

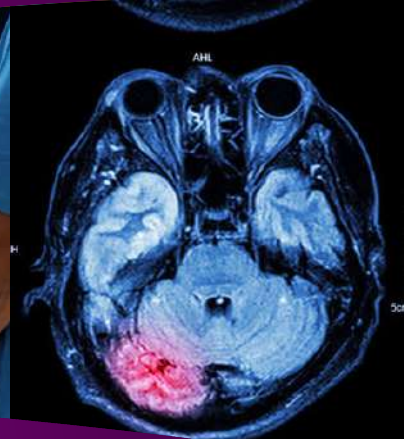
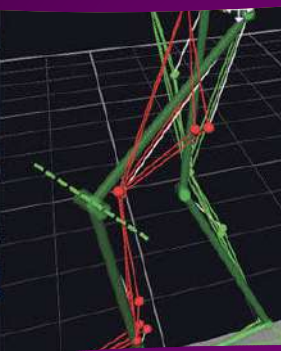


I.A.P.M.R. National Mid-Term Continuing Medical Education-2023

Theme : Traumatic Brain Injury: Looking forward to life

**Organised By :
Department of Physical Medicine and Rehabilitation
AIIMS, Jodhpur**

14th to 17th September 2023



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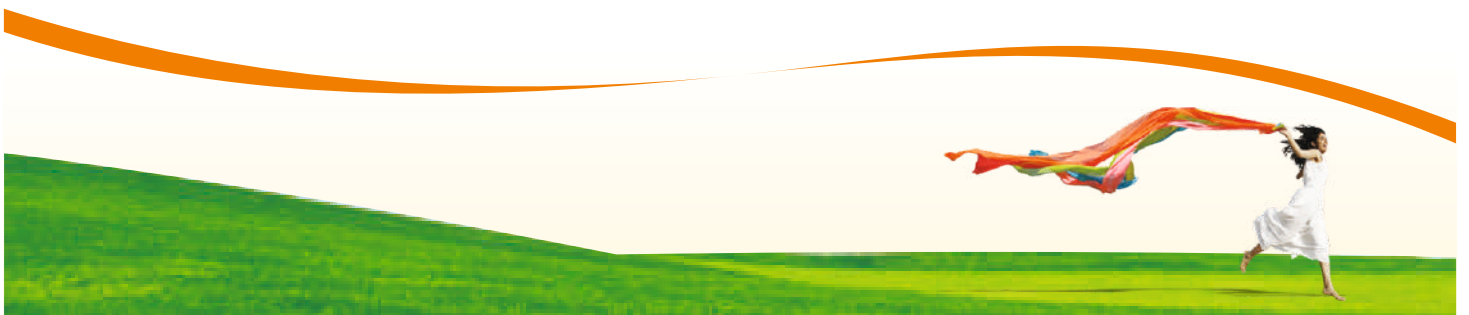
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welcome
All Delegates

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Message from President, AIIMS Jodhpur

डा. एस. एस. अग्रवाल
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All India Institute of Medical Sciences, Jodhpur
E-mail: swasthyajp1@gmail.com



Message

Dear Dr Gaur I am happy to learn that Department of Physical Medicine and Rehabilitation at All India Institute of Medical Sciences (AIIMS), Jodhpur, is taking the initiative and organizing the national IAPMR Mid-Term CME 2023 on Traumatic Brain Injury.

Traumatic Brain Injury as you rightly mentioned in the theme requires the tailored management by experts from various specialities to integrate the patient in the society and promote their participation in the nation building. It's a noble endeavor which promotes public service, medical research and innovations.

I convey my warm greetings and felicitations to the organizing committee and Department of Physical Medicine and Rehabilitation for this commendable step which will enhance the role of this premier institute in improving health and wellness of people of Rajasthan as well as our nation.

I wish you all the success and hope efforts like this will take this institute to the great heights.

Dr. S. S. Agarwal
President

To,
Dr. Ravi Gaur
Organizing Secretary,
IAPMR Mid Term CME-2023,
AIIMS, Jodhpur, Rajasthan

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Message from Chief Patron



Dr. Madhabananda Kar
Executive Director
AIIMS Jodhpur



It is with great pleasure and enthusiasm that I extend my warmest wishes for the grand success of the upcoming IAPMR National Mid-Term CME 2023 scheduled to take place from September 14th-17th, 2023. As the Executive Director of AIIMS Jodhpur, I am thrilled to see our institution hosting such an esteemed event on the theme "Traumatic Brain Injury: Looking forward to life".

Over the years, our institute has fostered a strong commitment to promoting knowledge sharing, collaboration, and innovation in all medical and surgical specialities. It is in this spirit that we wholeheartedly support and encourage events like this Conference.

The consequences of Traumatic Brain Injury can vary widely, depending on the severity and location of the injury. TBI can result in long-term disabilities, impacting an individual's daily life and overall well-being. Timely diagnosis, appropriate medical intervention, and rehabilitation are crucial to help mitigate the adverse effects of TBI and improve the quality of life for those affected. This conference will not only bring together experts, thought leaders, and enthusiasts working with patients of TBI at various levels for better functional outcomes but also serve as a platform to exchange ideas, present groundbreaking research, and shape the future for such patients and the field of psychiatry.

As the Executive Director of AIIMS Jodhpur and a patron of this conference, I want to express my gratitude to you and your team for undertaking the challenging task of organizing such a prestigious event. Your commitment to excellence and your passion for promoting knowledge dissemination are truly commendable. I believe that this experience will not only enrich our knowledge but also inspire us to push the boundaries of our research and work.

Warm regards

Dr. Madhabananda kar

Message from Co-Patron



Dr. M.K. Garg
Medical Superintendent,
AIIMS, Jodhpur



I am extremely delighted to extend my warmest greetings to you all. The IAPMR National Mid-Term CME 2023 which will be conducted by the Department of Physical Medicine and Rehabilitation [PMR] at AIIMS, Jodhpur holds such immense significance in the realm of physiatry.

The medical field dealing with Traumatic Brain Injury is one that demands our utmost attention, compassion, and expertise. It affects not only individuals but entire families and communities, underscoring the critical importance of our collective efforts to advance research, treatment, and support systems. This conference is a testament to our commitment to making a meaningful impact on the lives of those affected by TBI.

Our institute, with its unwavering dedication to patient care, cutting-edge research, and medical education, stands as a beacon of hope and progress. It is our privilege to host this esteemed gathering of experts, clinicians, researchers, and advocates who share our vision of improving outcomes and quality of life for TBI survivors.

I would like to express my heartfelt gratitude to the organizing team, whose tireless dedication and meticulous planning have brought this conference to fruition. Your hard work and determination have set the stage for an event that promises to be both enlightening and transformative.

To all our distinguished speakers, attendees, and supporters, I thank you for your invaluable contributions to this field and for your commitment to making a difference. Together, we can pave the way for a brighter and more hopeful future for individuals and families affected by TBI.

I encourage you all to seize every opportunity to learn, connect, and inspire during this conference. Let our collective expertise and shared passion drive us toward innovative solutions and compassionate care.

Once again, I extend my warmest welcome to you all and my best wishes for a successful and impactful Traumatic Brain Injury Conference. Let us continue to work together to advance the frontiers of knowledge and compassion in our quest to alleviate the burden of TBI.

Dr. M.K. Garg

Message from Co-Patron



Dr. Kuldeep Singh
Dean Academics,
AIIMS Jodhpur

It is with immense pride and enthusiasm that I offer our full support for the upcoming IAPMR National Mid-Term CME 2023, focusing on the critical theme of Traumatic Brain Injury (TBI).

This conference represents a vital opportunity for experts in the field of Physical Medicine and Rehabilitation and other specialities to converge, exchange ideas, and collectively address the multifaceted challenges posed by TBI. The theme of Traumatic Brain Injury holds profound importance in the healthcare landscape, as it touches the lives of countless individuals and their families.

I want to extend my sincere appreciation to the dedicated organizing team for their unwavering efforts in putting together this conference. Your meticulous planning and dedication to detail are evident, and I have no doubt that this event will be a resounding success.

I wish the IAPMR National Mid-Term CME 2023 on Traumatic Brain Injury great success. May this conference be a source of new insights, collaborative opportunities, and innovative solutions that will ultimately lead to better outcomes for TBI patients.

Dr. Kuldeep Singh

Message from Organising Chairman



Dr. Ajay Gupta
Professor
VMMC & Safdarjung Hospital
New Delhi

I am pleased and genuinely honored to note that our esteemed organisation IAPMR is conducting its National Mid-Term CME 2023 at AIIMS, Jodhpur hosted by the Department of Physical Medicine and Rehabilitation.

The theme of the conference "Traumatic Brain Injury: Looking forward to life" aims to highlight the core concepts behind the disease process, its diagnosis, prognosis, management, consequences and various other aspects which still remain hidden from mainstream medicine. Rehabilitation is a vital component of TBI recovery, but it demands considerable patience and effort. The road to improvement can be long and unpredictable, with setbacks and small victories along the way. Support from healthcare professionals, family, and friends plays a critical role in helping individuals with TBIs navigate these difficulties, rebuild their lives, and regain a sense of normalcy.

This event will unify acclaimed researchers, specialists, leaders, educators, carers, academicians and other interested participants to share their knowledge and discuss new trends and opportunities addressing the current demand of our profession. It is highly remarkable that the exceptional scientific events consisting of a variety of sessions will help expand the knowledge and experience of every individual attending this conference.

I take this opportunity to warmly compliment the efforts put by Dr. Ravi Gaur and his entire team for putting in all sincere efforts and hard work to organize such a wonderful academic endeavour. I extend my best wishes for the success of this event and welcome all the participants to the sun-city of Rajasthan: Jodhpur.

Dr Ajay Gupta



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



09 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, Nagpur, is organising the IAPMR MIDTERM CME 20223 at AIIMS Jodhpur in the month of September(14-17) 2023.

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 secretary, Dr Ravi Gaur 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 "Traumatic Brain Injury: Looking Forward to Life," 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 two days of fully subscribed pre-conference workshops 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 KUMAR PANDEY)

Message



Dr Mrinal Joshi

Director, Rehabilitation Research Centre
Professor, Physical Medicine & Rehabilitation
SMS Medical College & Associated Hospitals
Jaipur

Dear Dr Ravi Gaur,

With great pleasure, I congratulate you and your dedicated team on planning this year's mid-term continuing medical education program and the remarkable enhancements in patient services at the Department of Physical Medicine & Rehabilitation, AIIMS, Jodhpur.

The successful execution of the medical education program will serve as a shining example of your unwavering commitment to the continuous growth and development of medical postgraduates. By placing a strong emphasis on ongoing medical education, you are nurturing our young medical professionals' talents and advancing healthcare knowledge within your institution. This dedication plays a pivotal role in shaping the future of healthcare and ensuring the well-being of our community through well-prepared, knowledgeable, and compassionate medical experts.

Furthermore, the substantial improvements in enhancing patient services at AIIMS, Jodhpur, are commendable. Your team's tireless efforts to elevate the patient experience underscore your unwavering dedication to delivering top-tier healthcare services. These enhancements will increase patient satisfaction and improve overall outcomes for those who entrust their health to your institution.

As we celebrate these remarkable achievements, I also wish to extend my best wishes for the upcoming mid-term continuing medical education program. May this program be another success, providing valuable insights and knowledge to our medical postgraduates and reinforcing our commitment to excellence in patient care.

Once again, congratulations on these outstanding accomplishments, and I eagerly anticipate witnessing the transformative impact they will undoubtedly have on the medical community and the patients you serve.

Best Wishes

Dr Mrinal Joshi

Message



Dr Srikumar Venkataraman

Additional Professor, Dept of PMR, AIIMS New Delhi

Member, Scientific Committee,

IAPMR National Mid-Term CME 2023

Dear delegates,

A hearty and warm welcome to the "Blue City" Jodhpur for the Indian Association of Physical Medicine and Rehabilitation (IAPMR) National Mid-Term CME 2023. The theme for this CME is "Traumatic Brain Injury: Looking Forward to Life". This four-day academic fest has seven workshops and thirty-six eminent lectures grounded on this theme. The faculty with expertise in many aspects of traumatic brain injury ranging from acute management, coma stimulation, interventional management of pain and spasticity, multimodal approaches like Yoga and AI, and many more have come here from across the country to share their knowledge and enlighten us. Such CMEs provide an exceptional platform to get introduced to new ideas, interact with faculty from far and wide, and be inspired. As we race towards the future, we hope this CME enriches all of us to touch the lives of brain injury patients and help them "look forward to life."

Long live IAPMR!

Dr Srikumar V.

Message from Organising Secretary



Dr Ravi Gaur
Additional Professor & HoD
Department of PMR
AIIMS Jodhur

As the Organizing Secretary of the upcoming IAPMR National Mid-Term CME 2023 to be held from September 14th-17th, 2023, I am thrilled and honored to extend my warmest wishes for the grand success of this significant event.

Our conference represents a vital platform where expert physiatrists will come together to share knowledge, insights, and innovations in the field of Traumatic Brain Injury. Their participation and contributions are instrumental in advancing our collective understanding of this complex condition and its management.

The consequences of Traumatic Brain Injury can be profound, affecting individuals and families in countless ways. By fostering collaboration and disseminating the latest research, we are not only enriching our knowledge but also making a tangible difference in the lives of those affected by TBI.

