TOUCH THE BEST

32nd

IOA 2024

Annual Meeting of the Iranian Orthopaedic Association

OCT. 7-11, 2024
Olympic Hotel, Tehran, Iran

سرشناسه: کنگره انجمن جراحان ارتوپدی ایران (سی و دومین : ۱۴۰۳ : تهران)
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The 32nd Annual Meeting of The Iraninan Orthopaedic Association

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Executive and Business Affairs: Hamid Reza Eskandari

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انتشارات رسانه تخصصی

Table of Contents

The Scientific Program of the Congress at a Glance

Monday 7 Oct						
Hall	7:30-8:30	9:00-10:30	11: 30-13:00	14:00-15:30	16:00-17:30	
Main Hall		Knee	Hip	Hand	Trauma	
Hegmataneh Hall		Shoulder	Pediatric	Hip		
Tooska Hall			Tumor	Trauma		
		10:30-11:00 Rest & Exhibition	Welcome Ceremony 11:00-11:30	13:00-14:00 Lunch & Exhibition	15:30-16:00 Rest & Exhibition	

Tuesday 8 Oct						
Time	7:30-8:30	8:30-10:00	10:30-12:00	13:30-15:00	15:30-17:00	
Main Hall		Pediatric	Tumor	Shoulder	How to Prevent malpractice in Orthopaedic surgeries (case presentation)	
Hegmataneh Hall	Hip		Updates in VTE prevention	knee		
Tooska Hall	Foot & Ankle	Hip	Hand	Residents' meeting		
Razi Hall		Foot & Ankle	Articles	Tissue Engineering		
		10:00-10:30 Rest & Exhibition	12:00-13:30 Lunch& Exhibition	15:00-15:30 Rest & Exhibition		

Wednesday 9 Oct						
Time	7:30-8:30	8:30-10:00	10:30-12:00	13:30-15:00	15:30-17:00	
Main Hall	Hand	Hand	Trauma	Foot & Ankle	Pediatric	
Hegmataneh Hall	Knee	Knee	Updates in MSK infection	Pediatric		
Tooska Hall		Tumor	Foot & Ankle	Relive Surgery's		
Razi Hall		Symposium on Orthotics & Prosthetics	IOA journal training workshop	Residents' meeting		
		10:00-10:30 Rest & Exhibition	12:00-13:30 Lunch& Exhibition	15:00-15:30 Rest & Exhibition		

Thursday 10 Oct						
Time	7:30-8:30	8:30-10:00	10:30-12:30	13:30-15:00	15:30-17:00	
Main Hall	Shoulder	Shoulder	10:30-11:30 Ethics	Radiology Session (case presentation)	Hip	
Hegmataneh Hall		Spine	11:30-12:30 General assembly	Spine		
Tooska Hall		Hip-Knee-Foo t& Ankle interactions (Symposium)		Nursing		
Seyhoon Hall	Trauma	Trauma		Residents' meeting		
		10:00-10:30 Rest & Exhibition	12:00-13:30 Lunch& Exhibition	15:00-15:30 Rest & Exhibition		

Friday 11.Oct						
Time	7:30-8:30	8:30-10:00	10:30-12:00	12:00-13:30 Closing Ceremony		
Main Hall	Breakfast	Vascular injuries in orthopaedic surgeries	Knee			
Hegmataneh Hall		Physiotherapy Symposium	Hand			
		10:00-10:30 Rest & Exhibition				

Registration 08:00-17:00

Congress Organization

Adel Ebrahimpour. MD
IOA President

Mohammad nasir Naderi varandi.MD
Executive secretary

Hamidreza Yazdi.MD
Scientific secretary

Welcome Message

Adel Ebrahimpour.MD
IOA President

Dear esteemed colleagues,
It is with great pleasure that we gather once again for the 32nd congress this year. We are grateful for the opportunity to come together and share our knowledge and expertise in the field of orthopedic surgery. This event would not have been possible without the hard work and dedication of our scientific and executive directors, Dr. Hamid Reza Yazdi and Dr. Mohammad Nasir Naderi, along with the esteemed Board of Directors of the Iranian Association of Orthopedic Surgeons.
Together, we have set ambitious goals for this congress:

- Establishing a joint program to encourage collaboration between orthopedic groups and other disciplines with shared interests in musculoskeletal patient care. This initiative aims to improve treatment outcomes through enhanced understanding and interdisciplinary communication.
- Providing educational opportunities for orthopedic residents, who represent the future of our field. This segment will include classes on fundamental topics and address the educational and professional challenges faced by this group.
- Placing a focus on trauma, a significant medical concern in our country that occupies a substantial part of our colleagues' practice.
- Organizing meetings centered on tissue engineering, an increasingly influential field in modern orthopedics.
- Allocating a session to discuss scientific article writing and evaluation, benefiting academic staff members and those interested in research endeavors.

In conclusion, we look forward to engaging in discussions and sharing insights on complex cases within each specialized field. Our ultimate goal is to enhance patient treatment and diagnostic practices. Thank you for your continued support and dedication to advancing the field of orthopedic surgery.
Finally, I would like to extend my heartfelt gratitude to all the respected professors and colleagues who have supported us in organizing this congress. Your contributions are invaluable, and together, we look forward to a successful event.

Welcome Message

Mohammad nasir Naderi varandi.MD
Executive secretary

Hamidreza Yazdi.MD
Scientific secretary

The Orthopedic Congress offers an invaluable opportunity for all colleagues to host their own association. We have seized this occasion and made every effort to provide the best conditions for a meaningful reunion.

As we embark on a new congress experience, our primary goal is to foster a conducive environment for mutual learning and knowledge exchange among all participants. A distinguishing feature of this year's congress is the incorporation of evidence based educational videos and the creation of a suitable atmosphere to attend young generation to share their science and experiences.

The aim of this meeting is to discuss about the orthopaedic surgeries complications and to find the best ways to decrease and manage them. Furthermore, the inclusion of educational workshops in the field of surgery, along with research presentations, stands out as a notable advantage of the program.

With great honor, we extend this invitation to you, inviting you to participate in the 32th Congress of the Iranian Orthopedic Surgeons Association. The event is scheduled to take place from October 7th to October 11th, 2024 (Mehr 16th to 20st, 1403), at the Olympic Hotel in Tehran.

We eagerly anticipate your presence and active involvement in making this congress a resounding success. Let us come together to exchange ideas, share knowledge, and forge new collaborations.

Board Members of the Iranian Orthopaedic Association

Adel Ebrahimpour.MD

Mohammd Razi.MD

Rohanak Moradi.MD

Mohammad Fakoor.MD

Mohammad Javad Mortazavi.MD

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Executive Committee of Meeting

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Dr. Mehri Sohrabi

Newsletters

Veteran Orthopaedic Professors of Iran

Alphabetical Order

S.Arami Nikcheh.MD

A.K.Esmaielijah.MD

D.Guran Savadkouhi.MD

M.Nowruzi.MD

J.Sharabyanlo.MD

Subsets of the Iranian Orthopaedic Association (IOA)

- IOA / Branches
- Iranian Society Of Hand Surgery
- Iranian Pediatric Orthopaedic Association
- Iranian Knee & Arthroscopy Surgery Association
- Iran Spine Surgeons Society
- Iranian Hip Society
- Persian Orthopaedics Trauma Association
- Shoulder, Foot & Ankle, Tumor Groups

Scientific Committee of Meeting

Alphabetical Order

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K.**Jamshidi**.MD
KHM.**Jamshidi**.MD
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S.**Javidmehr**.MD
M.**Javid**.MD
M.**Jazayeri**.MD
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H.**Kakavand**.MD
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MH.**Karimi Nasab**.MD
A.**Karimi Roozbahani**.MD
H.**Karimi Herris**.MD
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E.**Ketabchi**.MD
S.**Keyhani**.MD
H.**Keyhanshokooh**.MD
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Kh.**Khademi Kalantari**.MD
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M.**Najafi Pirasteh**.MD
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A.**Rahimizadeh**.MD
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M.**Razavipour**.MD
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M.**Rezaee**.PhD
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M.**Rouhi**.MD
S.**Sabaghan**.MD
A.**Sabbaghzadeh**.MD
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AR.**Sadeghpoor**.MD
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S.**Safaei**.MD
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M.**Safi**.MD
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MR.**Salehi**.MD

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N.**Sarrafan**.MD
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S.**Solooki Mootab**.MD
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B.**Toloue ghamari**.MD
M.**Torabi**.MD
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H.**Toufan**.MD
M.**Vafaei**.MD
E.**Vahedi**.MD
M.**Vahedian**.MD
M.**Vahid Farahmandi**.MD
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B.**Valliolahi**.MD
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F.**Vosoughi**.MD
M.**Wambakher**.MD
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B.**Yazdanpanah**.MD
HR.**Yazdi**.MD
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E.**Zanjani**.MD
L.**Zanjani**.MD
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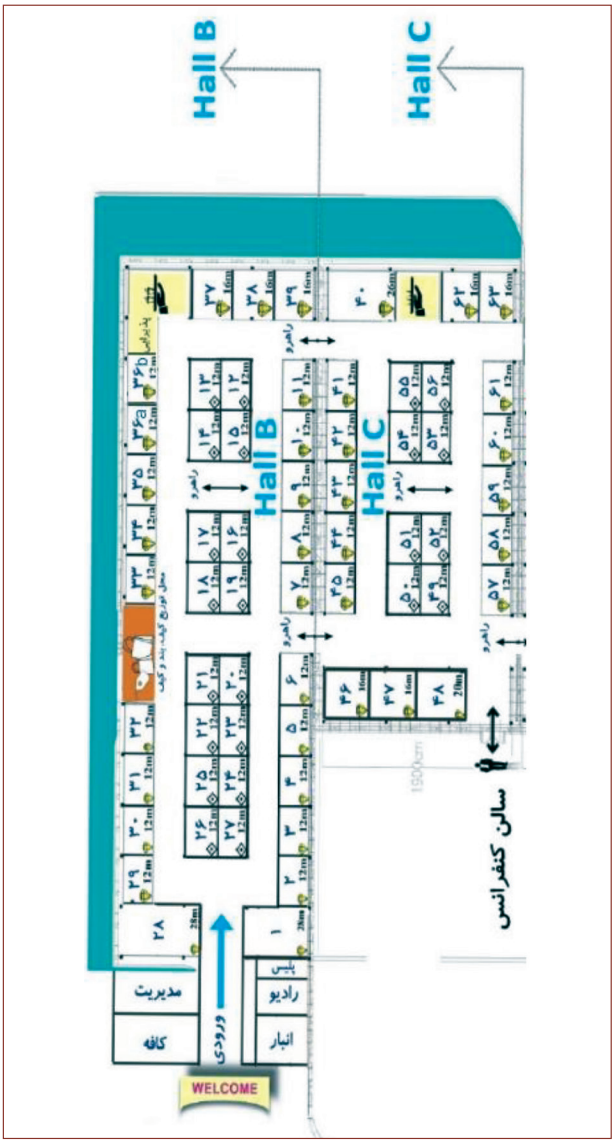
R.**Zareie**.MD
A.**Zarezadeh**.MD
A.**Zargar Kharazi**.PhD
R.**Zargarbashi**.MD
A.**Ziaei**.MD
E.**Zonozi**.MD

