setup management of deep pressure ulcers can be done with fasciocutaneous flaps.

Objective: To evaluate the deep pressure ulcer management with random flaps in SCI patients.

Material and Methods: We reviewed the cases of 10 SCI males (mean age =31years) with SCI presented to PMR department of SVNIRTAR with either stage III or stage IV pressure ulcers of which 8 sacral , 2 ischial to our hospital between November 2023 and August 2024.

Results: After undergoing basic conservative management and negative culture test 10 patients posted for flap surgery 6 limberg fasciocutaneous flap, 2 VY rotation flap, 2 gluteal rotation flap were done. Immediate post op protocol was followed and regular dressing was done ,patient was advised to lying in prone position. Out of 10 case 2 case were found to have Surgical site infection , managed conservatively, and on 21st day of operation sutures were removed and after 2 weeks patients started sitting tolerance exercises. No recurrence of a bedsores occurred after an average follow-up of 6 months.

Conclusion: By enhancing the general care principles of SCI and refining the traditional and modified techniques of various rotating flap surgeries, it is possible to reduce the complications that are frequently linked to pressure ulcers, hence improving the final result.



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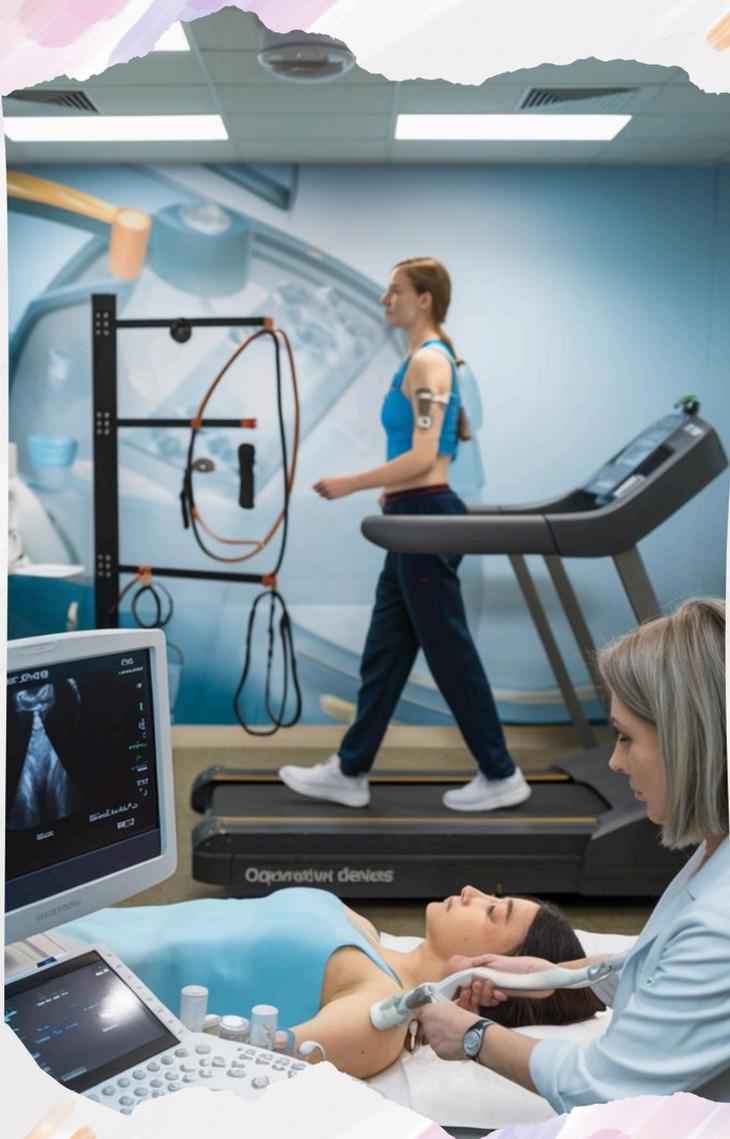
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