I want to express my heartfelt gratitude to the dedicated organizing team, our esteemed speakers, and all the participants who have worked tirelessly to make this conference a reality. Your commitment to excellence is truly commendable, and it inspires us all.

As we come together to learn, share, and connect during this conference, I encourage you to actively engage in the discussions, network with your peers, and forge partnerships that will drive progress in TBI research and care. May our collective efforts lead to groundbreaking discoveries and innovative solutions that improve the lives of TBI survivors and their families.

Thank you for your invaluable contributions, and here's to a successful and transformative conference.

Dr Ravi Gaur

Message from Joint Secretary



Dr. Nitesh Manohar Gonnade

Additional Professor

Department of PMR

AIIMS Jodhpur

It is a matter of great joy and pride for me that our Department of Physical Medicine and Rehabilitation at AIIMS, Jodhpur is organizing the IAPMR National Mid-Term CME 2023 from September 14th-17th, 2023.

Traumatic Brain Injury in adults has often been described as a 'chronic health condition'. It is imperative to know that TBI is not just a sudden isolated occurrence, it is a disease process with residual disabilities affecting all walks of life. The consequences of TBI go beyond the initial period of screening, acute management of the immediate and early sequelae. We have brought to you a remarkable line-up of workshops and scientific sessions expending on the knowledge and experience of every speaker. This conference will bring together healthcare professionals from multiple specialties and provide an excellent opportunity for all the attendees to learn and expand the horizons of their knowledge regarding the subject.

It gives me immense pleasure to pen down the contributions of our team who have worked sincerely to bring to life the concept we had in our minds. I also express my gratitude to everyone involved directly and indirectly in the organization of this conference. I am positive that the conference will emboss an ever-lasting impression on the minds of all attendees.

As we engage in stimulating discussions, share groundbreaking research, and foster collaborations during this conference, I am confident that we will emerge with fresh insights and renewed determination to tackle the challenges posed by Traumatic Brain Injury.

I am confident that the IAPMR National Mid-Term CME 2023 will be a resounding success, thanks to the dedication and hard work of your organizing team, as well as the active participation of esteemed speakers, presenters, and attendees. The topics and discussions planned for the conference are highly relevant and timely, and I have no doubt that they will contribute significantly to the advancement of our field.

Dr. Nitesh Manohar Gonnade

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ABOUT CONFERENCE

Department of Physical Medicine & Rehabilitation, All India Institute of Medical Sciences, Jodhpur is privileged to host the Mid-Term CME of the Indian Association of Physical Medicine & Rehabilitation [IAPMR], 2023. The conference will be held on September 14th-17th, 2023 at AIIMS, Jodhpur, Rajasthan (India). The conference will have two enlightening days of pre-conference hand-on workshops followed by scientific sessions pertaining to the theme of the conference: "Traumatic Brain Injury-Looking forward to life". Traumatic Brain Injury [TBI] is a condition that affects millions of people worldwide. TBI often results in significant and persistent physical, hormonal, cognitive and emotional deficits.

The conference aims to provide a comprehensive overview of the current knowledge and research on TBI and its implications. It will take us to a destination where we have never been, exploring newer avenues in the field which will help formulate better treatment outcomes for such patients. The conference will cater to the minds of undergraduate and postgraduate students on the outlook of the PMR specialty.



DEPARTMENT OF PHYSICAL MEDICINE AND REHABILITATION, AIIMS JODHPUR

AIIMS, Jodhpur is an Institute of National Importance. The Department of Physical Medicine and Rehabilitation [PMR] at AIIMS Jodhpur is situated in the blue city of Rajasthan which is also the second largest city in the state. The department is working as a comprehensive rehabilitation center which provides services in neurorehabilitation, pediatric rehabilitation, musculoskeletal rehabilitation, pulmonary rehabilitation, speech and swallowing disorders. We treat the patient as a whole with the goal to help patients understand their condition and provide the tools and resources to manage a successful healing process with the ultimate aim at improving the functioning of the patient. The department provides outpatient, inpatient and referral rehabilitative services for the institute. These rehabilitative services mainly focus on locomotor issues inclusive of holistic pain management to our patients who come with a myriad of diagnoses in the form of conventional as well as interventional [both ultrasonographically and fluoroscopically] nerve blocks, epidural injections, ozone nucleolysis, regenerative medicine and radiofrequency ablations. The department also runs a one year post-doctoral fellowship in Chronic Pain and Palliative Care along with the department of anesthesiology and critical care, providing training to two fellows annually. Currently the department is manned by two consultants- Dr. Ravi Gaur (Additional Professor and Head) and Dr. Nitesh Manohar Gonnade (Associate Professor), one Pain and Palliative Care fellow, five Senior Residents and twelve Junior Residents. The rehabilitation teams consist of physical therapists, occupational therapists, speech and language pathologists, nursing staff and NCV/EMG technicians. We provide state of the art facilities for pulmonary rehabilitation, neurological rehabilitation including Virtual Reality programs, G-studio gait analysis and 3-D Motion Gait Analysis Lab. There are ongoing projects run under the esteemed guidance of our faculty on Osteoarthritis, post Mastectomy rehabilitation, adhesive capsulitis, low back pain, carpal tunnel syndrome, trigeminal neuralgia, post-stroke upper extremity rehabilitation, spasticity management and diaphragmatic analysis in phrenic nerve palsies. The department collaborates with departments of Neurology and Neurosurgery for peripheral postings of our academic junior residents. The department of PMR started tele-consultation services at tribal-dominated Community Health Centre (CHC) at tehsil Abu Road, district Sirohi, Rajasthan (~250 KM from Jodhpur) under Centre of Excellence (COE), AIIMS, Jodhpur (A Collaborating Centre for Indigenous health, Ministry of Tribal Affairs, GoI).

A JOURNEY THROUGH HISTORY, CULTURE, FOLKLORE AND MORE...

The indigo spilled city of Jodhpur, situated in the erstwhile princely state of Rajasthan has a story to tell in every corner. One does not have to be a history aficionado to comprehend all that this city has to offer. However, if you do delve into the depths of these tales, you will find yourself walking through the streets of a realm forlorn.

Jodhpur is the second largest city spanning 455 km² in Rajasthan, founded by Rao Jodha in 1459. Rao Jodha was a valiant Rathore ruler of the Marwar kingdom. The seat of his throne was previously in Mandore and later shifted to Jodhpur. The site which was found strategically suitable to build the royal fort was atop a hill which was the home to a hermit. The hermit was averse to dislocating and thus cursed the kingdom with eternal drought. A human was to be buried alive to reverse the curse. A man named Rajaram Meghwal volunteered to be buried alive and thus came about the foundation of Mehrangarh Fort, laid on human sacrifice. The family of Rajaram Meghwal was aptly compensated and till date, the first lamp is lit on the burial site as a mark of respect on the Foundation Day of the fort, annually.



Mehrangarh Fort and Jaswant Thada, Jodhpur

Jodhpur, like all major seats of various Rajput kingdoms, was a walled city. Parts of the old wall can still be seen in dilapidated condition around the fort and the old city. The city was guarded by eight named gates, some of which have stood the test of time and serve as gateways of residential colonies.

As known widely, Jodhpur is known as the 'Blue City' for the houses here are painted a bright indigo blue. Legends say that earlier, the houses of the Brahmin community were painted blue for easy recognition, in order to prevent attack from other Hindu kingdoms. Some theories say that the soothing blue keeps these houses cooler, for the residents to tide over the scorching heat of Rajasthani summers. Some theories further say that brilliant blue colour wards off the mosquitoes.



The Blue City as seen from Mehrangarh Fort, Jodhpur

Jaswant Thada, also known as the Taj of Marwar is a mausoleum and cremation ground for the descendants of Maharaja Jaswant Singh. The Maharaja wanted his last resting place to be where the entirety of his beloved city- Jodhpur could be seen from. The pristine white marble of Jaswant Thada was sourced from Makrana, the same place where the stone for Taj Mahal was brought from. A museum in Jaswant Thada displaying portraits of Marwar rulers along with informative didactics – the information serves as orientation space to understand the history of Marwar through the Portraits. Its grounds serve as a serene venue for morning concerts during music festivals such as the Rajasthan International Folk Festival and the World Sacred Spirit Festival.

Jaswant Thada, Jodhpur

Mandore Gardens are a scenic landscape depicting the history of Marwar kingdom. Mandore was the capital city of this region before Jodhpur and hence holds important historical significance. While strolling in these gardens, one can find many ancient temple like structures, fountains and a variety of flora. If reached on time, one can catch the beautiful light and sound show which tells tales of the dynasty in a captivating manner.



Mandore Gardens



Umaid Bhavan Palace is the home to the Marwar Royal Family, a wonderful example of modern architecture with a touch of Rajputana Heritage. One of the largest and costliest heritage hotels in the world. It has also been voted as the best hotel in the world. It was built by Raja Umaid Singh to provide employment to the famine-stricken people of the kingdom. The palace houses a museum showcasing a brief history of the kingdom, a small armory and a gift shop. The luscious green lawns of the palace provide a brilliant contrast to the sandstone of the palace in the backdrop.



Umaid Bhavan

The blue city of Jodhpur is adapting to the modernity of the present era but it still clings to its deep rooted traditions and values. Walking down the narrow bylanes of the city, one can easily get lost in the trail of time. The city holds many mysteries like any other ancient city in the world. It is up to the visitor how deep they are willing to dive into the abyss of history.

*दिल में सुकून, आंखों में आराम सा है
ये इश्क कुछ जोधाना की शाम सा है।*

Some more places to pay a visit in and around Jodhpur:-

1. Toorji ka Jhalra
2. Clock Tower/Ghantaghar
3. Sardar Bazar
4. Gulab Sagar
5. Pachetiya Hill
6. Sidhnath Mandir
7. Jagnath Mandir
8. Masuriya Hill
9. Sardarpura Market
10. Rao Jodha Desert Rock Park
11. Osian Desert Park
12. Arna Jharna



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*Workshops and
Scientific Conference*



Workshop -1 Date: 14 September 2023

(HALL - A)

**ULTRASOUND OF UPPER AND LOWER LIMB MUSCLES
AND LIVE DEMONSTRATION OF BOTULINUM TOXIN INJECTION**

REGISTRATION: 08:30 AM ONWARDS			
TIME 09:00 AM ONWARDS			
STATION	TOPIC	FACULTY	DURATION
Station 1	Sonoanatomy of Arm Muscles	Dr Sanjeev Sharma SDMH, Jaipur	60 Minutes (10 min presentation)
Station 2	Sonoanatomy of Forearm and Wrist Muscles	Dr Shehdad K GMC Kozhikode	60 Minutes (10 min presentation)
Station 3	Sonoanatomy of Thigh Muscles	Dr Nitesh M. Gonnade AIIMS Jodhpur	60 Minutes (10 min presentation)
Station 4	Sonoanatomy of Calf Muscles	Dr. Raj Kumar IGIMS PATNA	60 Minutes (10 min presentation)
TEA BREAK 11:00 AM-11:20 AM			
LUNCH BREAK 01:20 PM- 02:20 PM			
02:20 PM-02:45 PM	Inj Botulinum Toxin Preparation, Dosing, Precaution	Dr. Karthick Mani Botox, Allergan	25 Minutes
02:55 PM-03:55 PM	USG Guided Botox Upper limb in live Subject	Dr. Mrinal Joshi SMS Medical College, Jaipur	60 Minutes
03:55 PM-04:55 PM	USG Guided Botox Lower limb in live Subject	Dr Shehdad K GMC Kozhikode Dr. Raj Kumar IGMC PATNA	60 Minutes
HIGH TEA 04:55 PM -05:25 PM			



URODYNAMIC STUDY AND SUPRAPUBIC CATHETERIZATION

REGISTRATION: 08:30 AM ONWARDS			
SESSION	TOPIC	FACULTY	DURATION
Session 1	Orientation of UDS Machine	Dr Rohit Ramesh Gaikar AIIPMR , Mumbai	15 Minutes
	Prerequisite for UDS		15 Minutes
	Bladder USG		30 Minutes
	Report Generation & Interpretation		30 Minutes
	Clinical Implication & decision making for balance bladder		30 Minutes
Session 2	Indication of Suprapubic Catheterization	Dr Shiv Charan Navriya AIIMS Jodhpur	10 Minutes
	Decision Making		10 Minutes
	Suprapubic Catheter Placement		60 Minutes
	Complication		10 Minutes
	Precaution & Care Any Query		30 Minutes

TIME	SESSION 1	SESSION 2
09:00 AM - 11:00 AM	Batch- A	Batch- B
TEA BREAK 11:00 AM-11:30 AM		
11:30 AM-01:30 PM	Batch- B	Batch- A
LUNCH BREAK 01:30 PM- 02:30 PM		

Batches will be formed at the time of the workshop.