Exhibition Hall Map



Active Companies in the Side Exhibition

Alphabetical Order

Adrian Salamat	Aien Tose`e Pharmed	Armaghan Salamat Tabiat
Azin Teb Salamat Razi	Azman Darman Iranian	Danesh Salamat Kowsar
Doostan-e Nik Medical Services	Dr ATHARI Medical Imaging Center	Fanavaran Jarah Yar Sharif
Farmed Elena Mehr Parsian	Iranian Tissue Product Company	Jahan Gostaresh Tejarat

Karen Pharmaceutical	Liberto	Mavara Salamat Yas
MEM	Mobtakeran Parsian Salamat	Neda Darman
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Pooya Teb Barabaran

Pooyandegan

Poura Gen

Rah Teb Sazan

Rahian Teb Saba

Ronak

Saynar Med Paytakht

VIRA CELLULE

IOA 2024

32nd Annual Meeting of the Iranian Orthopaedic Association

Scientific Program

08:00-17:00	Registration Open

Hall A-Main Hall — Knee

Total Knee Arthroplasty Complications

Chairs: *K.Badizadeh.MD, M.Razi.MD, M.Rahbar.MD, MN.Tahmasebi.MD*

Time 09:00-10:30	Title
09:00-09:08	Perioperative medication management in total joint arthroplasty *H.Kakavand.MD*
09:08-09:16	DAIR versus two stage revision in infected total knee arthroplasty *T.Gehrke.MD*
09:16-09:24	Management of Intraoperative fracture during total knee arthroplasty *B.Haghpanah.MD*
09:24-09:32	Too fast or too slow, Do we have standard surgery time for total knee arthroplasty? *M.karimi Mobarakeh.MD*
09:32-09:40	Updates in aseptic loosening prevention *S.Ghaffari.MD*
09:40-09:48	Persistent wound drainage *MR.Sobhan.MD*
09:48-10:00	Q &A
10:00-10:30	Panel Discussion : Total knee Complication

Moderator: *M.Jabalameli.MD*

Members: *A.Bagherifard.MD, H.Farahini.MD, M.Fakoor.MD, M.Razi.MD, MN.Tahmasebi.MD, M.Kazemi.MD*

1 Day

Hall B-Hegmataneh — Shoulder

Management of failed instability surgery

Chairs: *MR.Giti.MD, AR.Sadeghifar.MD, M.Nakhaie.MD*

Time 09:00-10:30		Title
09:00-09:06		Restoring Shoulder Function: A Clinical Trial of Tecar Therapy for Frozen Shoulder *M.Pashmchi.MD*
09:06-09:12	Article	Unraveling the Gut-Microbiota Nexus: Exploring the Role of Gut Dysbiosis in Periprosthetic Joint Infection after Total Joint Arthroplasty *N.Kalali.MD*
09:12-09:18		Management of instability in patients with reverse shoulder prosthesis *N.Mohseni.MD*
09:18-09:20	Q &A	
09:20-09:30		Reasons for failed bankart repairs-only a problem of indications *GHR.Tavakoli.MD*
09:30-09:40		How I deal with large Hill-Sachs defects during revision surgery *M.Nakhaei.MD*
09:40-09:50		Failed Latarjet- It is more common than you would think *M.Wambakher.MD*
09:50-10:00		Technical Note: Dynamic Anterior Stabilization (DAS) *P.Collin.MD*
10:00-10:10		Case presentation 1 *A.Sobhani.MD*
10:10-10:20		Case presentation 2 *L.Zanjani.MD*
10:20-10:30		Case presentation 3 *A.koushan.MD*

Members: *Kh.Tahvildari.MD,L.Farhadi.MD,A.Sobhani.MD,AA.Khorsandi.MD, M.Mardani Kiwi,M.Nakhaei.MD*

10:30-11:00 Rest & Exhibition

1 Day

Hall A - Main Hall

Welcome Meeting

Time	Title
11:00-11:30	Holly Quran National Anthem IOA president A.Ebrahimpour.MD Congress Chairs Welcome Congress Clip Broadcast

Hall A-Main Hall — Hip

Periprosthetic FX

Chairs: *D.Savadkoohi.MD, SMJ.Mortazavi.MD, S.Yazdanbakhsh.MD*

1 Day

Time	Title
11:30-13:00	
11:30-11:40	Decision making for treatment of periprosthetic fx *A.Aminian.MD*
11:40-11:50	ORIF (femoral side), tips and tricks *J.Ganjpoor Sales.MD*
11:50-12:00	Revision ,tips and tricks *R.Zandi.MD*
12:00-12:10	Wiring techniques *M.Moazen Jamshidi.MD*
12:10-12:20	Q&A
12:20-13:00	Panel Discussion

Moderator: *B.Siavashi.MD*

Members: *MK.Emami Meybodi.MD, J.Ganjpoor Sales.MD,MR.Sarikhani.MD, AR.Manafi.MD, M.Vahid Farahmandi.MD, A.Yeganeh.MD*

Hall B-Hegmataneh Hall — Pediatric

Cerebral Palsy Symposium

Chairs: *AR.Ghaznavi.MD, SH.Ilka.MD, M.Javid.MD, MA.Tahririan.MD*

Time		Title
11:30-13:00		
11:30-11:36		The results of the treatment of juvenile hallux valgus by the lateral hemiepiphysiodesis of the first metatarsal joint HR.Arti.MD
11:36-11:42	Article	Simultaneous femoral head reduction osteotomy (FHRO) combined with periacetabular osteotomy (PAO) for the treatment of severe femoral head asphericity in Perthes disease Article K.Gharanizadeh.MD
11:42-11:45	Q & A	
11:45-11:53		Dose gait analysis change treatment plan in CP patients? M.Najafi Pirasteh.MD
11:53-12:01		Importance of foot deformity correction in CP MH.Nabian.MD
12:01-12:09		Non-surgical treatment of joint contractures in CP (casting/injection) A.Fotuhi.MD
12:09-12:17		Surgery in late adolescent CP: Does it change walking pattern? R.Zargarbashi.MD
12:17-12:25		Repeat soft tissue surgery in CP lower-limb SR.Aghapour.MD
12:25-12:30	Q & A	
12:30-13:00	Panel Discussion	

Moderator: *S.Tavakoli.MD*

Members: *H.Aslani.MD, HR.Arti.MD,T.Baghdadi.MD, A.Nami Demirchi.MD, Sh.Zamani.MD*

1 Day

Hall C - Tooska Hall — Tumor

Case based reviews on MSK tumors

Chairs: *M.Gharedaghi.MD, S.Haji aliloo Sami.MD, KHM.Jamshidi.MD, S.Saberi.MD*

Time 11:30-13:00	Title
11:30 -11:42	Proximal Humerus Aneurysmal Bone cyst: Diagnosis and Management *Kh.Kargar.MD*
11:42-11:45	Q & A
11:45-11:57	Proximal Tibial Giant Cell Bone tumor: A case-based review and management *M.Mirkazemi.MD*
11:57-12:00	Q & A
12:00 -12:12	Hemangioma around the knee: A case-based review and management *M.Jafarbegloo.MD*
12:12-12:15	Q & A
12:15-12:27	Simple Bone Cyst in Humerus: Current management and case reviews *M.Bahrabadi.MD*
12:27-12:30	Q & A
12:30-12:42	Proximal Femur Osteoblastoma: Case presentation and review of literature *MR.Bazavar.MD*
12:42 -12:45	Q & A
12:45-12:57	Calcaneal cyst: Do all need to Operation *B.Toloue ghamari.MD*
12:57-13:00	Q & A

13:00-14:00 Lunch & Exhibition

1 Day

Hall A-Main Hall — Hand

Thumb CMC injuries

Chairs: *A.Ahmadi.MD, M.Farzan.MD, K.Mozafarian.MD, F.NajdMazhar.MD, A.Zarezadeh.MD*

Time 14:00-15:30	Title
14:00-14:10	1st.CMC fracture, Management *A.Moradi.MD*
14:10-14:20	1st.CMC dislocation (Treatment and Complication) *M.Jafari kafiabadi.MD*
14:20-14:30	1st.CMC DJD what is your Treatment? *MA.Okhovatpour.MD*
14:30-14:40	1st.MCP UCL rupture (acute), Diagnosis and Management *B.Baghiani Moghadam.MD*
14:40-14:50	1st.MCP UCL chronic rupture (Operative technical notes) *P.Ahangar.MD*
14:50-15:00	Q & A
15:00-15:30	Panel Discussion

Moderator: *F.Najd Mazhar.MD*

Members: *A.Ahmad.MD, M.Dehghani.MD, A.Dianat.MD, M.Fattahi.MD, RSH.Kamrani.MD*

Hall B-Hegmataneh Hall — Hip

Periprosthetic FX complications

Chairs: *M.Jazayeri.MD, AR.Manafi.MD, K.Pisoodeh.MD, M.Shayesteh Azar.MD*

Time 14:00-15:30		Title
14:00-14:06		The Complication Rate and Hip Function After Revision of Infected Hip Arthroplasty with Bone Defects using Bone Allografts: A Systematic Review and Meta-Analysis *M.Samei.MD*
14:06-14:12	Article	Accuracy of Preoperative Hip Aspiration in Diagnosing Infection Prior to Conversion to Total Hip Arthroplasty is Low *M.Akbari .MD*
14:12-14:18		Non-cannulated versus cannulated cancellous screws for the internal fixation of femoral neck fractures in osteoporotic patients: A single-blind randomized clinical trial *Sh.Mahdipour.MD*
14:18-14:20	Q&A	
14:20-14:30	Lower Limbs Discrepancy *AR.Sadeghpoor.MD*	
14:30-14:40	Prostatic Joint Infection *M.Motififard.MD*	
14:40-14:50	Morbidity & Mortality *M.Komijani.MD*	
14:50-15:00	Periprosthetic fractures ,fixation failure *MA.Enayatollahi.MD*	
15:00-15:30	Panel Discussion	

Moderator: *SMJ.Mortazavi.MD*

Members: *MA.Enayatollahi.MD, D.Savadkoohi.MD, AR.Sadeghpoor.MD, O.Shahpari.MD, M.Vahid Farahmandi.MD*

1 Day

Hall C-Tooska Hall — Trauma

Traumatic Upper limb injuries

Chairs: *A.Dianat.MD, H.Saremi.MD, M.Tavakoli.MD, HGH.Tofighi.MD, M.Mofidi.MD*

Time 14:00-15:30		Title
14:00-14:06		Anatomy and pattern of periosteal circulation of tibia implications for tibial plating. A cadaveric study *M.Kalhor.MD*
14:06-14:12	Article	Marginal Bone Resection and Immediate Internal Fixation in Multidrug Resistant Chronic Septic Nonunions of Lower Limb Long Bones: A Case Series *H.Kalantar.MD*
14:12-14:18		Direct posterior approach versus Posteromedial approach: which is better for management of posterior cruciate ligament tibial avulsion fractures? *AA.Elmi.MD*
14:18-14:20	Q&A	
14:20-14:30		How to prevent complications in proximal humerus fractures fixation *H.Barati.MD*
14:30-14:40		Distal humerus shaft fractures ORIF, How can I prevent complications *M.Bani Asadi .MD*
14:40-14:50		Treatment of humerus shaft Fracture nonunion *A.Najafi.MD*
14:50-15:00		Methods to prevent intra-articular distal humeral fractures, complications *A.Dasht Bozorg.MD*
15:00-15:10		How to Prevent Complications in elbow dislocations and terrible triad injuries *K.Eftekhari.MD*
15:10-15:20		Technical Note: Fixation of Proximal Humerus fractures using fibular Allograft *A.Ziaei.MD*
15:20-15:30		case base discussion

Moderator: *A.Dianat.MD*

Members: *M.Baroutkoub.MD, Y.Fallah.MD, R.Moradi.MD ,Sh.Mousavi.MD*

15:30-16:00 Rest & Exhibition

1 Day

Hall A-Main Hall — Trauma

Traumatic Pelvic injuries

Chairs: *A.Aminian.MD, A.Ebrahimpour.MD, Z.Hasanzadeh.MD*

Time 16:00-17:30	Title
16:00-16:08	Emergent Ext-fixator of the pelvis, How can Prevent complications *A.Naghiloo.MD*
16:08-16:16	Approach to an irreducible hip dislocation *S.Azar Sina.MD*
16:16-16:24	Manage of posterior hip fracture dislocation with minimal complications? *Z.Hasanzadeh.MD*
16:24-16:32	Comminuted acetabular fractures associated with T/Transverse posterior wall fractures, methods to minimize complications *R.Zareie.MD*
16:32-16:40	Anterior approach in pelvic surgery, tips and tricks to prevent *S.Shariati.MD*
16:40-16:48	Technical NOTE: Trochanteric osteotomy for fixation of Transvers or T fractures of the acetabulum *A.Barzanooni.MD*
16:48-17:00	Q & A
17:00-17:30	Panel Discussion

Moderator: *M.Kazemi.MD*

Members: *A.Aminian.MD, B.Ganjeh.MD, M.Komijani.MD, M.Shahrezaie.MD, B.Siavashi.MD, Sh.Talebi.MD*

1 Day

Hall B-Hegmataneh Hall — Hip

ICL: Atypical Femoral Fractures (AFF)

Chairs: *M.Ghorbanzadeh.MD, A.yeganeh.MD*

Time 07:30-08:30	Title
07:30-07:42	AFF diagnosis and pathogenesis *AR.Aminjavaheri.MD*
07:42-07:54	AFF treatment *M.Abolghasemian.MD*
07:54-08:06	Atypical Fractures in other limbs, is it really happening *MR.Barzegar.MD*
08:06-08:18	AFF unusual presentations *Sh.Talebi.MD*
08:18-08:30	Q & A

2 Day

Hall C-Tooska Hall — Foot & Ankle

ICL: Charcot foot

Charis: *AA.Hemmati.MD, MR.Miad.MD, AR.Mousavian.MD*

Time 07:30-08:30	Title
07:30-07:45	Pathoanatomy and Pathophysiology *O.Elahifar.MD*
07:45-08:00	Management (surgical and non-surgical) *M.Irajian.MD*
08:00-08:15	Complications (Prevention and Management) *SH.Rastegar.MD*
08:15-08:30	Q & A

Hall A-Main Hall — Pediatric

DDH

Chairs: *HR.Arti.MD, GHH.Shahcheraghi.MD, F.Mojtahed Jaberi.MD, MH.Nabian.MD, R.Zargarbashi.MD, Sh.Zamani.MD*

Time 08:30-10:00	Title
08:30-08:40	Complications of treatment of DDH with Pavlic Harness *M.Seifi.MD*
08:40-08:50	Persistence of hip dysplasia (reduced hip) after treatment of DDH in early childhood-(diagnosis & treatment) *MA.Tahririan.MD*
08:50-08:53	Q & A
08:53-09:01	Avascular necrosis after treatment of DDH – (causes & management) *A.Nemati.MD*
09:01-09:09	Hip stiffness post DDH treatment– (evaluation & management) *J.Dehghani.MD*
09:09-09:19	Problems of DDH treatment in older ages *A.Maleki.MD*
09:19-09:22	Q & A
09:22-09:30	Technical Note:Techniques in pelvi osteotomy in DDH *M.Javid.MD*
09:30-10:00	Panel Discussion : Failure of DDH treatment

Moderator: *GHH.Shahcheraghi.MD*

Members: *R.Abdi.MD, A.Ahmadi.MD, M.Javid.MD, S.Tavakoli.MD, R.Zargarbashi.MD*

2 Day

Hall B- Hegmataneh — Hip

THA Principles

Chairs: *SK.Chabok.MD, B.Siavashi.MD, M.Torabi.MD*

Time	Title
08:30-10:00	
08:30-08:40	Templating (cup, stem, length, offset) *M.Vahedian.MD*
08:40-08:50	Length assessment (in different approach's) *A.Alirezaie.MD*
08:50-09:00	How to check stability after THA *J.khajeh mozaffari.MD*
09:00-09:10	Technical Note: Acetabulum preparation tips and tricks (Video Presentation) *MA.Ghasemi.MD*
09:10-09:20	Technical Note :Femur preparation tips and tricks (Video Presentation) *K.Pisoodeh.MD*
09:20-09:30	Q&A
09:30-10:00	Panel Discussion

Moderator: *SH.Shirvani.MD*

Members: *AA.Ehsani.MD, K.Gharanizadeh.MD, MA.Ghasemi.MD, J.khajeh Mozaffari.MD, A.Mahlisha Kazemi.MD*

2 Day

Hall C-Tooska Hall — Foot & Ankle

Talus Fractures

Charis: *MR.Bahaodini.MD, N.Janmohamadi.MD, GHR.Masahi Khaleghi.MD, GHR.Naderi.MD*

Time 08:30-10:00	Title
08:30-08:40	Anatomy, classification and management *T.Safaie.MD*
08:40-08:50	Complications (Prevention and Management) *E.Ghadimi.MD*
08:50-09:00	Talus FX ORIF (Video Presentation) *A.Sabbaghzadeh.MD*
09:00 - 10:00	Panel Discussion :Talus Fractures
Moderator: *AR.Mousavian.MD*	
Members: *A.Ebrahimpour.MD, E.Ghadimi.MD, MR.Miad.MD, GHR.Naderi.MD, B.Valliolahi.MD*	

2 Day

10:00-10:30	Rest & Exhibition

Hall A - Main Hall — Tumor (Case Presentation)

Time 10:30-12:00	Case Presentations (Tumoral lesions)
10:30-11:10	Panel 1 :Bone Tumors
Moderator: *S.Saberi.MD, KHM.Jamshidi.MD*	
Members: *M.Bahrabadi.MD, M.Gharedaghi.MD, S.Haji aliloo Sami.MD, KHM.Jamshidi.MD, M.Mirkazemi.MD, A.Sharifi.MD, S.Solooki Mootab.MD*	
11:10 -11:50	Panel 2 :Soft Tissue Tumors
Moderator: *S.Haji aliloo Sami.MD*	
Members: *MR.Bazavar.MD, AH.Borjian.MD, M.HajiAghabozorgi.MD, M.Jafarbegloo.MD, Kh.Kargar.MD, F.Zand Rahimi.MD*	
11:50-12:00	Q & A

Hall B- Hegmataneh — Updates in VTE Prevention

Charis: *A.Pouramiri.MD, M.Jabalameli.MD, S.Keyhani.MD*

Time 10:30-12:00	Title
10:30-10:38	VTE risk factors and optimization *A.Noori.MD*
10:38-10:46	Risk stratification *M.Safi.MD*
10:46-10:54	VTE Prophylaxis Guidelines (AAOS, ACCP, ...) *H.Toufan.MD*
10:54-11:02	The role of Aspirin for VTE prophylaxis in Orthopedic Surgy *H.Karimi Herris.MD*
11:02-11:10	Bleeding discharge and infection Assisted with VTE prophylaxis *MR.Sarikhani.MD*
11:10 -11:20	Q & A
11:20 -12:00	Panel Discussion