Workshop-3 Date: 14 September 2023

(HALL - C)

**MRI READING OF BRAIN, CERVICAL, LUMBAR SPINE,
SHOULDER & KNEE JOINT**

REGISTRATION: 08:30 AM ONWARDS			
TIME	TOPIC	FACULTY	DURATION
09:00 AM -10:00 AM	MRI Reading of Normal Brain Imaging and Pathologies	Dr. Sarbesh Tiwari AIIMS, Jodhpur	60 minutes
10:00 AM- 11:00 AM	MRI Reading of Normal Cervical Spine Imaging and pathologies	Dr. Taruna Yadav AIIMS, Jodhpur	60 minutes
TEA BREAK 11:00 AM-11:15 AM			
11:15 AM-12:15 PM	MRI Reading of Normal Lumbar Spine Imaging and pathologies	Dr. Samta Budania Dr SN Medical College, Jodhpur.	60 Minutes
12:15 PM-01:15 PM	MRI Reading of Normal Shoulder anatomy and pathologies	Dr Suvinay Saxena Bhopal.	60 minutes
LUNCH BREAK 01:15 PM-02:15 PM			
02:15 PM-03:15 PM	MRI Reading of Normal Knee Joint anatomy and pathologies	Dr Vikas Jhanwar Jaipur.	60 minutes
03:15 PM-04:15 PM	Academic Quiz & any query		60 minutes
HIGH TEA 04:15 PM - 04:45 PM			



**FLURO GUIDED PAIN INTERVENTIONS &
RADIOFREQUENCY ABLATION**

REGISTRATION: 08:30 AM ONWARDS			
STATION	TOPIC	FACULTY	DURATION
Station 1	(A) TRIGEMINAL RFA (B) STELLATE GANGLION BLOCK (C) GLOSSOPHARYNGEAL NERVE RFA	Dr B. Premanand Amrutanjan Advance Pain Management Centre, Chennai	2 hour
TEA BREAK 11:00 AM-11:15 AM		Dr Chandan Motwani Akola, Maharashtra	15 Min
Station 2	(D) T2 T3 SYMPATHETIC RFA (E) CERVICAL EPIDURAL INJECTION (F) C2 DORSAL RAMI BLOCK	Dr Minhaj Akhter BMCHRC, Jaipur Dr Chandan Preet GMC, Faridkot	2 hour
LUNCH BREAK 01:15 PM-02:15 PM		Dr Ashok Jadon Meherbai Tata Memorial Hospital, Jamshedpur Dr Sanjeev Sharma SDMH, Jaipur Dr. Rambeer HIMS, Dehradun	15 Min
Station 3	(E) CERVICAL MEDIAL BRANCH RFA (F) C1 C2 JOINT INJECTION (G) SUBOCCIPITAL JOINT INJECTION		2 hour
HIGH TEA 04:15 PM - 04:45 PM			
04:45 PM- 5:15 PM		Academic Quiz	

Batches will be formed at the time of the workshop.

Station	09:00 AM - 11:00 AM	11:15 AM -01:15 PM	02:15 PM-04:15 PM
Station 1	Batch- A	Batch- C	Batch-B
Station 2	Batch- B	Batch- A	Batch-C
Station 3	Batch- C	Batch- B	Batch-A



Workshop -5 Date: 15 September 2023

GAIT & MOTION LAB, DEPT. OF PMR, ROOM 3B

GAIT ANALYSIS AND REPORTING

REGISTRATION: 08:30 AM ONWARDS			
TIME	TOPIC	FACULTY	DURATION
09:00 AM-09:15 AM	Orientation To Gait Analysis Lab	Dr. Suranjan Bhattacharji	15 Minutes
09:15 AM-09:30 AM	Basics Of Gait Analysis	CMC, Chittor	15 Minutes
09:30 AM-10:30 AM	How To Capture Data	Dr. Prashanth Chalageri CMC, Vellore	60 Minutes
10:30 AM-10:45 AM	Troubleshooting In Gait Analysis	Dr. Thomas Anand Augustine,	15 Minutes
10:45 AM-11:15 AM	Physical Examination	CMC Vellore	30 Minutes
TEA BREAK 11:15 AM-11:25 AM			
11:25 AM-11:55 AM	Kinematics Of Gait Analysis	Dr. Rajdeep Ojha CMC, Vellore	30 Minutes
11:55 AM-12:25 PM	Kinetics Of Gait Analysis	Dr. Manish Gupta AIIMS DELHI	30 Minutes
12:25 PM-12:45 PM	Emg Of Gait Analysis		20 Minutes
12:45 PM-01:00 PM	Importance Of Clinical Gait Analysis		15 Minutes
LUNCH BREAK 01:00 PM-02:00 PM			
02:00 PM-03:00 PM	Pathological Gait		60 Minutes
03:00 PM-04:00 PM	Academic Quiz and Query Session		60 Minutes
HIGH TEA BREAK 4:00 PM- 4:30 PM			

DISABILITY ASSESSMENT & DOCUMENTATION

REGISTRATION: 08:30 AM ONWARDS			
TIME	TOPIC	FACULTY	DURATION
09:00 AM- 9:30 AM	Introduction to Disability	Dr. Naveen Kumar (JIPMER Puducherry) Dr. Jayadas (St John Medical College, Bengaluru) Dr. Satyaranjan Sethi AIIMS Guwahati	30 MINUTES
9:30 AM-10:15 AM	Assessment of Disability - Upper Limb and Hand		45 MINUTES
10:15 AM-10:45 AM	Lower Limb		30 MINUTES
10:45 AM-11:05 AM	Remaining Part Miscellaneous		20 MINUTES
TEA BREAK 11:05 AM - 11:15 AM			
11:15-11:40 AM	Visual and ENT	Dr. Naveen Kumar (JIPMER Puducherry) Dr. Jayadas (St John Medical College, Bengaluru) Dr. Satyaranjan Sethi AIIMS Guwahati	25 MINUTES
11:40 AM -12:05 PM	Mental and Special Learning Disorders Including Autism		25 MINUTES
12:05 PM-12:35 PM	Hemophilia and Neurological		30 MINUTES
12:35 PM-01:00 PM	Multiple Disability with answers to any Questions		25 MINUTES
LUNCH BREAK 01:00 PM- 02:00 PM			
02:00 PM- 04:00 PM	Cases/Example- 5-6 with 20-30 min each	Dr. Naveen Kumar (JIPMER Puducherry) Dr. Jayadas (St John Medical College, Bengaluru) Dr. Satyaranjan Sethi AIIMS Guwahati	2 HOURS
HIGH TEA BREAK 04:00 PM- 04:30 PM			
4:30 PM- 5:00 PM	Academic Quiz		30 MINUTES



Coma Stimulation and Bedside Swallowing assessment

REGISTRATION: 08:30 AM ONWARDS			
SESSION	TOPIC	FACULTY	DURATION
Session 1	Basics of Coma Stimulation	Dr Gourav K Sanaysi Institute of Neurosciences, Kolkata.	15 Minutes
	Indication of Coma Stimulation		15 Minutes
	Contraindication of Coma Stimulation		15 Minutes
	Protocol of Coma Stimulation		15 Minutes
	Demonstration of Technique		60 Minutes
Session 2	Mechanism of Swallowing	Dr Vidhu Sharma AIIMS Jodhpur	10 Minutes
	Indication		10 Minutes
	Bedside Evaluation		30 Minutes
	Swallowing Assessment protocol		10 Minutes
	Demonstration on live Subject		60 Minutes

TIME	SESSION 1	SESSION 2
09:00 AM - 11:00 AM	Batch- A	Batch- B
TEA BREAK 11:00 AM-11:30 AM		
11:30 AM-01:30 PM	Batch- B	Batch- A
LUNCH BREAK 01:30 PM- 02:30 PM		

Batches will be formed at the time of the workshop.



Scientific Conference

DAY 1- 16 SEPTEMBER 2023

BREAKFAST- 08:00 AM- 08:30 AM

Session 1: 08:30 AM - 09:30 AM (12 Minute For Presentation and 3 Min For Discussion)

PRESENTER	TOPIC	TIME
Dr. Deepak Jha AIIMS, Jodhpur	Assessment, Prognostication, and Acute Management	08:30 AM-08:45 AM
Dr. Sarbesh Tiwari AIIMS, Jodhpur	Neuroimaging including Structural / Chemical Imaging	08:45 AM-09:00 AM
Dr. Mrinal Joshi S.M.S. Medical College, Jaipur	Planning of Traumatic Brain Injury (TBI) Rehabilitation	09:00 AM-09:15 AM
Dr. Suparno Ganguly Institute of Neurosciences, Kolkata.	Acute Rehabilitation in Traumatic Brain Injury	09:15 AM-09:30 AM

Session 2: 09:30 AM - 10:30 AM (12 Minute For Presentation and 3 Min For Discussion)

PRESENTER	TOPIC	TIME
Dr. Nikhil Kothari AIIMS, Jodhpur	ICU management of TBI patients	09:30 AM-09:45 AM
Dr. Ravindra Shukla AIIMS, Jodhpur	Endocrine and Metabolic Abnormalities in TBI	09:45 AM-10:00 AM
Dr. Samhita Panda AIIMS, Jodhpur	Post Traumatic Headache and Seizure	10:00 AM-10:15 AM
Dr. Shival Srivastava AIIMS, Jodhpur	Autonomic Dysfunction in TBI	10:15 AM-10:30 AM

TEA BREAK 10:30 AM-10:50 AM

Session 3: 10:50 AM – 11:50 PM (12 Minute For Presentation and 3 Min For Discussion)

PRESENTER	TOPIC	TIME
Dr. Mukesh Swami AIIMS, Jodhpur	Neuropsychiatric disorder after TBI	10:50 AM-11:05 AM
Dr. Manomohan Biswas S.N. P. Hospital, Kolkata	Bladder Management & Bowel Management in TBI	11:05 AM-11:20 AM
Dr. Abhay Elhence AIIMS, Jodhpur	Management of Polytrauma in TBI	11:20 AM-11:35 AM
Dr Sanjay Pandey AIIMS Patna	Disorders of consciousness & its management following TBI	11:35 AM-11:50 AM



Scientific Conference

DAY 1- 16 SEPTEMBER 2023

INAUGURATION FUNCTION AND PANEL DISCUSSION : 11.50 AM -1:30 PM

LUNCH BREAK : 01:30 PM-02:30 PM

Session 4: 02:30 PM- 03:30 PM (12 Minute For Presentation and 3 Min For Discussion)

PRESENTER	TOPIC	TIME
Dr. Jaideep Nandi AIIMS, Raipur	Dysphagia Evaluation and Management	02:30 PM-02:45 PM
Dr. Rashmi Rathod AIIMS, Jodhpur	Malnutrition after TBI	02:45 PM-03:00 PM
Dr. A.K. Joy RIMS, Imphal	Sports and TBI: Future Rehabilitative Directions	03:00 PM-03:15 PM
Dr. Jagannath Sahoo AIIMS, Bhubaneswar	Heterotopic Ossification- Evaluation & Management	03:15 PM-03:30 PM

Session 5: 03:30 PM- 04:30 PM (12 Minute For Presentation and 3 Min For Discussion)

PRESENTER	TOPIC	TIME
Dr Anupam Gupta NIMHANS, Bengaluru	Role of yoga in Neurorehabilitation: Evidence so far	03:30 PM-03:45 PM
Dr. Navin B P NIMHANS, Bengaluru	Cognitive Rehab: Pharmacotherapy in TBI	03:45 PM-04:00 PM
Dr. Satyasheel Singh Asthana AIIMS, Raibareilly	Coma Stimulation Programme	04:00 PM-04:15 PM
Dr. Shipra Choudhary ABVIMS & Dr. RML Hospital, New Delhi	Ethics in Brain Injury	04:15 PM-04:30 PM

HIGH TEA 04.30 PM-05.00 PM

GALA DINNER



BREAKFAST- 08:30 AM-09:00 AM

Session 1: 9:00 AM- 10:00 AM (12 Minute For Presentation and 3 Min For Discussion)

PRESENTER	TOPIC	TIME
Dr. Sudhi Kulshrestha Dr. RMLIMS, Lucknow	Psychological Evaluation and Management	09:00 AM-09:15 AM
Dr Dinkar Kulshrestha Dr. RMLIMS, Lucknow	Non Invasive Brain Stimulation in Modulation of Neuroplasticity	09:15 AM-09:30 AM
Dr Abhishek Srivastav Kokilaben Dhirubhai Ambani Hospital, Mumbai	Pharmacological Neurostimulants in TBI	09:30 AM-09:45 AM
Dr. Lokesh Saini AIIMS, Jodhpur	TBI in Children: Concern & Precaution	09:45 AM-10:00 AM

Session 2: 10:00 AM – 11:00 AM (12 Minute For Presentation and 3 Min For Discussion)

PRESENTER	TOPIC	TIME
Dr Gourav Sanyasi Institute of Neurosciences, Kolkata.	Tracheostomy and Gastrostomy care	10:00 AM-10:15 AM
Dr Vinay Goyal AIIPMR Mumbai	Ambulation, Appliance, and Aids in TBI	10:15 AM-10:30 AM
Dr. Prakash Kala AIIMS, Jodhpur	Pressure injury management	10:30 AM-10:45 AM
Dr. Anil Gaur AIIPMR, Mumbai	Rehabilitative Surgeries in TBI	10:45 AM-11:00 AM

TEA BREAK 11:00 AM-11:15 AM

Session 3: 11:15 AM – 12:15 PM (12 Minute For Presentation and 3 Min For Discussion)

PRESENTER	TOPIC	TIME
Dr Navita Purohit KDAH, Mumbai	Chronic pain & its Management in TBI	11:15 AM-11:30 AM
Dr Chitra G. GMC, Trivandrum	Cognitive Rehab in TBI	11:30 AM-11:45 AM
Dr. Keshav Kumar NIMHANS, Bengaluru	Setting up a Cognitive Rehabilitation Unit	11:45 AM-12:00 PM
Dr. Tanuj Kanchan AIIMS, Jodhpur	Medicolegal aspect in TBI	12:00 PM-12:15 PM



Scientific Conference

DAY 2-17 SEPTEMBER, 2023

Session 4: 12:15 PM -01:00 PM (12 Minute For Presentation and 3 Min For Discussion)

PRESENTER	TOPIC	TIME
Dr Nitin Menon PD Hinduja Hospital, Mumbai	Brain-computer Interface	12:15 PM-12:30 PM
Dr Ravi Sankaran Amrita Institute, Kochi	Artificial Intelligence and Modern Physiatrist	12:30 PM-12:45 PM
Dr Kaustav Basu Thakur Rehabana, Kolkata	Physiatrist as a team leader in Neuro Rehab team and Marketing	12:45 PM-01:00 PM

LUNCH BREAK 01:00 PM- 02:00 PM

01:00 PM- 02:00 PM POSTER PRESENTATION (3 Minute Presentation & 2 Minute Discussion)

Session 5: 02:00 PM- 02:30 PM Business Model

PRESENTER	TOPIC	TIME
Dr Amit Ramesh Dhumale Jupiter Hospital, Mumbai.	A challenge in Setup Neuro Rehab Unit in Private Set up/ Corporate Hospitals	02:00 PM-02:15 PM
Dr Amit Ranjan AIIMS Gorakhpur	Application of Artificial Intelligence Including ChatGPT in Rehabilitation & Healthcare	02:15 PM-02:30 PM

Session 6 02:30 PM-04:30 PM

AWARD PAPER PRESENTATION-(7 Minute Presentation & 2 Minute Discussion)

HIGH TEA BREAK- 04:15 PM -04:30 PM





*Poster & Paper
Abstract*





SCOPE AND OPPORTUNITY of ARTIFICIAL INTELEGENCE in NEURO-REHABILITATION- TBI REHABILITATION

Dr. Swapan Mishra

Professor and Head

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Introduction: Traumatic brain injury (TBI) can have a significant impact on a person's life, affecting their cognitive abilities, physical functioning, and emotional well-being. Advancements in artificial intelligence (AI) technology offer new opportunities for TBI victims to receive personalized care and support. Practical applications of AI for TBI sufferers with the potential benefits of using AI in their care is now the centre of discussion on several aspects of rehabilitation e.g. in Cognitive Rehabilitation, using Assistive Technologies in Neurorehabilitation, in using Telemedicine for rehabilitation and in Predictive Analytics in prognosis after TBI by Neurorehabilitation Protocol.

Objectives-

- 1) To find out Benefits of Artificial Intelligence (AI) in NEURO-REHABILITATION
- 2) To find our Scope to achieve the Rehabilitation goal in Neurorehabilitation in General and in TBI Rehabilitation in Particular using AI Technology.
- 3) To find out limitation of AI in Neurorehabilitation
- 4) To identify the opportunity of future research in the field of Neuro-rehabilitation using AI as a tool amongst the young researchers.

Materials and method: Analysis of PubMed Search data on various publications of Original Research in this Field of AI in Neurorehabilitation in general and TBI rehabilitation in particular.

Result: Study conducted by Pattanshetty. R.B. et.al. shows that AI helps to make it a success in patient care with smarter decision-making skills(1). Study Conducted by Ray Marks shows, AI is largely explored and currently applicable to selected diagnostic procedures and the integration of large data sets that can provide for more advanced health predictions than subjective and traditional methods alone. Stroke

survivors are benefitted much by AI (2). In severe TBI by deep learning model combining head CT and clinical information for prognosing 6-month outcomes can be predictable early (3). Goel. P et.al inferred that Cognitive and neuromotor rehabilitation is shaping up in this day and age of artificial intelligence and machine learning (4). The study conducted by Hosseinali Khalili.et.al. (2021), shows that RF algorithm is the best model to predict the short-term mortality of TBI patients and ML (Machine Learning) has the potential to predict TBI patients survival in the short- and long-term. However, the generalized linearmodel (GLM) algorithm showed the best performance (with an accuracy rate of 82.03 ± 2.34) in predicting the long-term survival of patients (5). In an article Rahgozar. P. described that AI in rehabilitation has broad usability, such as assisting in the rehabilitation session, evaluating the treatment progress (decision support), and providing prognosis regarding risk of complications or success of the treatment. AI helps in number of treatments planning in rehabilitation by assessing the outcome of the previous treatment stage, one of the factors that can play an important role in helping therapists is the accurate prediction and analysis of so far applied treatment or prognosis or chronic diseases. In a study by Nourelahi.M.et.al. interpreted that Machine learning techniques might be used to predict the 6-month outcome in TBI patients using only the parameters measured on admission when the machine learning is trained using a large data set (6). In a study by Bruschetta. R. et.al (2021) assessed ML algorithms in TBI prognosis using AI as a toll (7). In a recent study by Azevedo. N. et al on role of AI in aphasia management has been studied with a positive conclusion.(8). Study by Cerasa. A. shows, Machine Learning has similar effect to Traditional Model though admitted for scope of future research in the field (9).

Conclusion: AI technology has the potential to revolutionize TBI rehabilitation by providing personalized support, improving outcomes, and enhancing patients' quality of life. The practical applications of AI in TBI rehabilitation are numerous, and as the technology continues to advance. Rehabilitation Team can expect to see even more innovative solutions to support TBI patients 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 Neurorehabilitation in general and Rehabilitation in TBI in particular. As much of study was not conducted yet in our territory therefore there is ample scope to explore the benefits of AI in TBI as well as in Neurorehabilitation in general.



Autonomic modulation of muscle tone in Traumatic Brain Injury

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Associate Professor

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Introduction: A Traumatic Brain Injury (TBI) is a complex pathophysiologic process that have many systemic effects on our body aside from solely an impairment in cognitive function. Trauma to the central nervous system (CNS) is an important causative factor in many acquired movement disorders. Movement disorders have been reported in as many as 13 to 66% of patients with severe Traumatic Brain Injury.

Materials and method: Immediately after an acute TBI, hypothalamic stimulation of the sympathetic nervous system (SNS) and adrenal glands causes an increase in circulating corticoids and catecholamines, or a stress response. Imbalance between two divisions of the autonomic nervous system(ANS) have been found to induce many abnormalities in both somatic and visceral systems throughout our body, and may contribute to many systemic side effects, motor abnormalities and increased mortality. Post head injury "sympathetic storm" is an important component in the development of abnormal muscle tone in traumatic brain injury cases. Disorders of movement encompass the upper motor neuron syndrome which is one important component of smooth and pain free recovery. Cervical myofascial triggers (Active/Latent) are often one of the common components of sustained high sympathetic tone in TBI cases.

Conclusion: Timely management of Cervical Myofascial triggers are helpful in early and smooth recovery in acute TBI cases.



An Observational Analysis For Sleep Disturbance Among Chronic Traumatic Spinal Cord Injury Patients And Its Associated Factors- A Preliminary Report.

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Introduction: Traumatic spinal cord injury (SCI) is a significant cause of mortality and morbidity. Sleep disturbances encompass disorders of initiating and maintaining sleep, disorders of excessive somnolence, disorders of sleep-wake schedule, dysfunctions associated with sleep, sleep stages and partial arousals. Sleep disorders are more common in individuals with spinal cord injury (SCI) than in the general population. The purpose of our study is to assess the sleep quality in chronic spinal cord injury patients and its associations with various clinical conditions.

Material and method: A hospital based observational study was conducted among 60 patients of traumatic spinal cord injury admitted in the Dept. of PMR, SMS Medical College. A detailed demographic, clinical, functional, psychological and treatment history was obtained from every participant. Medical, neurological, psychiatric and functional evaluation was done for the same. The participants were assessed using PSQI, ASIA, FAC, SF-36, MAS, BDI, BI, DN4 and NPIAP classification. Data collected was compiled into excel sheets and statistical analysis was done.

Result: Prevalence of SSD was 71% among the patients and was significantly higher in individuals with paraplegia ($p \leq 0.05$). Neuropathic pain was higher and quality of life and depressive symptoms were significantly worse in people with SSD. FAC score showed no significant difference in patients with or without SSD.

Conclusion: The study showed that people with traumatic SCI experience poor sleep quality which is associated with paraplegic involvement, depressive symptoms and poor quality of life. Rehabilitation should involve appropriate steps to address sleep disturbance and associated factors.



Surface Neuromodulation on Posterior Tibial Nerve and Parasacral Stimulation For Neurogenic Bladder in Patients with Spinal Cord Injury- A Randomized Comparative study.

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Introduction: Neurogenic bladder is a condition caused by nervous system diseases that affects bladder function. This study aims to evaluate the effect of tibial nerve stimulation and transcutaneous parasacral stimulation on the treatment of neurogenic bladder and assess the safety of TENS administration for managing neurogenic bladder in spinal cord injury patients.

Materials and method: This twelve-month randomized comparative experimental study involved thirty spinal cord injury patients who were randomly assigned to the PTNS and PSS groups. This Study was conducted in Inpatient department of SVNIRTAR, Cuttack. Both groups underwent eight sessions of electrical stimulation using a TENS machine. Urodynamic parameters and quality of life questionnaire were evaluated before and after stimulation. Paired t-tests and Independent T Test were used for comparison of quantitative data, non-parametric data was compared by Wilcoxon Signed Rank test and Mann Whitney U Test within the group and comparison between two groups respectively.

Result: Both groups showed a significant increase in maximum cystometric capacity (127 ± 51.9 to 159.7 ± 76.8 in group PTNS ($p = 0.032$) and from 0.032 and 119.5 ± 55.9 to 149 ± 49.6 in group PSS ($p 0.001$)). Post-void residual volume increased non-significantly in both groups. Maximum detrusor pressure remained comparable in the PTNS group and showed a non-significant increase in the PSS group. Quality of life, specifically in the fear and feelings domain, improved significantly in both groups. No adverse effects were reported.

Conclusion: Both Posterior tibial nerve stimulation and parasacral stimulation were found to be equally effective and safe for management of neurogenic bladder symptoms.



JUMPING STUMP SYNDROME – CASE REPORT

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Introduction: Jumping stump syndrome is considered to be a peripherally induced movement disorder due to damage to peripheral nerves. It is one of the rarest complications post-amputation with very few cases seldom reported world-wide. Pathophysiology is not well understood. Certain cases are considered to be due to propriospinal myoclonus. Psychogenic cases have also been reported. To date, there are no consensus-based best practice recommendations to treat jumping stump syndrome.

Case presentation: 54year old male who presented after 2years since transtibial amputation came with complaints of paraesthesia, phantom limb sensation along with involuntary twitching movements of the residual limb. These movements which started within 1month of amputation were initially occasional and gradually hampered sleep. In the following years, it increased in frequency and was reproducible on tapping or massaging the limb. On admission these movements were visible in the residual limb. Tinels sign was present in the retained twigs of fibular and tibial nerves. On prosthetic fitment, patient had experienced movements of the limb within the socket and Reviewers Report had thereby developed repeated ulcerations on shin. This also led to decrease in the prosthetic wearing time.

Discussion: In this jumping stump, along with amitriptyline and gabapentin, nerve blocks were given for both tibial and fibular nerve twigs. Botulinum toxin type A was given to both heads of gastrocnemius (25units each). Post injection patient had reduction of involuntary movements and this helped in wound healing of residual limb. This led to increased prosthetic wearing time and better prosthetic rehabilitation.

Conclusion: Botulinum toxin type A addressed consequences rather than cause of this movement disorder. It should be considered as treatment for jumping stump syndrome to improve prosthetic wearing time and comfort.



Effect of Cardiac Rehabilitation in patients with Myocardial Infarction

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Introduction: Cardiac rehabilitation is a complex process that involves improving patient's physical performance, psychological condition, and quality of life through endurance training and health education. It helps in reducing morbidity and mortality in patients with cardio vascular diseases. It is a four-phase program in which phase 1 is performed in in-patients. Phase 2 and 3 are supervised outpatient program and Phase 4 is unsupervised home-based exercise program. Despite having many studies regarding the benefits, it is under-utilized. The present study was conducted to find out the effect of cardiac rehabilitation in patients who survived MI.

Materials And Methods: Study is being conducted in the Department of PMR and Department of Cardiology, VMMC & Safdarjung Hospital, New Delhi. It is an interventional cohort study involving 45 MI survivors. A 12 weeks cardiac rehabilitation program was provided. Patients were assessed in terms of physical performance (By 6 MWT and TMT), quality of life (by Barthel index and WHO QoL SF-36) and lipid profile (in terms of TC, HDL, LDL and VLDL) using validated questionnaires and standardized tests. Data analysis was done using SPSS version 21.

Results: In the ongoing study, out of 13 patients who completed, 92.4% (12) were males and 7.6 % (1) were females. The preliminary data shows there is a statistically significant difference in 6MWT, Barthel index and in all the 8 domains of SF-36 after rehabilitation as compared to baseline.

Conclusion: There is a significant improvement in patient's physical performance and quality of life after cardiac rehabilitation.