Moderator: *HA.Hadi.MD*

Members: *M.Banasiri.MD, M.Fakoor.MD, M.Safi.MD, MM.Sarzaeem.MD, M.Soleimanha.MD, kh.Nazem.MD, H.Yahyazadeh.MD*

2 Day

Hall C - Tooska Hall — Hand

Elbow Fractures

Chairs: *P.Ahangar.MD, L.Farhadi.MD, RSH.Kamrani.MD, F.Lahiji.MD*

Time		Title
10:30-12:00		
10:30-10:36	Article	Modified nail folding approach: A novel strategy for the treatment of subungual glomus tumors—A case series study *P.Ahangar.MD*
10:36 -10:42		A new magnetic internal distractor: cadaveric study of changes in trapeziometacarpal joint forces *M.Daliri.MD*
10:42-10:45	Q & A	
10:45-10:55	HUMORAL SUPRACONDYLAR FRATURES *R.Babaie.MD*	
10:55-11:05	Radial head fractures *A.Arabzade.MD*	
11:05-11:15	Choronoid fractures (technical note) *Y.Fallah.MD*	
11:15-11:25	Olecranon fractures *H.Keyhanshokooh.MD*	
11:25-11:35	Elbow heterotopic ossification *L.Farhadi.MD*	
11:35-12:00	Panel Discussion	

Moderator: *E.Zonozi.MD*

Members: *A.Dasht Bozorg.MD,F.Lahiji.MD,MA.Okhovatpour.MD, H.Shariatzadeh.MD,H.Taheri.MD*

2 Day

Hall D-Razi Hall — Articles

Chairs: *MR.Razzaghof.MD, H.Kalantar.MD*

Time	Title
10:30-11:30	
10:30-10:36	Intrathecal baclofen efficacy for managing motor function and spasticity severity in patients with cerebral palsy: a systematic review and meta-analysis *M.Masrour.MD*
10:36-10:42	Assessment of Spinopelvic Parameters in Patients with Hip Osteoarthritis: A Case-Control Study *H. Zare'ee Kordkandi.MD*
10:42-10:48	Impact of Tourniquet Use on Bone Cement Penetration in Osteoporotic Total Knee Arthroplasty: A Triple-Blind Randomized Controlled Trial *H. Reza'ee.MD*
10:48-10:54	The Outcome of Conversion Total Hip Arthroplasty Following Acetabular Fractures: A Systematic Review and Meta-analysis of Comparative Studies *S.H.Shafiei.MD*
10:54-11:00	Anthropometric Variations in Caput-Collum-Diaphyseal Angle Among Iranian Elderly Population: Recommendations for Proximal Femoral Nail Design *MR.Razzaghof.MD*
11:00-11:06	Does Metal Allergy to Total Joint Arthroplasty Components Exist? A Systematic Review and Meta-analysis. *A.Soltani Farsani.MD*
11:06-11:12	Avascular necrosis predictive factors after closed reduction in patients with developmental dysplasia of the hip *MA.Tahririan.MD*
11:12-11:18	Does tranexamic acid diminish hemorrhage and pain in open elbow arthrolysis? a systematic review and meta-analysis *M.Daliri.MD*
11:18-11:24	Production of novel nanoformulation of doxycycline and chitosan coated on nylon suture in prevention of adhesion and repair in zone 2 hand tendon surgery: A randomized controlled clinical trial *A.Karimi Roozbahani.MD*
11:24-11:30	Q &A

12:00-13:30 Lunch & Exhibition

2 Day

Hall A - Main Hall — Shoulder

Re-tear after rotator cuff surgery

Chairs: *HR.Aslani.MD, AA.Khorsandi.MD, OR.Momenzadeh.MD*

Time 13:30-15:00	Title
13:30-13:40	Symptomatic failed rotator cuff repair: Is it worth attempting a rerepair *H.Saremi.MD*
13:40-13:50	Technical consideration to improve tendon healing after surgery *M.Ghoreishian.MD*
13:50-14:00	Mechanical and biological methods for tendon augmentation during RCR *F.Azizi.MD*
14:00-14:10	Approach to un-healed or re-torn rotator cuff tendon *AR.Sadeghifar.MD*
14:10-14:20	Technical note: Superior capsular reconstruction (SCR) *SR.Amiri.MD*
14:20-15:00	Case presentation 1 *HR.Aslani.MD* Case presentation 2 *MN.Naderi.MD* Case presentation 3 *A.Rouhani.MD*

Members: *HR.Aslani.MD, MH.Ebrahimzadeh.MD, A.Rouhani.MD, AR.Sadeghifar.MD, S.Mehdipour.MD, F.Azizi.MD*

2 Day

Hall B- Hegmataneh — Knee

Technical Notes (Video presentation)

Chairs: *F.Akaberi.MD, H.Farahini.MD ,MH.Kaseb.MD, M.Zehtab.MD*

Time		Title
13:30-15:00		
13:30-13:36		Efficacy of Pregabalin for Postoperative Pain Management after Arthroscopic Anterior Cruciate Ligament Reconstruction: A Double-Blind Placebo-Controlled Randomized Clinical Trial *P.Hosseini-monfared.MD*
13:36-13:42	Article	Prevention of tunnel enlargement in anterior cruciate ligament reconstruction using autologous ruptured Tissue: A double-blinded randomized controlled trial *MA.Haghbin.MD*
13:42-13:48		Shining Light on the Neglected Deep MCL in Knee Injuries Short dMCL reconstruction *F.Mojtahed Jaberi.MD*
13:48-13:50	Q &A	
13:50-14:00	TKA: Cementation technique *A.Shahsavaripoor.MD*	
14:00-14:10	Root repair *S.Javidmehr.MD*	
14:10-14:20	Quadriceps Tendon graft for ACLR *S.Talebi.MD*	
14:20-14:30	Peroneal tendon graft for ACLR *M.Soleimanha.MD*	
14:30-14:40	kinematic TKA *F.Amoozadeh.MD, S.Howell.Prof*	
14:40-14:50	MPFL and MPTL reconstruction *K.Bashti.MD*	
14:50-15:00	Q &A	

2 Day

Hall C-Tooska Hall — Residents Meeting

The principles of long bone fractures Fixation with plates

Chairs: *F.Abroosh.MD, Kalantar.MD, S.Noori Geravand.MD*

Time 13:30-15:00	Title
13:30-13:40	Basic principles of compression plates in long bone fractures fixation *S.Barazandeh.MD*
13:40-13:50	Basic principles of locking plates in long bone fractures fixation *S.Noori Geravand.MD*
13:50-14:00	Double plating , indications and methods *H.Kalantar.MD*
14:00-14:10	The principles of plating in fracture nonunion *M.Parhamfar.MD*
14:10-14:20	Q & A
14:20-15:00	Pannel Discussion

Moderator: *H.Kalantar.MD*

Members: *F.Abroosh.MD,S.Barazandeh.MD,A.Ghozzatfar.MD,A.Hanaie.MD, S.Noori Geravand.MD, M.Parhamfar.MD*

2 Day

Hall D-Razi Hall — Tissue Engineering

Chairs: *M.Shahrezaie.MD, S.Hesaraki.PhD, MR.Nourani.Phd*

Time 13:30-15:00		Title
13:30-13:36		Designing and synthesis of injectable hydrogel based on carboxymethyl cellulose/carboxymethyl chitosan containing QK peptide for femoral head osteonecrosis healing *Sh.Amiri.MD*
13:36-13:42	Article	The effect of tranexamic acid on synovium of patients undergoing arthroplasty and anterior cruciate ligament reconstruction surgery *S.Fateh.MD*
13:42-13:48		Investigation of background, novelty and recent advance of iron (II,III) oxide- loaded on 3D polymer based scaffolds as regenerative implant for bone tissue engineering: A review *N.Jirofti.MD*
13:48-13:50	Q & A	

13:50-13:58	Design, fabrication and evaluation of tendon scaffold using bioprinting *A.Zamanian.PhD*
13:58-14:06	Clinical evaluation of novel beta-tricalcium phosphate scaffold graft in opening wedge high tibial osteotomy *M.Shahrezaie.MD, S.Baghbani.MD*
14:06-14:14	Evaluation of injectable bioactive glass paste as a controlled delivery system for Quercetin in stimulating osteogenesis in minimally-invasive orthopedic surgeries *S.Hesaraki. PhD*
14:14-14:22	Innovative Bio glass Compositions for Enhanced Osteoinductivity *N.Bahiraie.PhD*
14:22-14:30	Application and development of bioprinting in cartilage tissue engineering *N.Khoshnood.PhD*
14:30-14:38	Bioglass/Chitosan injectable nanocomposite as a bone substitute *M.Rabiei.PhD*
14:38-14:44	Enhancing soft tissue regeneration: the effect of natural and synthetic bioactive agents. *A.Zargar Kharazi.PhD*
14:44-14:52	A Comparative Analysis of Implantable Three-Dimensional Scaffolds in Bone Defects: Evaluating Their Impact on Bone Regeneration and Quality in an Animal Model Study Using Rabbits *A.Moshiri.MD*
14:52-15:00	Q & A

15:00-15:30	Rest & Exhibition

2 Day

Hall A-Main Hall — How to Prevent malpractice in Orthopaedic surgeries (case presentation)

Lower limb

Time		Title
15:30-17:00		
15:30-15:45		Knee *MN.Tahmasebi.MD*
15:45-16:00	Panel A	Hip *M.Kalhor.MD*
16:00-16:15		Trauma *K.Gharanizadeh.MD*
16:15-16:30		Foot & Ankle *AR.Mousavian.MD*
Moderator: *K.Gharanizadeh.MD*		
Members: *M.Jabalameli.MD, M.Kalhor.MD, M.Karimi Mobarakeh.MD , M.Motififard.MD, AR.Mousavian.MD, B.Valliolahi.MD*		
16:30-16:45	Panel B	Shoulder *F.Azizi.MD*
16:45-17:00		Hand *F.Najdmazhar.MD*
Moderator: *K.Mozafarian.MD*		
Members: *AA.Khorsandi.MD, MR.Giti.MD, F.Lahiji.MD, E.Zonozi.MD*		