Diagnostic accuracy of single-channel Cystometry compared to Multi-channel Cystometry for Urinary Bladder evaluation in spinal cord injury: A Cross-sectional Study



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Introduction: Spinal cord injury (SCI) has impacts on self-independence, locomotion, and socialization. Among these, neurogenic bladder dysfunction (NBD) prevalence is high post-SCI, necessitating effective management. SCI yields distinct bladder dysfunction patterns. Accurate NBD diagnosis is crucial to prevent complications. Urodynamic multi-channel cystometry study (UDS) is the gold standard but costly. Single-channel cystometry (SCC) emerges as a cost-effective NBD diagnostic alternative. The research aims to compare SCC and multi-channel UDS diagnostic accuracy & enhancing understanding of SCI-related bladder dysfunction.

Materials and method: A comprehensive analysis was conducted on seventy-one SCI patients. SCC and UDS were performed to evaluate urodynamic parameters, including detrusor response, sphincter response and detrusor sphincter dyssynergia. Additionally, bladder sensations, maximum cystometric capacity, maximum detrusor pressure during the filling phase, detrusor leak point pressure, compliance and post-void residual volume were assessed and compared between the two investigations.

Result: Our findings revealed high accuracy rates for SCC in detecting underactive detrusor (97.10%), overactive detrusor (95.65%), underactive sphincter (98.55%), overactive sphincter (95.65%), and detrusor sphincter dyssynergia. Furthermore, urodynamic parameters measured during SCC were found to be comparable to those obtained through UDS, irrespective of the level, severity, and duration of the SCI.

Conclusion: The study demonstrates the clinical utility of SCC as a relatively practicable, safe, trainable, accessible, reliable, accurate, and cost-effective tool for diagnosing NBD. SCC is performed bedside and provides valuable information when carefully interpreted alongside clinical data. SCC can be a good alternative for assessing NBD in SCI patients, particularly in centers with limited access to UDS.

Cross-sectional study to evaluate and analyse Urological Symptoms, Cystometrographic patterns and Management Options of Bladder Dysfunction in Atypical Parkinsonism Patients.



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Introduction: Bladder dysfunction is very common in atypical parkinsonism patients and often quite challenging to treat. Cystometrographic (CMG) patterns help in understanding the exact etiology of the dysfunction and direct appropriate management strategies.

Materials and method: Atypical parkinsonism patients with urinary symptoms attending the Neurorehabilitation department of NIMHANS were recruited and their symptoms noted. After some preliminary investigations, urodynamic study (UDS) was done in the same department and the CMG findings were recorded. Based on the findings of the study, targeted management techniques were advised and the response to treatment assessed by a follow-up call 1 week after the study. Data was collected using google forms and analysed in Microsoft excel.

Result: A total of 20 atypical parkinsonism patients were analyzed. Urgency was the most common symptom followed by increased frequency, urge incontinence and incomplete evacuation. Detrusor hyperactivity was found in 75% patients, detrusor sphincter dyssynergia (DSD) in 60% patients and post-void residual (PVR) volume was significant in 60% of patients. Bladder was managed with CIC, fluid restriction and bladder diary in 20% patients, timed voiding in 40% and voluntary micturition in the remainder. 75% patients required targeted drug management. 90% of the treated patients maintained well with the prescribed regime and 10% were non-compliant with the treatment advice.

Conclusion: Bladder patterns vary even in patients with similar bladder complaints and so doing UDS in atypical parkinsonism patients with bladder symptoms is recommended to individualize the treatment options giving better results than empiric treatment based on bladder symptoms alone.

A cross sectional analysis of P&O Workshop Beneficiaries of AIIMS Raipur with brief Overview of steps involved in Setting up such Workshop.



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Introduction: Since more than 2 years the P&O(Prostheses and Orthosis) Workshop in PMR Department, AIIMS Raipur is catering to PWD patients of central India. We tried to analyse the beneficiaries to get information about the most common illness catered by the workshop, most common P&O product fabricated by the workshop and standard duration of delivery time for various type of orthosis prostheses. Along with that we will try to give a brief overview of the steps involved in setting up such workshops for the benefit of similar other enterprises.

Materials and method:

Study setting: P&O workshop, PMR Department, AIIMS Raipur.

Study design: Observational study.

Study population: OPD & IPD cases of PMR.

Data Collection: P&O workshop Registry.

Method of analysis: Microsoft Excel.

Result: A total of 146 products were fabricated and delivered. Commonest P&O products fabricated includes AFO (71.54%), WHO (29.2%) & KAFO(23.36%).Commonest illness who had to be provided with P&O products are Paraplegia(17 cases) and Hemiplegia(16 cases). Average time duration i.e, from the date of measurement to delivery of the product varies from a minimum of day 0 to maximum of 78 days.

Conclusion: In a PMR setup which also runs an IPD the most common requirement usually becomes KAFO, AFO & WHO just because inpatients need early gait and ADL training with the fabricated products. The average time duration of delivery had often been affected by presence of single manpower, lack of supply of raw materials & desire of admitted patients to take a break between their rehabilitation trainings.

International classification of functioning Disability and Health (ICF) based evaluation of Osteoarthritis Knee patients - Hospital based cross sectional study



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Introduction: World Health Organization implemented International Classification of Functioning, disability and health (ICF) as a standard language and framework for description of human functioning and disability. This study describes the impairments in OA knee patient by applying the ICF framework and identify priorities for intervention to reduce negative impact on disability of OA knee.

Materials and method: This is a cross sectional study done among patients attending PMR OPD in a tertiary care hospital in Chennai, with OA knee pain diagnosed using 2016 revised ACR criteria. Not willing and patients with psychiatric illness/low IQ were excluded. A total of 110 patients were assessed using 29 relevant concepts in ICF structure for the impairments, difficulties, barriers and facilitators in various contextual factors in OA.

Result: Among body function, sensation of pain in joint (b28016) was the highest (73%) impairment followed by mobility of single joint function (b7100). Changing body position - squatting (d4101)-77.5% was more difficult among activities and participation. The most salient facilitator and barrier to osteoarthritis management reflected were products and technology for personal use in daily living (e1150) and design, construction and building products and technology for gaining access to facilities inside buildings for public use (e1501) respectively.

Conclusion: The ICF allows a comprehensive evaluation of the spectrum of issues encountered by OA knee patients, which is otherwise impossible with a single assessment tool like sleep, self-care. Applying the ICF, we identify "Activity and participation" as a significant contextual factor in OA knee.

Keywords: Osteoarthritis Knee, International classification of functioning Disability and health, ICF, impairment and disability, Core set



Risk of fall in Osteoarthritis Knee, Correlating a Machine to a Scale: A Cross-sectional Study

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Introduction: Knee osteoarthritis (OA) stands as the most prevalent chronic joint ailment, with more than 50% of people reporting a fall during the previous year. Neuromuscular changes associated with OA alter dynamic postural control, compromising ability to evade falling. Few studies show how severity of knee OA relates to risk of fall and impaired balance

Materials and method: In this observational cross-sectional study, the participants had primary OA knee, fulfilled inclusion and exclusion criteria, and were classified into early (Kellgren-Lawrence Grade 1 and Grade 2; n = 55) and advanced (Grade 3 and Grade 4; n = 35) OA groups. Outcome measures were static balance, dynamic balance, and risk of fall assessed using Biodex Balance System and Timed Up and Go Test (TUG). Correlation was studied between these indices.

Result: Dynamic balance, risk of fall, and TUG scores showed statistically significant difference between the two groups. On correlating with the TUG test, the dynamic balance measures correlated positively for Early OA, while Risk of fall measures correlated positively for Late OA.

Conclusion: Balance impairment and risk of fall were more in those with advanced knee OA. Mobility showed deterioration in the same group. The device outputs correlated positively with the clinical scale, indicating that TUG has predictive value in detecting falls.



Subcutaneous Fasciotomy of Dupuytren Contracture: A Case Series

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Introduction: Dupuytren's contracture is a fibro-proliferative disease involving the palmar aponeurosis and the fingers causing a flexion contracture of metacarpophalangeal and interphalangeal joints and ultimately affecting hand mobility and grip strength. There is no cure for Dupuytren disease but the mainstay of treatment is corrective surgery following which most patients can gain functional improvement but can also develop scar contracture in the majority of cases. Non-surgical options like corticosteroid injections are used to treat painful nodules. Radiotherapy has also been used to prevent disease progression for early stage Dupuytren disease.

Materials and method: Five patients with various stages of Dupuytren contracture were taken up for case series study and subcutaneous fasciotomy of contracture was done. Stretching exercise was initiated on day 1 following the procedure. Follow up was done after 1 week, 1 month and 3 months after the procedure. An outcome was assessed by measuring the degree of extension deficit before the treatment and at 1 week, 1 month and 3 months of follow up.

Result: Subcutaneous fasciotomy of contracture resulted in improvement in extension of finger immediately after the procedure and the effect persisted after 1 week, 1 month and 3 months after the procedure with minimal increase in extension deficit after 3 months.

Conclusion: Subcutaneous fasciotomy of contracture is an effective procedure for treatment of Dupuytren contracture especially in the early stages rather than open fasciotomy.



Effectiveness of Ultrasound-guided Prolotherapy on Structural and Functional Outcomes in Supraspinatus Tendinopathy- A Randomized Control Trial

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Introduction: The purpose of this study was to compare the effect of dextrose prolotherapy against Normal Saline(NS) injection in subjects who were managed conservatively for supraspinatus tendinopathy (SST). It is hypothesized that dextrose prolotherapy would reduce pain and improve degenerative findings on USG. Enthesis injection with NS was expected to have intermediate benefit due to potential therapeutic effects from micro-bleeding or cell membrane rupture with the initiation of the inflammatory cascade.

Materials and method: It was an RCT done for a period of 1 year at SVNIRTAR. Patients with diagnosed SST by clinical and Ultrasonography were taken up for the study after prior informed consent. After randomization, patients were divided into 2 groups. Data collection was done at 0 and 4 weeks and statistical significance was assessed by paired-t-test.

Outcome measures: WORC, SPADI, PENN scale, USPRS

Result: There was a significant improvement in VAS scores in both the study groups. The SPADI-pain-scale as well as the Mean-SPADI-disability-score improved in both. Both groups had an upgrade in ADL difficulty. The sub-parameters of WORC improved significantly at 4 weeks. ROM improved for Flexion and abduction in the prolotherapy group. IR was refined in both groups but ER remained unchanged. PENN-Function-score improved in the prolotherapy group. USPRS remained unaffected in both groups.

Conclusion: There was no significant change in any of the studied parameters at the end of 4 weeks between both groups though intragroup changes were evident, suggesting that there is no superior effect of Prolotherapy compared to the NS placebo group.



A Cross-sectional study on Sexuality issues among male Patients with spinal cord injury in a Tertiary Care Centre in Tamilnadu.

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Introduction: Sexuality is an integral part of each persons life. Spinal cord injury can cause marked impairment in sexual function. The physical limitation caused by the injury as well as disability affecting the self-esteem of the patient and their relationship contributes to the problems in sexuality. But these problems are more often neglected. Various studies on sexuality issues of spinal cord injury patients have been done in different populations. Kirsi valtonen et al studied satisfaction with sexual life among persons with traumatic spinal cord injury and meningomyelocele in Swedish population. Margareta et al studied sexuality and sexual life in women with spinal cord injury in European population. Craig alexander et al studied sexual activities, desire and satisfaction in males pre and post spinal cord injury in American population. But such studies are rarely done on Indian population. Hence this study aims to identify various issues in sexuality faced by spinal cord injury patients who had been reintegrated into the community in Tamilnadu and to identify the ways to address those issues.

Objective: To identify the sexuality issues in male patinets with spinal cord injury and to identify the ways to address them.

Materials and Methods:

Location of the study: Government Institute of Rehabilitation Medicine, K. K. Nagar, Chennai-83.

Study Design: Cross sectional study

Study Population: Sixty spinal cord injury patients attending the OPD of Government Institute of Rehabilitation Medicine from November 2022 to July 2023.

Methodology: Participants were selected according to inclusion & exclusion criteria. The study was conducted by providing them with a questionnaire of 40 multiple choice questions regarding their sexuality. The questionnaire is divided into four parts - sexual activity and preferences, sexual functioning, sexual desires and satisfaction and sexual adjustment.

Results: 90 percentage of the participants return to sexual involvement within one year of injury. Frequency of sexual activity negatively correlate with severity of injury, in the order, quadriplegia complete, quadriplegia incomplete, paraplegia complete, paraplegia incomplete. Sexual desire also negatively correlate with severity of injury. In the study, reduction in frequency and enjoyment in penis-vaginal intercourse was observed. Also an increase in sexual activities related to areas above the level of injury was noted. 70 percentage of participants did not receive any form of sexual education after injury. 82 percentage of participants believes that sexual rehabilitation can help them and were willing to undergo sexual rehabilitation.

Conclusion: Sexual education and counseling are of utmost importance to spinal cord injury population. Physiological issues like erectile dysfunction, infertility and psychological issues like depression, self-esteem decrease, communication issues in spinal cord injury population also needs to be studied and addressed.



Case Report-Flexor Pronator slide and Proximal Row Carpectomy for fixed Flexion Deformity in Spastic Tetraplegic Hand Secondary to Snakebite.

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Introduction: There are estimated 5.4 million snakebite cases every year (1). Snakebite envenoming can lead to stroke, hypoxic ischaemic encephalopathy (HIE), ADEM etc, or even death. HIE can lead to tetraplegia, cortical blindness, spasticity etc. This is a case report of wrist flexion deformity in patient with HIE following a snake bite which was managed with surgery.