2 Day

Hall A-Main Hall — Hand

ICL :Distal radius fractures(DRF)

Chairs: *R.Moradi.MD, HR.Dehghani.MD*

Time 07:30-08:30	Title
07:30-07:45	Approach to Mismanaged in DRF (technical note) *M.Dehghani.MD*
07:45-08:00	Approach to missed DRUJ injuries in DRF *E.Vahedi.MD*
08:00-08:15	Approach to carpal ligaments injuries in DRF *M.Razavipour.MD*
08:15-08:30	Approach to CRPS in in DRF *AR.Behroozi.MD*

Hall B- Hegmataneh — Knee

3 Day

ICL: Updates in knee collateral ligaments reconstruction

Chairs: *H.Ansari.MD, F.Mirzatolouei.MD, MR.Minator Sajadi.MD*

Time 07:30-08:30	Title
07:30-07:40	Decision making in knee collateral ligaments reconstruction *R.Laprade.MD*
07:40-07:50	Role of stress radiography in diagnosis and treatments *A.sherafat vaziri.MD*
07:50-08:00	Updates in MCL and PMC reconstruction *MR.Minator Sajadi.MD*
08:00-08:10	Updates in LCL and PLC reconstruction *M.Moghtadaei.MD*
08:10-08:20	Post-operative rehabilitation after collateral ligaments reconstruction *R.Minaei.MD*
08:20-08:30	Q &A

Hall A-Main Hall — Hand

CARPAL FRACTUR-DISLOCATIONS

Chairs: *M.Dehghani.MD, A.Dianat.MD, D.Jafari.MD, H.Shariatzadeh.MD*

Time 08:30-10:00		Title
08:30-08:35	Article	A new magnetic internal distractor: cadaveric study of changes in trapeziometacarpal joint forces *A.Moradi.MD*
08:35-08:40		Distal Radius fractures treatment with new PCP and external fixator method: a clinical trial study *M.Attar.MD*
08:40-08:43	Q &A	
08:43-08:51		Scaphoid fractures (diagnosis and treatment) *RSH.Kamrani.MD*
08:51-08:59		Scaphoid nonunion *R.Moradi.MD*
08:59-09:07		Lunate fractures *D.Hosseinzadeh.MD*
09:07-09:15		Perilunate dislocation (acute) *H.Shariatzadeh.MD*
09:15-09:23		Perilunate dislocation(chroinic) (technical notes) *F.Najd Mazhar.MD*
09:23-09:31		Perilunate fracture dislocation (diagnosis and treatment) *M.barkam.MD*
09:30-10:00	Panel Discussion	

Moderator: *F.Lahiji.MD*

Members: *A.Moradi.MD, AR.Pahlavan.MD, M.Razavipour.MD, H.Saremi.MD*

3 Day

Hall B- Hegmataneh — Knee

ACL and PCL reconstruction complications

Chairs: *M.JabalAmeli.MD, F.Mojtahed Jaberi.MD ,M.Razi.MD,A.Ramezanpour asl.MD*

Time	Title
08:30-10:00	
08:30-08:38	Un seated Endo button in ACL reconstruction: Prevention and management *AR.Askari.MD*
08:38-08:46	How to minimize ACL reconstruction failures: tips and tricks *H.Yahyazadeh.MD*
08:46-08:54	Post arthroscopy osteonecrosis: Diagnosis and management *I.Ghomashi.MD*
08:54-09:02	Infection after ACL reconstruction Diagnosis and management *GHR.Ghorbani Amjad.MD*
09:02-09:10	How can I prevent Vascular injury during PCL reconstruction? *AA.Behroozi.MD*
09:10-09:20	Q &A
09:20-09:40	Panel A: Complication of ACLR
	Moderator: *S.keyhani.MD*
09:40-10:00	Panel B: Complication of PCLR
	Moderator: *A.Torkaman.MD*
	Members: *M.Abedi.MD, M.Razi.MD, A.Mousapour.MD, M.Moayedfar.MD, A.Moshirabadi.MD*

3 Day

Hall C-Tooska Hall — Tumor

Cartilaginous Tumors

Chairs: *MR.Bazavar.MD, M.Gharedaghi.MD, S.Hajialiloo Sami.MD, KHM.Jamshidi.MD*

Time		Title
08:30-10:00		
08:30 -08:36	Article	Personalized Reconstruction of Pelvic Giant Cell Tumor Using Custom 3D-Printed Prostheses: A Case Study *S.Khabiri.MD*
08:36-08:42		Management of Distal Tibial Interosseous Osteochondroma: A Case Series and Review of Literature *B.Yazdanpanah.MD*
08:42-08:50		Video presentation: Resection and reconstruction of proximal hunerus chondrosarcoma *S.Saberi.MD S.Khabiri.MD*
08:50-09:00		Panel Discussion
09:0009:08-		Proximal Tibia Chondroblastoma: Challenges in approach and management *F.Zand Rrahimi.MD*
09:08-09:16		Proximal Femur exostosis: Challenges in patients with Multiple Exostosis *M.Haji Aghabozorgi.MD*
09:16-09:24		Low grade Chondrosarcoma: How much this pathologic title is reliable? *S.Khabiri.MD*
09:24-09:32		Distal Tibiofibular Interosseous Osteochondroma: Case Presentation and Review *S.Solooki Mootab.MD*
09:32-09:42		Solitary Osteochondroma around the knee; Which one needs surgery and When? *F.Abolghasemzade.MD*
09:42-09:52		Multiple Exostosis, how do you follow the patients (prevention of sequels) *A.Sharifi .MD*
09:52-10:00		Q &A

3 Day

Hall D - Razi Hall — Symposium on Orthotics & Prosthetics

Time 08:30-10:00	Title
08:30-08:40	Orthotics management for flat foot in children and adults *H.Saiedi.PhD*
08:40-08:50	Orthotics management in foot disorders *A.Aboutorabi.PhD*
08:50-09:00	Orthotics management in ankle sprain *V.Moradi.PhD*
09:00-09:10	Orthotics management in knee disorders *M.Rezaee.PhD*
09:10-09:20	Orthotics management after joints arthroplasty *M.Bagherzade Cham.PhD*
09:20-09:30	Indication of AFO & KAFO *N.Moloudi.PhD*
09:30-09:40	Paradigm shift in non-surgical management of adolescent idiopathic scoliosis *T.Babaie.PhD*
09:40-09:50	Review of orthotics management in upper limb orthopedic problem *F.Saeed Ershadi.PhD*
10:00-10:30	Rest & Exhibition

3 Day

Hall A - Main Hall — Trauma

Traumatic Lower Limbs injuries

Chairs: *B.Davami.MD, B.Saberi.MD, M.Rouhi.MD, E.Zanjani.MD*

Time 10:30-12:00	Title
10:30-10:40	Femoral neck fractures fixation in young adult, How to minimize the complications *H.Mousavi.MD*
10:40-10:50	Treatment of Femoral neck fractures nonunion *M.Sheibani.MD*
10:50-11:00	How to prevent complications of proximal femoral nailing in patients with inter/ subtrochanteric fractures? *M.Baroutkoub.MD*
11:00-11:10	How to minimize the subtrochanteric and femoral shaft fracture nonunion *S.Noori Geravand.MD*
11:10-11:20	Complications of comminuted distal femoral fractures fixation, how to prevent *A.Khorami.MD*
11:20-11:30	Treatment of infected femoral shaft fracture nonunion *H.Kalantar.MD*
11:30-12:00	Panel Discussion

Moderator: *M.Tavakoli.MD*

Members: *F.Amoozadeh.MD,S.Barazandeh.MD,A.Ghaemmaghami.MD, MS.Mirhosseini.MD,R.Minaei .MD, SH.Mousavi.MD, R.Nokteh Sanj.MD*

3 Day

Hall B - Hegmataneh Hall — Updates in MSK infection

Chairs: *AA.Esmailijah.MD,GH.kazemian.MD,GHR.Shahhosseini.MD, A.Moshirabadi.MD*

Time	Title
10:30-12:00	
10:30-10:40	What is new in management of refractory musculoskeletal infections? *O.Shahpari.MD*
10:40-10:50	Update on Prosthetic Joint Infections *Reza.Ganji.MD*
10:50-11:00	Update on infected nonunions *H.Arabi.MD*
11:00-11:10	Prophylactic antibioethics in MSK infections *MR.Salehi.MD*
11:10-11:20	Update on imaging of MSK infections *M.Rikhtehgar.MD*
11:20-11:30	Q & A
11:30-12:00	Panel Discussion

Moderator: *A Sh.Ariamanesh.MD*

Members: *S.Keyhani.MD,J.Rezazadeh.MD,Rashid.Ganji.MD,M.Rahbar. MD, MR.Salehi.MD, M.Sarzaeem.MD,F.Mojtahed Jaberi.MD*

3 Day

Hall C-Tooska Hall — Foot & Ankle

Peroneal tendons injuries

Chairs: *O.Elahifar.MD, B.Valliolahi.MD*

Time		Title
10:30-10:36	Article	Long-Term Outcomes of Evans Titanium Wedges in Adolescent Flexible Flatfoot Surgery *B.Otoukesh.MD*
10:36-10:42		An analysis of vascular patterns and angiogenic factors in Charcot arthropathy; a review article *M.Ahmadi.MD*
10:42-10:45	Q & A	
10:50-11:00	Management of peroneal tendinopathy *M.Tavakoli.MD*	
11:00-11:10	Complications (Prevention and Management) *AR.Mousavian.MD*	
11:10-11:20	Technical notes: Peroneal tendons instability repair (Video Presentation) *AR.Mousavian.MD*	
11:20-11:30	Technical notes: Charcot Foot ORIF (Video Presentation) *AR.Vosoghi.MD*	
11:30-11:33	Q & A	
11:33-12:00	Case Presentation	

Moderator: *AR.Vosoghi.MD*

Members: *MR.Bahaedini.MD, E.Ghadimi.MD, M.Tavakoli.MD, AR.Mousavian.MD, B.Valliolahi.MD*

12:00-13:30 Lunch & Exhibition

3 Day

Hall A - Main Hall — Foot & Ankle

Progressive Collapsing foot deformity (PCFD)

Chairs: *MR.Bahaedini.MD, M.Movahedi Yeganeh.MD, GHR.Naderi.MD*

Time	Title
13:30-15:00	
13:30-13:45	Pathoanatomy and Management *A.Sabbaghzadeh.MD*
13:45-14:00	Complications (Prevention and Management) *MR.Bahaedini.MD*
14:00-14:15	Calcaneal Ost and FDL transfer (Video Presentation) *H.Seyed Hosseinian.MD*
14:15-15:00	**Case Presentation**

Moderator: *A.Ebrahimpour.MD*

Members: *A.Sabbaghzadeh.MD, T.Safaie.MD, H.Seyed Hosseinian.MD, M.Movahedi Yeganeh.MD*

3 Day

Hall B - Hegmataneh Hall — Pediatric

Clubfoot Symposium

Chairs: *AH.Sabetian.MD, GHH.Shahcheraghi.MD, A.Maleki.MD*

Time 13:30-15:00	Title
13:30-13:40	Complex / atypical clubfoot – Diagnosis & Treatment *AH.Sabetian.MD*
13:40-13:50	Bracing in clubfoot: types and duration for how long ? *A.Bagherpour.MD*
13:50-13:55	Q & A
13:55-14:05	Recurrence after Ponseti casting:Treatment options (first recurrence / second recurrence) *SH.Ilka.MD*
14:05-14:15	Where is the Role of PMR in clubfoot treatment? *R.Abdi.MD*
14:15-14:25	Role of supra-malleolar surgery in residual /recurrent clubfoot *MM.Ebrahim Nasab.MD*
14:25-14:30	Q & A
14:30-15:00	Case presentation

Moderator: *M.Javid.MD*

Members: *AR.Ghaznavi.MD, SH.Ilka.MD, GHH.Shahcheraghi.MD, MA.Tahririan.MD*

3 Day

Hall C-Tooska Hall — Residents Meeting

The principles of fixing long bone fractures using intramedullary nails(IMN)

Chairs: *H.Gorgani.MD, A.Habibollah Zadeh.MD, A.Hanaie.MD*

Time 13:30-15:00	Title
13:30-13:40	Principles of dynamic and static screwing in long bones IMN *A.Habibollah Zadeh.MD*
13:40-13:50	Broken nail removal (methods & complications) *A.Hemmatyar.MD*
13:50-14:00	The difference between reamed and undreamed nailing *H.Gorgani.MD*
14:00-14:10	The principles of screwing an dynamization (When and how)? *F.Biglari.MD*
14:10-14:20	Q & A
14:20-15:00	Panel Discussion :IMN in long bones

Moderator: *H.Gorgani.MD*

Members: *AH.Atlasbaf.MD, F.Biglari.MD, A.Choobdar.MD, A.Habibillahzadeh.MD, A.Hemmatyar.MD, M.Niroomand.MD*

3 Day

Hall D-Razi Hall — Relive Surgery's And Articles

Chairs: *HR.Dehghani, Sh.Shirvani,SMJ.Mortazavi*

Time 13:30-15:00	Title
13:30-13:37	Relive Surgery (Shoulder) Old pectoralis major muscle tear repair *M.Mardani Kiwi.MD*
13:37-13:44	Relive Surgery (Knee) Knee PMC reconstruction *M.Razi.MD*
13:44-13:49	Article a novel Index for measuring the Posterior tibial slope using tibial plafond based on EOS radiography: a retrospective cohort study *H.Ghassir.MD*
13:49-13:51	Q & A
13:51-13:58	Relive Surgery (Hip) Technique proximal femoral digastricus Shortening osteotomy *A.Taheri Azam.MD*
13:58-14:05	Relive Surgery (Knee) Oxford medial UKA *A.Sherafat Vaziri*
14:05-14:10	Article Evaluation of avascular necrosis and related factors in COVID19- patients receiving corticosteroids *MM.Shater.MD*
14:10-14:13	Q & A
14:13-14:20	Relive Surgery (Shoulder) Bankart repair *MA.Jalili.MD*
14:20-14:27	Relive Surgery (Knee) MPFL reconstruction (Q tendon graft) + distal realignment *HR.Yazdi.MD*
14:27-14:32	Article Investigating the outcome and side effects of intrathecal morphine injection in posterior fusion surgery of patients with idiopathic scoliosis *M.B.Safari.MD*
14:32-14:35	Q & A
14:35-14:43	Relive Surgery (Knee) Combined ACLR and HTO Kaplan fibers tenodesis *SMJ.Mortazavi.MD, M.Firooz abadi.MD*
14:43-14:50	Relive Surgery (MSK infection) Antibiotic loaded cement spacer in MSK infections *MA.Jafari.MD*
14:50-14:55	Article Latent Infections in Conversion Total Hip Arthroplasty: A Systematic Review and Meta-Analysis of Diagnostic Methods *M. Poursalehian .MD*
14:55-15:00	Q & A

15:00-15:30 Rest & Exhibition

3 Day

Hall A-Main Hall — Pediatric

Case presentation and evidence-based management discussions
Symposium: Children Fracture- (State of The Art)

Chairs: *H.Aslani.MD, T.Baghdadi.MD, S.Tavakoli.MD*

Time 15:30-17:00	Title
15:30-15:40	Malunited /non-united femoral neck fracture (risk factors and management) *H.Aslani.MD*
15:40-15:50	Poorly treated spine fracture in children's *H.Ghandhari .MD*
15:50-16:00	Poorly treated distal femoral physeal fractures (Complications and Management) *HR.Arti.MD*
16:00-16:10	Q & A
16:10-16:20	Pitfalls of radial head and neck fracture (management) *HR.Aboali.MD*
16:20-16:30	Analysis & management of malunited forearm fracture *A.Abtahian.MD*
16:30-17:00	Panel Discussion : Teasing experts with fractures.

Moderator: *AR.Ghaznavi.MD*

Members: *S.Abrishami.MD, T.Baghdadi.MD, MM.Ebrahiminasab.MD, A.Maleki.MD, MH.Nabian.MD*

3 Day

Hall A-Main Hall — Shoulder

ICL shoulder pathology from a different aspect: The impact of scapular motion

Chairs: *A.Rashidi.MD ,M.Torabi.MD*

Time	Title
07:30-08:30	
Moderator: *N. Bagheri.MD* Speaker: *U.Kanatli.MD*	
Members: *N. Bagheri.MD , U.Kanatli.MD*	

Hall D -Razi Hall — Trauma

4. Day

ICL: Traumatic Lower Limbs injuries

Chairs: *M.Shayesteh Azar.MD, A.Marashinezhad.MD, M.Vafaei.MD, M.Vahid Roodsari.MD*

Time	Title
07:30-08:30	
07:30-07:45	Comminuted tibia plateau fractures, how to prevent complications *AA.Elmi.MD*
07:45-08:00	Comminuted distal tibia fractures, how to be managed correctly *AA.Alamian.MD*
08:00 - 08:15	Comminuted Pilon fractures, how to prevent complications (DJD) *M.Forghan.MD*
08:15-08:30	Talus fractures, how can I manage with-less complications *A.Pourmojarab.MD*

Hall B -Hegmataneh — Spine

PRIMARY SPINE TUMOR
Spine tumor advanced Multidisciplinary course

Chairs: *E.Ameri.MD, S.Ganjavian.MD, P.Habibollahzadeh.MD, H.Mahdian.MD, E.Ketabchi.MD, M.Shirvani.MD*

Time	Title
09:00-10:30	
08:55-09:00	Welcome and introduction *H.Ghandhari.MD*
09:00-09:10	Update in classification &outcome measurement *A.Rahimian.MD*
09:10-09:20	Spine Osteoid osteoma and osteoblastoma *B.Purabbas.MD*
09:20-09:30	Extensive schwannoma (Technical note) *MR.Farrokhi.MD*
09:30-09:40	Axial spine Aneurysmal bone cyst *A.Rahimizadeh.MD*
09:40-09:50	Bone sarcoma (Technical note) *S.Sabaghan.MD*
09:50-10:10	Sacral tumor *S.Boriani.MD*
10:10:10:20	Case presentation: primary spine tumor *G.Sharifi.MD*
10:20-10:30	Case presentation: primary spine tumor *MR.Chehrasan.MD*

10:30-11:00 Rest & Exhibition

4. Day

Hall A-Main Hall — Shoulder

Proximal humerus fracture Sequel

Chairs: *M.Ghoreishian.MD, A.Rouhani.MD, R.Serri.MD, Kh.Tahvildari.MD*

Time 08:30-10:00	Title
08:30-08:40	Management of failed reduction after ORIF: (re operation or wait and see?) *N.Mohseni.MD*
08:40-08:50	Reverse shoulder prosthesis for complex fracture: acute vs delayed treatment *OR.Momenzadeh.MD*
08:50-09:00	Non-union of surgical neck fx: ORIF vs Arthroplasty *M.Rahimi.MD*
09:00-09:10	Chronic locked dislocations: reduction and reconstruction or replacement *SR.Amiri.MD*
09:10-09:20	Case presentation 1 *MR.Giti.MD*
09:20-09:30	Case presentation 2 *M.Nakhaei.MD*
09:30-09:40	Case presentation 3 *AA.Khorsandi.MD*
09:40-09:50	Case presentation 4 *P.Tabrizian.MD*
09:50-10:00	Case presentation 5 *S.Kookli.MD*

Members: *MR.Giti,S.Kookli.MD, R.Serri.MD ,M.Rahimi.MD, OR.Momenzadeh.MD,P.Tabrizian.MD*