Case Presentation: 26 years old male presented with weakness and stiffness in all four limbs following a snakebite 1 year 10 months back. On examination, he had spasticity in all four limbs, bilateral wrist flexion contracture, right wrist in 90degrees of flexion. To correct the right wrist flexion deformity we did flexor pronator slide with proximal row carpectomy. After surgery casting was done for 4 weeks followed by 6 weeks of customised splinting. Post splinting, full passive range in wrist extension and 10 degrees of active wrist flexion and extension was achieved.

Discussion: Depending on severity, there are many approaches to correct wrist flexion deformity. Non-operative include casting, stretching and operative include Z-lengthening, release of FDP,FDS, flexor pronator slide, carpectomy and arthrodesis. Proximal release of extrinsic flexor and pronator muscles was first described by Page and Scaglietti for Volkmann contracture. (2).

Conclusion: HIE is known complication following snakebite. Flexor pronator release and proximal row carpectomy improves wrist range of motion. Patient was so happy with result of this surgery, he was asking for surgery on other wrist as well.

Effect of Addition of Blood Flow Restriction Training after Anterior Cruciate Ligament Reconstruction- A Randomized Controlled Trial



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Introduction: Despite best practice, years after anterior cruciate ligament (ACL) reconstruction, quadriceps atrophy and weakness persist, with a higher risk of re-injury. We aimed to evaluate the effect of addition of Blood flow restriction (BFR) training to conventional ACL rehabilitation protocol till 6 months from surgery.

Materials and method: A Randomized Controlled Trial, conducted in department of Physical Medicine and Rehabilitation, AIIMS Jodhpur. A total of 98 patients with ACL injury were randomized into BFR-group (49 patients) and non-BFR group (49 patients). In addition to conventional-rehabilitation, 12 weeks post-ACL-reconstruction, BFR with low-intensity resistance training was given to participants of BFR group and low-intensity resistance training without BFR was given to participants of non-BFR group. They were evaluated in four visits including pre-operatively after ACL injury, at 2 weeks after ACLR/ after stitch removal, at 3 months after ACL reconstruction and at 6 months after ACL reconstruction. Level of activity and knee function assessed by Tegner activity scale, 2000-IKDC subjective knee evaluation-form and Lysholm knee scoring scale; quadriceps muscle thickness evaluated by Ultrasonography; rectus-femoris and vastus-lateralis muscle activation at maximal muscle contraction evaluated by surface-electromyography. A p-value ≤ 0.05 was considered statistically significant.

Result: Compared to non-BFR group, BFR-group showed statistically significant improvement in level of activity, knee-function, quadriceps-muscle thickness and rectus-femoris muscle activation ($P \leq 0.05$).

Conclusion: The addition of BFR training in conventional ACL injury rehabilitation has a positive effect on overall improvements in knee function. Therefore, we suggest the inclusion of BFR.

Observational study of Etiology and other Comorbid issues among SCI, TBI And CVA patients admitted in Physical Medicine & Rehabilitation IPD, AIIMS Raipur over last 5 years.



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Introduction: In INDIA there is lack of hospital registries for chronic illnesses affecting the Central Nervous System and consequently demographic information regarding those ailments is also very scarce. PMR Department AIIMS, RAIPUR has always stored the electronic discharge papers which are valuable source of retrospective data analysis. We did a cross sectional observational analysis of all Spinal Cord Injury (SCI), Traumatic Brain Injury (TBI); Cerebro-vascular Accident (CVA) patients admitted in PMR IPD over last 5 years to obtain information about etiology and other comorbid issues among them.

Methodology: Cross sectional observational study

Result: There were 55 SCI(46 M, 9 F) 9 TBI(7M, 2F) 30 CVA(22M, 8F) admitted in PMR IPD, AIIMS RAIPUR in last 5 years. Fall from Height accounted for 45.45% of the cause in SCI patients. T1-T12 involvement was seen in 47% of SCI patients. PU, UTI were the prevalent complications among the SCI patients. In TBI patients, Road traffic accident constituted the most common etiology (90%), frontal lobe was affected in almost all; & almost 90% cases had impaired cognition. Amongst CVA cases, 76.66% are of ischemic and 23.4 % are of hemorrhagic etiology. In 60% parietal lobe, in 57% frontal lobe, in 40% temporal lobe; & in 13.3% occipital lobe is affected. More than 40% of the patients had a history of hypertension, 20% reported with T2DM. More than 60% of CVA patients suffered from cognitive impairment and speech difficulties.

Conclusion: In almost all TBI patient frontal lobe is involved and cognitive impairment is there. Fall from height is the main cause in SCI patients whereas RTA is the main cause in TBI patients. Ischemic etiology prevailed among CVA patients. More than half of the CVA patients suffered from cognitive impairment and speech difficulties. There is need of maintaining such registry in each and every institute where similar patients are admitted for long term rehabilitation, so that the data will help to improvise the treatment guidelines and to adopt proper rehabilitation strategies in future for similar patients.



Our experience in evaluating the effectiveness of Ponseti technique in clubfoot correction: A Prospective Observational Study.

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Introduction: Congenital Talipes Equino Varus (CTEV) commonly known as clubfoot is a group of deformities that involve hind-foot varus, cavus, metatarsus adduction and equinus. Ponseti technique advocated a more conservative and less invasive approach compared to more extensive surgical releases used before. Pathology of CTEV affects musculoskeletal structures of the feet and goal of treatment is to correct all components of the deformity through gradual ligamentous and muscular lengthening, thereby achieving a flexible plantigrade foot without pain and deformity. Purpose of this study is to evaluate the effectiveness of Ponseti technique in clubfoot correction.

Materials & Methods: It is a prospective observational study, conducted in the period of November 2022 till July 2023 in the Department of Physical Medicine and Rehabilitation in S.M.S. Medical College, Jaipur, Rajasthan. Parameters related to CTEV was assessed by Pirani scoring system with six categories; three each in mid-foot and hind-foot. All the patients with CTEV scored with Pirani scoring system were treated with Ponseti manipulation and casting technique with or without Achilles tenotomy. Neonates with other congenital deformities, arthrogyrosis, myelomeningocele and syndromic children were excluded. Following correction, patients were given FAO and advised for regular follow up.

Results: Total 17 CTEV feet of 10 neonates were treated and included for analysis of which 6 (60%) were males and 4 (40%) were females. 7 patients had bilateral, 3 had unilateral involvement. Total no. of plaster casts required per CTEV foot was 3.3 (range 2-6). Out of total, 6 (35%) feet needed percutaneous tenotomy and 1 patient developed complication like skin excoriation. Final Pirani score significantly improved from an average of 4.8 on presentation to 0.055 at completion of casting.

Conclusion: In our experience, Ponseti technique is an excellent, simple, effective, minimally invasive and cost effective procedure for treatment of CTEV deformity. The Ponseti technique is near ideal and provides a painless, plantigrade, cosmetically acceptable foot with higher functional outcomes and minimal complications.

An observational study to assess the effect of Modified Tenodesis splint on hand function of Patients with Spinal Cord Injury



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Introduction: In Tetraplegic patients, hand function impairment causes functional limitation. An economical Tenodesis splint, enabling finger flexion with active wrist extension offers promise for enhancing the Tripod grasp and function.

Material and Methods: Tetraplegic patients admitted in PMR ward at AIIMS Bhopal were assessed for neurological level of injury. Twenty-two patients with at least grade 3 power in wrist extensors were enrolled. Modified tenodesis splint was given to these patient and daily training sessions were held for 15 days. Duruoz Hand Index (DHI) score was assessed at 0, 6 and 12 weeks. Orthotics Prosthetics Users Survey (OPUS) satisfactions scale was used to assess satisfaction in patients. Device consists of three parts made up of low temperature thermoplastic- Finger shell (2 mm), short Opponens splint (2 mm) and wrist cuff (3.2 mm). The finger shell and wrist cuff are attached via an elastic band which is tightened with wrist in flexed position. When the patient extends the wrist, the fingers flex to achieve the three-jaw-chuck grasp.

Result: There was significant improvement in DHI after 6 and 12 weeks as compared to the initial measurement. The mode for OPUS Satisfaction for device score was 50 and out of 22 patients, 16 had a score of 50 or higher and mode for OPUS satisfaction score for service was 46 and 17 out of 22 patients had score more than mode.

Conclusion: This modified tenodesis splint can be an economically and functionally valuable tool to improve hand function in Tetraplegic patients.



Difficulties Faced by Sci Patients in Modification of Architectural Barriers at Home: A Qualitative Study

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Introduction: The quality of life of patients with SCI is multidimensional, it can be affected by the architectural barriers in addition to personal and disease factors. Proper modifications of architectural barriers at home and work place of SCI will contribute greatly to their ability to maintain functional independence and achieve a higher quality of life.

Materials and method:

Objective: To determine the difficulties faced by SCI patients in modification of architectural barriers at home.

Location of the study: Government Institute of Rehabilitation Medicine, Chennai-83.

Study Design: Qualitative study

Study Population: Twenty five SCI patients discharged from Government Institute of Rehabilitation Medicine from April 2023 to July 2023

Methodology: Twenty five patients discharged from Government Institute of Rehabilitation Medicine, with SCI responded to semi-structured telephonic questionnaire and was analyzed by qualitative content analysis.

Result: Majority (88%) of the SCI patients were males who were also the breadwinners (76%) of the family and belonged to rural area. Most of them had low income and has now either become jobless or had a job with lesser income. Most of them had rented homes (89%) with narrow doors, stairs and narrow corridors. Lack of patient education about complications (90%), self-motivation and support from organizations were also evident in the study.

Conclusion: The difficulties faced by SCI patients in modification of architectural barriers are often overlooked by doctors, government and NGO's. This study throws light in these areas and will help in addressing these issues in the future so as to improve the quality of life as well as to prevent chronic complications in patients with SCI.



UNUSUAL CASE OF LOW BACK PAIN

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A 26-year-old male presented with complaints of low back pain (LBP) radiating to left lower limb for a year. Swelling and pain in the right lower limb associated with difficulty in walking. On spine examination there was mild lumbar scoliosis, tenderness over lumbar para-spinal region. Port wine colored plaque over right mid-thigh. Dilated and tortuous veins; generalized edema and hypertrophy of right lower limb and shortening of left lower limb noted.

MR angiography - Dilated tortuous vascular channel in right subcutaneous region and intramuscularly. Soft tissue hypertrophy of right calf.

Treatment: He was diagnosed with Klippel Trenaunay Syndrome. He underwent endovenous laser ablation with sclerotherapy. LBP was treated with NSAIDs, exercises, compression stockings for right lower limb and universal shoe raise left foot. His LBP reduced (VAS 7 to VAS 2) on two month follow-up.

Discussion: Klippel Trenaunay Syndrome is a disease characterized by port wine stain, varicose vein and bone and/or soft tissue hypertrophy. Result of a disorder in the embryonic development of the mesodermal tissues. There is no curative treatment and therapeutic goals are to improve the symptoms and correct the length discrepancy. Our patient presented with LBP; due to hypertrophy of right lower limb there was limb length discrepancy, mild scoliosis in the lumbar spine. This discrepancy was corrected; spinal and core muscles strengthening along with ergonomic modifications resulted in pain relief.

Conclusion: Vascular malformation of lower limbs can cause LBP, one should be vigilant to identify these cause of LBP which can be easily identified and treated.



Reinforcement of Skin Graft with Recurrent Ulcer using Platelet Rich Fibrin on a Non-Ideal Bilateral Transfemoral Amputee - Case Report

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Introduction: Platelet Rich Fibrin (PRF) has an aggregate of a myriad of growth factors and cytokines that stimulate wound healing and successfully used in the Tissue Regeneration in Graft Surgery.

Case presentation: 26 years old male with bilateral transfemoral amputation - post Train traffic accident sequelae, presented with large persistent raw area in stump base was managed by split skin graft as revision amputation was not possible, presented after 3 months for rehabilitation.

Discussion: During stubbies training, he developed ulcer over the grafted skin socket interface region. In spite of corrective measures, ulcers were recurrent mainly over the margin of the grafted stump. Evidence shows that PRF contains varied growth factors which promote substances for tissue repair, resulting in hyperplasia of skin graft and good abrasion resistance and graft tissue reinforcement. Three consecutive sessions of PRF applied to ulcer site, ulcer resolved. On subsequent training, there was formation of new repetitive ulcers over the graft other than the previous site due to stretching force transmitted from the proximal weight bearing area. No Ulcers recur over the previous sites where PRF applied. This shows the significance of PRF in strengthening of graft tissue and recurrent ulcer prevention over graft tissue, which is not reported to the best of our knowledge in any literature review in amputee patients with SSG stump.

Conclusion: Due to early intervention with PRF and conventional measures, recurrent ulcer formation over the graft tissue was prevented. If not properly addressed, repeated ulcer could made further delay in wound healing and prolonged the rehab period.



Assessment of Neuropathic pain in patients of Spinal Cord Injury: An Experimental Study

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Introduction: Neuropathic pain (NP) following spinal cord injury (SCI) is still an unsolved problem. The purpose of this study is to find out the incidence of NP in Indian acute SCI population, assess the verbal descriptors of NP and to study the effect of various pharmacological agents on NP following SCI.

Methods: A single blind, hospital based experimental study was conducted on 494 cases of acute spinal cord injury patients who were admitted first time in the PMR department S.M.S. Medical College, Jaipur. Parameters related to pain were noted in a pre-designed schedule and pain intensity was assessed on Visual Analog Scale (VAS). Cases were randomly given 5 different treatments and the effect of drug was assessed in terms of pain score reduction on VAS after 7 days, 28 days and 3 months.

Results: Incidence among acute SCI cases was found to be 13.76%. On further rectification 12.44% cervical injury cases and 14.73% dorso-lumbar injury cases suffered from at or below the level NP. Higher incidence (23.12%) was seen amongst those in 21 to 30 years age group. The mean time of onset for NP was 26.4 days with standard deviation of 5.793 days. 57.35% of the cases described their discomfort as a hot burning sensation. Drug trial revealed that Pregabalin showed pain reduction after 7 days, Oxcarbamazepine and Amitriptyline after 28 days, Gabapentin after 3 months. None of these is superior to placebo.

Conclusion: Individual with spinal cord injury were at high risk to develop neuropathic pain which was more at night, described more as hot burning type sensation, relieved by ROM Ex. and tepid sponging and none of the trial drugs is superior to placebo.



Depression Prevalence & Spectrum among Traumatic Spinal Cord Injury Patients: Admitted In PMR Department, SMS Hospital, Jaipur

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Introduction: Depression is a common problem in traumatic patients with spinal cord injury, which decreases quality of life and promotes suicidal thoughts.

Material and Method: This study was aimed to investigate the prevalence of depression after SCI and its association with Socio-demographic factors, including sex, age, level of injury and suicidal thoughts. This was an observational study of 100 adults with SCI who were admitted to PMR Department, SMS Hospital, Jaipur. The Beck Depression Inventory (BDI-II Persian), a 21-question multiple-choice inventory, was used to measure the presence and severity of depression. Data were collected by Interview.

Results: Seventy Nine (79%) participants had mild to severe depression. There was a higher probability of depression in individuals with SCI who were female (86%), those had a suicidal thoughts (80%), had a history of suicide attempt (11%), Illiterates 95% were taken cared for by a family member other than a spouse or parents (82%).

Conclusion: Depression was highly prevalent with SCI, further become complex with level of injury, female sex. Seen higher among illiterates and those in lack of spousal care.

Key Words: Depression, education, gender, Spinal Cord Injury, Level of injury, Suicidal thoughts.

An observational study to find out the prevalence of Osteopenia and Osteoporosis with relation to Body Mass Index and different Co-Morbidity among Post-Menopausal Women of different age group



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Introduction: After occurrence of menopause in women bone mineral density changes rapidly due to dramatic drop of estrogen levels in their bodies and it can lead to many difficulties like back pain, vertebral fracture, slippage of vertebra and many more.

Material and Method: This is a hospital based prospective study to find out the Bone Mineral Density of lumbar spine and its relation with Body Mass Index and different types of co-morbidities. This study included 120 postmenopausal women coming to department of PMR has undergone routine physical check-up, blood investigations, DEXA scan of lumbar spine and categorized according to Body Mass Index into underweight, healthy, overweight, obese, and then find out the prevalence of osteopenia and osteoporosis according to DEXA scan results. And also find out the correlation with comorbidities like hypertension, diabetes, hypothyroidism.

Result: A total 119 cases included in study with an average age 57 ± 16 and average BMI 28.9 ± 12.10 . According to BMI 2.5% subjects were found to be underweight, 34.16% normal, 33.33% overweight, and 30% is obese. Out of underweight cases 100% are osteoporotic, in normal group 24% found osteopenic and 66% is osteoporotic, and in overweight group 37% is osteopenic and 48% is osteoporotic and in obese people 42% is osteopenic and 11% osteoporotic.

Conclusion: In this study we found that osteoporosis maximum in underweight then normal bone mass then overweight f/b obese which is minimum, and osteopenia chances are getting increased from underweight 0% to 24% in normal and 37% in overweight and 42% in obese. So, its better to give calcium and vitamin D to underweight and healthy post-menopausal women.

KEYWORDS: BMI= Bone Mineral Density, DEXA= Dual Energy X-Ray Absorptiometry, Superscript 2= Guide and Senior Professor and Head Of Department Of PMR



Analgesic efficacy of Stellate Ganglion Block in Cancer Rehabilitation: A Case Series

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Introduction: Head and neck cancer (HNC) result in persistent pain among the patients. Stellate ganglion block (SGB), being a sympatholytic block may be a viable therapy for treating it.

Materials and method: Data was retrospectively collected from 5 patients who had histopathologically confirmed HNC and completed chemotherapy and radiation doses.

Result: SGB was given to the patients, and they were subsequently monitored for three months to assess pain alleviation and overall satisfaction. Over a three-month period, there was a decrease in the pain levels with a better quality of life for the patient.

Conclusion: Stellate ganglion block can be a promising modality for reducing pain of HNC.



Neurodegeneration with brain Iron Accumulation (NBIA): A Case Report

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Introduction: Neuro-degeneration with brain iron accumulation (NBIA) represents a group of inherited disorders characterized by iron accumulation in the basal ganglia. Pantothenate kinase-associated neuro-degeneration (PKAN) is the most common form of NBIA accounting for about 50% of cases.

Case presentation: Nine year old girl presented with walking difficulty, poor hand function, speech difficulty, aggressive behaviour and poor vision since three years of age. On examination, there was bilateral hand dystonia, lower limb spasticity, exaggerated deep tendon reflexes and dysarthria. IQ assessment indicated 75% disability. MRI of brain showed "eye of tiger" sign. Fundus examination revealed bilateral retinitis pigmentosa. On genetic testing, homozygous mutation of PANK-2 gene was identified.

Discussion: PKAN is divided into two phenotypes, classic and atypical. In classic presentation, age of onset is 3-6 years, presents with gait difficulties and dystonia. Pigmentary retinopathy and pupil abnormalities are present. Difficulty in walking occurs 10-15 years after disease onset. Atypical type, presents at age of 2nd - 3rd decade of life and has slow progression. Characteristic features are psychiatric symptoms and speech difficulties. Motor involvement occur after 15-40 years of disease. The management of PKAN is mostly symptomatic. Surgical intervention may be used to control symptoms.

Conclusion: NBIA should be included as differential diagnosis in patients with progressive extrapyramidal syndromes. Multidisciplinary rehabilitation programs can improve quality of life in these patients.



To explore the benefits of Biomechanical Correction in the Management of Osteoarthritis Knee Joint.

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Introduction: Osteoarthritis (OA) Knee is one of the leading causes of pain and functional disability among painful joint conditions in adults. The overall prevalence of OA in India has been estimated to be around 28.7% which has been calculated based on data from five Indian states. Worldwide the prevalence of OA is estimated to be around 9.6% in men and 18% in women aged over 60 years. Nearly, 45% of women over the age of 65 years have symptoms while radiological evidence is found in 70% of them. OA of knee joint is diagnosed using American College of Rheumatology Criteria (ACR).

Materials and methods: This prospective observational study was conducted on 10 patients between 40-65 years of age with grade 2 & grade 3 osteoarthritis according to Kellgren-Lawrence system who reported to OPD of PMR Department of MGMCH, Jaipur from Dec 2022 to June 2023. Out of 10 patients, 6 were females and 4 males.

Method:

- Diagnosis of knee osteoarthritis was established clinically based on ACR criteria.
- Pain was recorded on Visual Analogue Scale (VAS) and quality of life by SF-36.
- History, clinical examination and X-rays were taken in all patients.
- Biomechanical correction was given by using $\frac{1}{4}$ inches lateral wedge outsole in the footwear.
- Follow up was conducted on monthly bases from 3 to 6 months for evaluation of results. Patients improved symptomatically including their gait pattern.

Discussion:

- The results of our study coincided with the studies conducted by Somya Saxena in 2022 and Mausmee Hemantbhai & Yagna Unmesh in 2021 on use of lateral wedging orthosis, who also reported decrease in pain of the joint and improvement in gait pattern.
- Another two randomized controlled trials also demonstrated that the use of lateral wedging in shoes can decrease patient consumption of oral analgesics in OA knee at 6 months and 2 years.

Conclusion: This short period study on a small number of patients showed that biomechanical correction is beneficial for relief of symptoms and is cost effective and reduction in surgical intervention with associated comorbidities in these patients.

A Comparative study of efficacy and Safety of Gabapentin and Amitriptyline for treatment of Neuropathic Pain in Cancer patients attending Department of Physical Medicine And Rehabilitation.



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Aim: To determine the efficacy of amitriptyline in comparison to gabapentin in cancer patient for treatment of neuropathic pain.

Introduction: Neuropathic Pain is commonly diagnosed as a complication of cancer pain and is caused by compression or infiltration of nerves or plexus by tumor. It is often described as a dysesthesia, lancinating, burning, electric shock like, pricking, and tingling. The goal of treatment in cancer patients is to integrate rehabilitative care with curative care regardless of prognosis. Relief from chronic pain is essential in order to improve the quality of life, including psychosocial and functional well-being. Pharmacological interventions follow the WHO three-step approach involving non-opioid analgesics, mild opioids, and strong opioids with or without adjuvant. Adjuvant analgesics are non-opioids that potentiate the analgesic effect of opioids. Adjuvant analgesics can be administered together with non-opioid and opioid analgesics on each step of the WHO analgesic ladder. Anticonvulsants and tricyclic antidepressants (TCAs) are the most commonly used adjuvant analgesics in pain syndromes due to cancer.

Materials and method: A Hospital based Prospective Interventional Comparative study being conducted in physical medicine and rehabilitation OPD of SMS Medical College, Jaipur.

- Sample size is calculated as 35 in each group.
- The diagnosis of neuropathic pain was based on history, clinical assessment and electrophysiological evidence based on nerve conduction study wherever it was feasible.
- Group A given oral tramadol and oral amitriptyline 25 mg.
- Group B given oral tramadol and oral gabapentin 300 mg.
- The intensity of pain was assessed by Numerical Rating Scale (NRS), Global Pain Scale (GPS).

INCLUSION CRITERIA:

- 1) Age In Between 18 To 65 Year
- 2) Neuropathic Pain by Any Etiology
- 3) Karnofsky Performance Score >40
- 4) Patient willing to be a part of study after giving informed consent in written

EXCLUSION CRITERIA:

- 1) Pregnant and lactating female
- 2) Known history of hypersensitive to study drugs
- 3) Severe Renal impairment, severe Liver impairment, significant disorder of Bone-marrow and Cardiac conduction defect.
- 4) Patient taking Antipsychotic, sedative- psychotropic drug, Atropine and its substitute.

Result: Among cases of group A, mean NRS score at 0 days was 6.96 ± 1.84 and at 30 days it was 4.36 ± 1.4 . While, among cases of group-B it was 6.84 ± 1.84 and 5.27 ± 1.72 respectively. (Intragroup Analysis) Change in mean NRS score from 0 day to 30 days among participants of both study group was statistically significant (p value < 0.05). The mean GPS score of cases in group-A at 1st and 2nd visit is 64.02 and 39.73. Similarly, mean GPS score in group-B at 1st and 2nd visit is 65.78 and 45.20. There was statistically significant difference in mean GPS score at 2nd visit between two groups (P -value = 0.0077).

Conclusion: In conclusion two groups, gabapentin and amitriptyline are equally efficacious in relieving neuropathic pain. Amitriptyline is more cost effective than gabapentin.



Preliminary Report of the study Effectiveness of Ultrasound-guided ESPB and TRAPEZIUS TrP V/S TRAPEZIUS TrP Injection in Myofascial Pain Syndrome

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Introduction: Myofascial pain syndrome is characterized by taut band within muscle and sensory abnormality like tenderness and referred pain. The aim while treating myofascial pain syndrome is to help damaged muscle structure by relaxing trigger points. The aim of this study is to ascertain efficacy of ultrasound-guided combined erector spinae plane (ESPB) and trapezius TrP block versus trapezius muscle TrP injection alone in patients with neck and upper back.

Material and method-

- a) Luer lock syringe (10/20 ml).
- b) 90mm, 25G and 5cm 22G spinal needle
- c) 20 ml 0.125% bupivacaine and 5ml 0.25% bupivacaine
- d) Diagnostic Ultrasound

Method- With linear ultrasound transducer, trigger point of trapezius muscle is scanned in the sagittal plane, and is infiltrated with 0.25% 5 ml bupivacaine through in-plane method. Using linear ultrasound transducer positioned transversely on the spinous processes, T4 level is assessed. The hyper-echoic transverse process will then be visible when the transducer has been positioned longitudinally for lateral scanning at the level of the T4 spinous process. From deep to surface, the erector-spinae, rhomboid major, and trapezius muscles are visible on transverse process. Then 20 ml of 0.125% bupivacaine would be injected between transverse process and the erector spinae muscle using a 90mm, 25 gauge needle in a caudal to cephalad manner through an in-plane approach.

Result- Combined ESPB and Trapezius TrP injection group showed improvement at day 15 on FACES pain scale and Neck Disability Index.

Conclusion- This study shows that combined ESPB and Trapezius TrP injection is more effective than trapezius TrP injection.



A Rare case of Suspected Morquio Syndrome

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Introduction: 52-year-old male who has a short stature, presented with weakness of left upper and lower limbs, tightness of bilateral lower limbs and difficulty in walking. Upon doing relevant radiological investigations, he was found to have atlanto-axial subluxation with myelomalacia of cord at C1-C2. The phenotypical features suggested a diagnosis of Mucopolysaccharidosis (Morquio syndrome).