4. Day

Hall D -Razi Hall — Trauma

Diabetes Mellitus

Chairs: *K.Asadi.MD, H.Fahami.MD, MH.Karimi Nasab.MD ,SJ.Sharabianloo.MD*

Time		Title
08:30-10:00		
08:30-08:36	Article	Iran's Orthopaedic Landscape: Distribution, Per-capita Ratios, Female Inclusion, and Academic Standing among Residents and Surgeons *S.Esmaeili.MD*
08:36-08:42		Non-operative Management of Distal Radius Fractures by Mumiaee: A Randomized Clinical Trial *A.Jahani.MD*
08:42-08:45	Q & A	
08:45-08:55	Preoperative optimization in diabet patients *M.Gholipour.MD*	
08:55-09:05	Management of frozen shouldgoer in diabetic patients *M.Ahmadzadeh.MD*	
09:05-09:15	Charcot's joint in diabetic patients, how to manage? *A.Farhadi.MD*	
09:15-09:25	Treatment of ankle fracture/dislocations in diabetic patients *MR.Sarshar.MD*	
09:25-09:35	How to determine the level of amputation in diabetic foot? *A.Mehrvar.MD*	
09:35-10:00	Catase base discussion	

Moderator: *M.Heidarnezhad.MD*

Members: *F.Amoozadeh.MD,A.Farhadi.MD,B.Khodarahmi.MD,R.Moradi.MD, M.Tavakoli.MD*

4. Day

Hall C-Tooska Hall — Hip-Knee-Foot & Ankle interactions (Symposium)

Chairs: *M.Motififard.MD, MR.Miad.MD, AM.Navali.MD, N.Sarrafan.MD*

Time	Title
08:30-10:00	
08:30-08:40	The effect of knee, ankle and foot malalignment on hip joint biomechanic and alignment *MR.Razzaghof.MD*
08:40-08:50	The effect of hip, ankle and foot malalignment on knee joint biomechanic and alignment *AM.Navali.MD*
08:50-09:00	The effect of hip and knee joint malalignment on foot and ankle joint biomechanic and alignment *B.Outokesh.MD*
09:00-09:10	The Influence of hip pathomechanics on TKA and HTO *A.Omidian.MD*
09:10-09:20	The Influence of Foot and Ankle Pathomechanics on TKA and HTO *A.Azimi.MD*
09:20-09:30	Clinical aspects of knee and ankle alignment following THA *M.Ghorbanzade.MD*
09:30-10:00	Case Presentation
	Moderator: *AM.Navali.MD*
09:30-09:45	Case 1 *AR.Askari.MD*
09:45-10:00	Case 2 *AM.Navali.MD*
	Members: *K.Ahadi.MD, SMJ.Mortazavi.MD, R.Minaei.MD, GHR.Naderi.MD, M.Sedighi.MD, A.Torkaman.MD*

4. Day

Hall A-Main Hall — Ethics

Chairs: *GHA.Akasheh.MD, A.Ahmadi.MD ,SJ.Abrisham.MD, F.Lahiji.MD*

Time 10:30-11:30	Title
10:30-10:40	Major subjects of Medical Ethics *F.Lahiji.MD*
10:40- 10:50	Informed consent *M.Nakhaie.MD*
10:50-11:00	Common principles of medical ethics among the medical associations *SH.Kamali.MD*
11:00-11:15	Introducing an item *A.Ahmadi.MD*
11:15-11:30	Open Panel *F.Lahiji.MD*

Moderator: *F.Lahiji.MD*

4. Day

Hall A-Main Hall

11:30-12:30 General Assembly

Hall B -Hegmataneh — Spine

Metastatic Spine Tumor

Chairs: *M.Azar.MD, H.Behtash.MD, M.Khadivi.MD ,H.Khatibi.MD, S.Safaei.MD*

Time	Title
11:00-12:30	
11:00-11:10	Decision making(SINS) *A.Andalib.MD*
11:10-11:20	Radiologic evaluation in spine tumor(update) *P.Pezeshki.MD*
11:20-11:30	Approach to isolated intracanal metastasis *B.Ganjeifar.MD*
11:30-11:40	Cementoplasty ,hazards and benefits *M.Majd.MD*
11:40-12:00	Radical metastasis resection *A.Gasbarrini.MD*
12:00-12:10	Approach to spine Multiple Myeloma *MB.Safari.MD*
12:10-12:20	Case presentation metastatic spine tumor *MR.Golbakhsh.MD*
12:20-12:30	Case presentation metastatic spine tumor *B.Alijani.MD*

12:00-13:30 Lunch & Exhibition

4. Day

Hall A-Main Hall — Radiology Session (case presentation)

Chairs: *R.Daryani.MD, M.Sarzaeem.MD ,SH.Mostafavi.MD*

Time 13:30-15:00	Title
13:30-13:50	Case 1: Knee *B.Shekarchi.MD*
13:50- 14:10	Case 2: Shoulder *SH.Mostafavi.MD*
14:10 -14:30	Case 3 :Hip *M.Malek.MD*
14:30-14:50	Case4: Foot & Ankle *P.Dehghan.MD*
Members: *M.Movahedi Yeganeh.MD, M.Nakhaie.MD, K.Pisoodeh.MD, B.Shekarchi.MD*	
14:50-15:00	Q & A

Hall D -Razi Hall — Residents Meeting

4. Day

Damage control in multiple trauma patients

Chairs: *S.Baghbani.MD, M.Torabi.MD, H.Kalantar.MD, A.Ghozzatfar.MD*

Time 13:30-15:00	Title
13:30-13:40	Diagnosis and treatment of compartment syndrome in traumatic patients *S.Baghbani.MD*
13:40-13:50	Basic principles of stabilization in damage control of multiple trauma patients *M.Motalebi.MD*
13:50-14:00	Initial treatment in terms of ATLS protocol in multiple trauma patients *H.Arabi.MD*
14:00-14:10	How to manage the open fractures in multiple trauma emergency patients *Sh.Amiri.MD*
14:10-15:00	Panel Discussion :on Damage control
Moderator: *Sh.Amiri.MD*	
Members: *H.Arabi.MD,S.Baghbani.MD,A.Feizi.MD,K.Khosravi.MD, M.Motalebi.MD,A.Motevalizadeh.MD*	

Hall B- Hegmataneh — Spine

SPECIEFIC VIEWS OF SPINE TUMOR

Chairs: *M.Fakheri.MD, M.Sadat.MD, SA.Tahami.MD, KH.Rastegar.MD*

Time 13:30-15:00	Title
13:30-13:40	Psychology issue (patient, physician) *A.Samadi.MD*
13:40-13:50	Radio oncology approach (update) *AM Arefpour.MD*
13:50-14:00	Aggressive Hemangioma (technical note) *F.Nekoee.MD*
14:00-14:10	Interventional Vascular treatment (update) *S.Naderi.MD*
14:10-14:22	Preoperative embolization vs RF ablation *A.Ezzati .MD*
14:22-14:35	Hemicorporectomy, the spinal amputation *F.Abdolvahab.MD*
14:35-14:45	Case presentation &technical note *R.Mollahoseini.MD*
14:45-14:55	Case presentation &technical note *SM.Mahdavi.MD*
14:55-15:00	End of meeting *H.Ghandhari.MD*

Hall C-Tooska Hall — Nursing session

Chairs: *Z.Hasanzadeh.MD, M.Saheb jam.MD, HR.yazdi.MD*

Time 13:30-15:00	Title
13:30-13:36	Orthopedic emergencies *AA.Ehsani.MD*
13:36-13:39	Q & A
13:39-13:45	Prevention of VTE in orthopedic surgeries *M.Banasiri.MD*
13:45-13:48	Q & A
13:48-13:54	Arthroplasty setup management *B.Parhampour.MD*
13:54-13:57	Q & A
13:57-14:03	Common medical and nursing errors in orthopedics *M.Tavakoli.MD*
14:03-14:06	Q & A
14:06-14:12	Infection control in orthopedic surgeries *SMJ.Mortazavi .MD*
14:12-14:15	Q & A
14:15-14:21	Hospitals of the future *K.Jamshidi .MD*
14:21-14:24	Q & A
14:24-14:30	Principles of nursing cares in trauma patients *N. Jan Nesar*
14:30-14:33	Q & A
14:33-14:39	The importance of patient safety in orthopedic surgeries *N.Mirshfiey*
14:39-14:42	Q & A
14:42-14:48	New sutures and threads in orthopedic surgeries *A.Elmi*
14:48-14:51	Q & A
14:51-14:57	New dressing in orthopedic surgeries *SM.Sanat*
14:57-15:00	Q & A

15:00-15:30 Rest & Exhibition

Hall A-Main Hall — Hip

Dislocation after THA

Chairs: *GHA.Akasheh.MD, SA.Behgoo.MD, MK.Emami Meybodi.MD, AA.Esmaielijah.MD*

Time 15:30-17:00	Title
15:30-15:40	Analysis of dislocated THA *H.Ravanbod.MD*
15:40-15:50	The role of Braces, what are the precautions *D.Feizi.MD*
15:50-16:00	When do you do revision and how (stem, cup or both?) *B.Siavashi.MD*
16:00-16:10	The indications of constrained liner or dual mobility in revision cases *K.Gharanizadeh.MD*
16:10-16:20	Spinopelvic Abnormalities and Hip Arthroplasty Dislocation, What We Know in 2024 *MT.Ghazzavi.MD*
16:20-17:00	Panel Discussion

Moderator: *M.Kalhor.MD*

Members: *F.Ghiaghi.MD, H.Ravanbod.MD, D.Feizi.MD, B.Siavashi.MD, MT.Ghazzavi.MD*

4. Day

7:30-08:30	Break Fast: Dr Molavi memorial event

Hall A-Main Hall — Vascular injuries in orthopaedic surgeries

Time 08:30-10:00	Subject
08:30-08:42	Radiologic findings in vascular injuries *H.Rokni yazdi.MD*
08:42-08:54	Reperfusion syndrome *B.Azimi.MD*
08:54-09:06	Compartment Syndrom In vascular Injury *M.Hasani.MD*
09:06-09:18	Delayed Revascularization in Truama Patient *M.Rafaie.MD*
09:18-09:30	Clinical signs and symptoms in vascular Truama ,How to Manage? *M.Mozaffar.MD*
09:30-09:45	Case prevention 1 *M.Ayati Firooz Abadi.MD*
09:45-10:00	Case prevention 2 *A.Yeganeh.MD*

Members: *F.Bagheri.MD,MR.Fayaz.MD, SA.Hashemi.MD,MH.Karimi Nasab.MD, F.Vosoughi.MD*