Case Presentation: 52 year old male with a history of delayed motor milestones, who has a short stature, presented with weakness of left upper and lower limbs, tightness of bilateral lower limbs, and difficulty in walking.

O/E: Following features were noted

Pectus carinatum

Prominent forehead

Short neck

Ligamentous laxity

Short trunk

Scoliosis

Grade 4 spasticity noted on B/L hip flexors, grade 3 on B/L hip adductors.

B/L upper and lower limbs had grade 3-4 power.

Deep tendon reflexes were exaggerated on left side.

MRI C-Spine: Atlanto-axial subluxation with associated myelomalacia of cord at C1-C2.

Discussion: The clinical features with which the patient presented and the radiological imaging pointed towards a probable diagnosis of Morquio syndrome (MPS type 4). Since the symptoms were progressive, surgical intervention was deferred at the time. Antispastic oral medications were started, and injection Botulinum Toxin A was given to B/L gracilis. A molded cervical collar, incentive spirometry and breathing exercises were advised from our side.

Conclusion: Through a systematic approach, we arrived at a diagnosis of MPS. Since it is an autosomal recessive disorder, proper genetic counselling is an integral part of management.



Autologous gold induced cytokine (GOLDIC) in management of Osteoarthritis knee: A case report

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Introduction: Osteoarthritis of Knee is characterized by severe pain, joint stiffness and affection of activities of daily living. It is also a major cause of disability in elderly patients. There are combinations of pharmacologic and non-pharmacologic modalities for management. Early adequate intervention is necessary to prevent deformities and disabilities. In GOLDIC procedure, patient's blood is subjected to gold particles to concentrate the regenerative factors in serum which is injected at the target site.

Case: A case report on the safety and efficacy of serial intra-articular injection of gold induced cytokine (GOLDIC procedure) in treatment of Grade 2 Osteoarthritis of knee. A 48 year old female, health care worker with Osteoarthritis K.L. Grade 2 was given 3 doses of Gold induced cytokine 1 week apart in February 2023 and followed up using Global pain Scale (GPS) and Knee Injury and Osteoarthritis Outcome Score (KOOS) at 1 month, 2 month and 6 month.

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

Conclusion: Autologous Gold induced cytokine injection improves pain and pain related psychosocial experience with overall improvement in functionality at the end of 6 months.



Newly derived Functional Scoring system for Osteoarthritis Knee (GIRM Score).

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Introduction: Osteoarthritis knee is the most common form of arthritis & leading cause of disability. It is a degenerative wear-and-tear type of arthritis, joint pain causes subsequent impairments in health-related quality of life. In India OA knee prevalence is 22–39%. Despite many functional grading systems for osteoarthritis knee, the GIRM score - will be beneficial in the future to simplify clinical severity and decides the management for OA knee patients.

Materials and method:

Objective: To determine the clinical severity and management of osteoarthritis knee on functional basis.

This was a cross sectional study conducted among the patients diagnosed with OA knee who came for outpatient department between the period of January 2023-august 2023 in Government Institute of Rehabilitation Medicine [GIRM]. Age more than 35 years of both genders were included and other causes of knee joint pain (trauma, inflammatory, infection) were excluded. Totally 150 patients were enrolled in the study. GIRM scoring system applied severity assessed and management decided.

“The report of interim data analysis is as follows.”

Result: The mean age of the study was 56.06 ± 9.74 and majority were females (72%). 20% and 80% of patients were bilateral and unilateral OA knee respectively. According to GIRM score, 12%, 84% and 4% have score of < 14, 15 to 27 and > 28 undergoing conservative, intra-articular injection and TKR respectively. Among the 7 patients with good outcome (Oxford knee score), 6 had GIRM score < 14. All the patients with moderate and worse score in OKS correlates with GIRM score (Statistically significant). Similarly, the GIRM scores were correlating with those of Kellgren-Lawrence scoring system. The sensitivity and specificity of GIRM score was 100% and 97.7%.

Conclusion: The development of a simplified scoring system for OA knee marks a significant advancement in the field of intervention physical medicine and rehabilitation. This streamlined approach offers numerous benefits, including improved clinical efficiency, enhanced communication between healthcare providers, and better patient understanding.



Incidence of Neuropathic Pain in Spinal Cord Injury Patients: A Prospective Cross-sectional Study

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Introduction: Neuropathic pain can be caused by focal damage or involvement of spinal cord and nerve roots, vicinity of level of injury and entrapment neuropathy. It may be due to central or peripheral mechanisms like neuronal hypersensitivity mechanisms, abnormal sprouting, loss of inhibitory interneurons or altered functions of descending inhibitory pathway. 80% of people with SCI report chronic pain. Neuropathic pain alters sleep pattern, mood and participation in daily activities leading to depression.

Materials and method:

Objective: To evaluate the incidence of neuropathic pain in spinal cord injury patients

Location of the study: Government Institute of Rehabilitation Medicine, Chennai-83.

Study Design: Prospective, cross sectional study.

Study Population: Twenty five patients with spinal cord injury who are admitted for rehabilitation are taken up for study.

Methodology: Participants were selected according to the inclusion and exclusion criteria. Pain intensity was defined by LANSS pain scale and DN4 Questionnaire.

Results: Among the study population 22 are males and 3 are females. Out of 25 patients, 14 had paraplegia, 11 had quadriplegia. As per this study, 52% had neuropathic pain, of which majority were quadriplegic.

Conclusion: Aggressive management of neuropathic pain will reduce depression and improve the quality of life, thereby effective participation in rehabilitation program will be achieved.

Abstract for poster presentation an Unusual Case of Herpes Zoster with Peripheral Polyneuropathy Associated with Weakness.



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Introduction: Herpes zoster is a viral infection that causes an outbreak of a painful rash or blisters on the skin caused by reactivation of varicella-zoster virus. Neurological complications of Herpes Zoster are usually rare but can be serious. Patients can rarely have peripheral polyneuropathy associated with weakness

Case Report: 71/M patient k/c/o CAD, PAS ® with H/O herpes zoster infection over back of arm; 1 & 1/2 months back presented with neuropathic pain and weakness of right hand .On examination there is residual skin lesions at T1 dermatome , wasting of peri-scapular muscles , ROM right shoulder restricted , sensory impairment over ulnar and radial nerve distribution , weakness of interossei , lumbricals , NCS showed reduction in amplitude in both CMAP & SNAP of right ulnar & radial nerves

Patient was managed with oral medication, TENS, and intrinsic muscle strengthening.

Discussion: Motor paralysis occurring in herpes zoster can be categorized into segmental paresis and non-segmental paresis ,Here both the dermatome involved is T1 and muscles involved is related to C8 -T1 roots , hence it's a segmental paralysis.

Conclusion: Peripheral poly neuropathy is a rare complication of herpes zoster. Thorough clinical examination is needed in early identification of the same. Oral medications and TENS are found to be effective in the management.



Polyarticular Neurogenic Heterotrophic Ossification in Calf Muscle Post Spinal Cord Injury – A Rare Case Report

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Introduction: Neurogenic heterotrophic ossification (NHO) is one of the common complications following spinal cord injury with incidence of 11%. Defined as abnormal formation of lamellar bone within soft tissues. More common in complete spinal cord injury, oftentimes ossification occurring below the neurological level. Common sites for NHO are hip joint>elbow joint>knee joint>shoulder joint. NHO restricts the ROM of affected joint and interferes with ADLs.

Case Presentation: A 28 year old male patient victim of road traffic accident, succumbed C5-C6 listhesis, neurologically C5 complete, ASIA-A grade visits to rehabilitation centre for a second follow up one year after injury, presenting with spasticity of MAS grade 3 in both knee flexors and PSFS of grade 4, grade 4 pressure sore over right greater trochanter. Patient's right leg was hard to feel with bony consistency, no warmth, no swelling or redness, X-ray of right hip and right knee joint revealed radio-opaque structures near greater trochanter and in upper leg, CT revealed bony mass in calf muscle measuring 37x22x94 mm. Patient's ESR and Serum alkaline ALP were WNL. ROM of knee was WNL.

Discussion: NSAIDs, bisphosphonates have been used for prophylaxis or treatment of HO. However there are no specific guidelines for pharmacological management of HO. Literatures suggests to initiate bisphosphonates as soon as serum alkaline phosphatase level is elevated, or imaging studies establish the evidence of HO.

Conclusion: Patient has been managed conservatively and initiated physical therapy. NHO of hip and knee with ossification in calf have been seldom reported in literature.



Extracorporeal Shockwave Therapy Improves Short-Term Functional Outcomes Of Shoulder Adhesive Capsulitis in Diabetic Patients.

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Introduction: Adhesive capsulitis is characterized by painful, gradual loss of active and passive shoulder Motion resulting from fibrosis and contracture of the joint capsule. Its treatment is a dilemma for physical medicine rehabilitation specialists.

Objective: This study aims to evaluate the effectiveness of extracorporeal shockwave therapy (ESWT) in improving short-term functional outcomes in diabetic patients with shoulder adhesive capsulitis.

Methods: A randomized controlled trial was conducted involving shoulder adhesive capsulitis patients with diabetes. Participants were randomly assigned to either the ESWT group (n=30) or the control group (n=30). The ESWT group received a series of extracorporeal shockwave therapy sessions over a four-week period, while the control group received standard conservative management. The outcome measure was functional improvement evaluated by Pain severity by visual analogue scale (VAS) score, the Quick Disabilities of the Arm, Shoulder and Hand (qDASH) score. Secondary outcomes included range of motion, and patient satisfaction.

Results: By 12 weeks, ESWT demonstrated a significant reduction in the qDASH score and pain severity, as well as improvement in ROM. ESWT vs CONTRL shows lower qDASH score= 20.94 +_ 10.64 vs 35.66+_ 17.01, $P < 0.05$ and significant shoulder pain reduction (visual analog scale score, 2.4+_0.66 vs 3.1+_1.04, $P < 0.05$). Patient satisfaction was notably higher in the ESWT group than in the control group.

Conclusion: Extracorporeal shockwave therapy appears to be an effective intervention for improving short-term functional outcomes in diabetic patients with shoulder adhesive capsulitis. ESWT led to significant pain reduction, enhanced range of motion, and greater patient satisfaction compared to standard conservative management.



Evaluation of Cardiovascular risk in Spinal Cord Injury Patients based on Electrocardiogram and Lipid profiles- A Cross Sectional Study

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Introduction: Spinal cord injury patients have several complications. Among them cardiovascular disease is now a major cause of mortality and morbidity. The prevalence of cardio-metabolic disease in person with SCI ranges from 30% to 72%. Most of the patients are undiagnosed due to atypical presentation. Dysautonomia, dyslipidemia, impaired glucose tolerance and sedentary lifestyle are major contributory factors to cardiovascular complications.

Materials and method:

Objective: To determine the cardiovascular risk in patient with spinal cord injury based on ECG and lipid profiles abnormality.

Location of the study: Government Institute of Rehabilitation Medicine, Chennai-83.

Duration of the study: January 2023 to August 2023.

Study Design: Cross-sectional study.

Study population: Thirty patients with SCI who were admitted for rehabilitation are taken up for study.

Methodology: Participants were selected according to inclusion & exclusion criteria. Blood samples were taken after overnight fasting for lipid profile analysis. Twelve lead ECG was taken. Blood reports and ECG were analyzed.

Result: Study population consist of 27 male and 3 female patients. Out of 27 male patients, 16 have paraplegia, 11 have quadriplegia and 3 females have paraplegia. Based on ECG and Lipid profiles analysis, out of 30, the lipid profiles were found to be abnormal in 22 patients. ECG showed sinus bradycardia in 5 patients. Both ECG and lipid profiles were abnormal in 4 patients.

Conclusion: From this study it is concluded that early identification and management of modifiable risk factors and prophylactic administration of statins and antiplatelet may reduce the incidence of cardiovascular complications in SCI patients.



Diffuse Palmoplantar Keratoderma with severe Arthropathy: An Interesting Case Report

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Introduction: Palmoplantar Keratodermas (PPK) are a heterogenous group of disorders characterized by thickening of skin of palm and soles. They can be inherited, acquired or can be a part of a generalized disorder of cornification following infection, trauma, or internal malignancy.

Case Presentation: A 58 years old male presented with yellowish palmo-plantar thickening since birth. By the age of 12 years, he developed severe stiffness of hands and feet. The patient had poor hand function, decreased sweating of hands and feet and restricted joint movements of the hand. Patient had difficulty to perform activities of daily living. X-rays of hands and feet showed degenerative changes.

Discussion: PPK are clinically classified into: punctate, focal and diffuse form. This disease shows autosomal pattern of inheritance and has been linked with chromosomes 15 and 8. Skin biopsy shows hyperkeratosis, hyper-granulosis and acanthosis in skin. Mutation of protein and molecules like keratin, desmosomes and loricrin are associated with pathogenesis of PPK. Mainstay of treatment includes moisturizers, keratolytic agents, retinols, topical psoralen plus UVA and repeated physical debridement. Management of arthropathy involves exercises, occupational therapy and activity modification to reduce the joint stress.

Conclusion: Congenital PPK with severe arthropathy leading to poor hand function is a rare presentation. Patient tailored management involving proper exercises and occupational therapy may help to maintain joint function and can improve quality of life in these patients.



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