5 Day

Hall B- Heghmataneh — Physiotherapy Symposium

Kinesiopathology versus Path kinesiology in knee Dysfunctions

Time	Subject
08:30-10:00	
08:30-08:40	Neuromuscular Rehabilitation in Knee Dysfunctions *E.Ebrahimi Takamjani.MD*
08:40-08:50	Neuromuscular Function of the Knee Joint Following Knee Injuries: Does It Ever Get Back to Normal? *I.Abdollahi.MD*
08:50-09:00	Biomechanical Analysis of the Influences of Distal and Proximal Segments Dysfunction on Patello-Femoral Joint Impairments *Kh.Khademi Kalantari.MD*
09:00-09:10	Bio tensegrity and Myofascial Force Transmission in Knee Joint: A Global Approach to an Integrated Kinetic Chain *A.Shadmehr.MD*
09:10-09:20	Kinesiopathology of the Knee Joint: Empowering Physical Therapists to Address Movement Dysfunctions *MR.Pourahmadi.MD*
09:20-09:30	Muscles Shortening and Stiffness in Knee Pain *K.Kazemi.MD*
09:30-10:00	Panel Discussion: Knee kinematics modern maeseures injures and rehabilitition

Moderator: *K. Kazemi.MD*

Members: *A.Farhadi.MD, MA.Sanjari.MD*

10:00-10:30 Rest & Exhibition

5 Day

Hall A- Main Hall — Knee

Osteotomy around the knee

Chairs: *H.Behdad.MD, MA.Sazegari.MD, GHR.Shahhosseini.MD, M.Molavi.MD*

Time	Title
10:30-12:00	
10:30-10:38	Knee Deformity analysis: what is the pitfalls? *M.Sedighi.MD*
10:38-10:46	Mixed deformities around the knee: diagnosis and management *A.Aydanloo.MD*
10:46-10:54	Dome osteotomy of proximal tibia *HR.Yazdi.MD*
10:54-11:02	Lateral hinge fracture in MOWHTO: Prevention and management during and after surgery *A Sh.Ariamanesh.MD*
11:02-11:10	Nonunion after MOWHTO *F.Vosoughi.MD*
11:10-11:20	Q &A
11:20-11:40	Panel Discussion A :HTO complications
	Moderator: *M.Tahami.MD*
11:40-12:00	Panel Discussion B: Complex knee deformity
	Moderator: *K.Ahadi.MD*
	Members: *H.Akbari Aghdam.MD,MH.Ebrahimzadeh.MD,HA.Hadi.MD, H.Makhmalbaf.MD,MR.Minator Sajadi.MD, M.Moghtadaei.MD*

5 Day

Hall B-Hegmataneh — Hand

TENDON TRANSFERS IN PARALYTIC HAND

Chairs: *E.Zonozi.MD, MA.Okhovatpour.MD, H.Taheri.MD, M.yavari.MD*

Time 10:30-12:00	Title
10:30-10:40	High median nerve palsy *M.Yavari.MD*
10:40-10:50	Low median palsy *H.Molaie.MD*
10:50-11:00	Radial nerve palsy (technical note) *HA.Abdolrazaghi.MD*
11:00-11:10	High ulnar nerve palsy *HR.Dehghani.MD*
11:10-11:20	Low median & low ulnar nerve palsy *H.Sedghi.MD*
11:20-12:00	Panel Discussion

Moderator: *RSH.Kamrani.MD*

Members: *H.Beykpoor.MD, A.Dianat.MD, M.Farzan.MD, F.Layeghi.MD, A.Zarezadeh.MD*

5 Day

Hall A-Main Hall

Time	
12:00-13:00	Closing Ceremony

IOA 2024

32nd Annual Meeting of the Iranian Orthopaedic Association

Paper Abstracts

ID	Title
10207	**Evaluation of avascular necrosis and related factors in COVID-19 patients receiving corticosteroids** *Mohammad Mahdi Shater, Sadra Haji, Soheila Javadi Narab, Mohammad Kazem Emami Meybodi*
10293	**Management of instability in patients with reverse shoulder prosthesis** *Mehdi Rahimi, Amir Bisadi, Nima Mohseni, Saeed Reza Amiri, Mohammadnasir Naderi*
10316	**Designing and synthesis of injectable hydrogel based on carboxymethyl cellulose/carboxymethyl chitosan containing QK peptide for femoral head osteonecrosis healing** *Mehdi Moghtadaei, Noshad Peyravian*
10202	**The effect of tranexamic acid on synovium of patients undergoing arthroplasty and anterior cruciate ligament reconstruction surgery** *Salman Ghaffari, Alireza Rafiei, Mehran Razavipour, Parisa Zafari, Soroosh Fateh, Fatemeh Faramarzi*
10425	**Production of novel nanoformulation of doxycycline and chitosan coated on nylon suture in prevention of adhesion and repair in zone 2 hand tendon surgery: A randomized controlled clinical trial** *Arian Karimi Rouzbahani, Golnaz Mahmoudvand, Mona Kadkhodaei, Mehrdad Mirzaei Rouzbahani, Abdolrazagh Marzban*
10224	**Investigation of background, novelty and recent advance of iron (II,III) oxide- loaded on 3D polymer based scaffolds as regenerative implant for bone tissue engineering: A review** *Nafiseh Jirofti, Mohammad Hosein Ebrahimzadeh, Mehrnoush Nakhaei, Azar Gharib, Mahnaz Sadat Mirbagher, Ali Moradi*
10292	**Non-operative Management of Distal Radius Fractures by Mumiaee: A Randomized Clinical Trial** *Nafiseh Jirofti, Kimia Emami, Afsaneh Jahani, Hassan Rakhshandeh, Mahla Daliri, Amin Rezaeian, Hassan Mehrad-Majd, Naeemeh Kalali, Ali Moradi*

ID	Title
10323	**An analysis of vascular patterns and angiogenic factors in Charcot arthropathy; a review article.** *Mahdi Ahmadi, Mohammad Mahdi Qazvini, Azin Atighi, Mohmmad Abdollahi, Leila Arabi, Alireza Mousavian*
10201	**The Complication Rate and Hip Function After Revision of Infected Hip Arthroplasty with Bone Defects using Bone Allografts: A Systematic Review and Meta-Analysis** *Mahdieh Samei, Mahla Daliri, Mahdieh Sahebi, Reza Hoseinzadeh, Mohammad H Ebrahimzadeh, Omid Shahpari*
10289	**Simultaneous femoral head reduction osteotomy (FHRO) combined with periacetabular osteotomy (PAO) for the treatment of severe femoral head asphericity in Perthes disease** *Kaveh Gharanizadeh, Hadi Ravanbod, Amir Aminian*
10307	**Direct posterior approach versus Posteromedial approach: which is better for management of posterior cruciate ligament tibial avulsion fractures?** *Asghar Elmi*
10343	**Marginal Bone Resection and Immediate Internal Fixation in Multidrug Resistant Chronic Septic Nonunions of Lower Limb Long Bones: A Case Series** *Amirhouman Hoveidai, Behzad NezhadTabrizi, Seyed Hadi Kalantar*
10412	**Distal Radius fractures treatment with new PCP and external fixator method: a clinical trial study** *Mojtaba Khajeh Alizadeh Attar, Asma Mafhoumi, Mohammad Hossein Nabian*
10194	**Does tranexamic acid diminish hemorrhage and pain in open elbow arthrolysis? a systematic review and meta-analysis** *Mohammad Hadi Nejat, Amirhosein Khayami, Mahla Daliri, Mohammad Hossein Ebrahimzadeh, Masoumeh Sadeghi, Ali Moradi*

ID	Title
10197	**A new magnetic internal distractor: cadaveric study of changes in trapeziometacarpal joint forces** *Mahla Daliri Beirak Olia, Ali Moradi, Alireza Akbarzadeh, Amin Rezaeian, Hamed Hafiz, Ghazaleh Hajiaghajani*
10241	**A new magnetic internal distractor: cadaveric study of changes in trapeziometacarpal joint forces** *Ali Moradi, Mahla Daliri, Amin Rezaeian, Hamed Hafiz, Ghazaleh Hajiaghajani, Arya Hedjazi, Alireza Akbarzadeh*
10313	**The results of the treatment of juvenile hallux valgus by the lateral hemiepiphysiodesis of the first metatarsal joint** *Hamid Reza Arti, Taghi Baghdadi, Ramin Hajzargarbashi*
10330	**Does Metal Allergy to Total Joint Arthroplasty Components Exist? A Systematic Review and Meta-analysis.** *Pooya Hosseini-monfared, Mohammadreza Razzaghof, Seyed Mohammad Javad Mortazavi*
10332	**Anthropometric Variations in Caput-Collum-Diaphyseal Angle Among Iranian Elderly Population: Recommendations for Proximal Femoral Nail Design** *Mohammadreza Razzaghof, Seyed Hadi Kalantar, Pooya Hosseini-monfared, Alireza Mirahmadi, Alireza Talebi, Erfan Khosravi, Seyed Mohammad Javad Mortazavi*
10344	**Accuracy of Preoperative Hip Aspiration in Diagnosing Infection Prior to Conversion to Total Hip Arthroplasty is Low** *Mohammad Poursalehian, SMJ Mortazavi, Alireza Moharrami, Peyman Mirghaderi*
10345	**Latent Infections in Conversion Total Hip Arthroplasty: A Systematic Review and Meta-Analysis of Diagnostic Methods** *Mohammad Poursalehian, SMJ Mortazavi*

ID	Title
10407	**Impact of Tourniquet Use on Bone Cement Penetration in Osteoporotic Total Knee Arthroplasty: A Triple-Blind Randomized Controlled Trial** *Seyed Mohammadjavad Mortazavi, Mohammad Ayati Firoozabadi, Hesan Rezaee*
10408	**Assessment of Spinopelvic Parameters in Patients with Hip Osteoarthritis: A Case-Control Study** *Mohammadreza Razzaghof, Hooshmand Zarei Kurdkandi, Mohammad Moteshakereh, Ehsan Ghadimi, Seyed Mohammad Javad Mortazavi*
10295	**Avascular necrosis predictive factors after closed reduction in patients with developmental dysplasia of the hip** *Mohammad Ali Tahririan, Sara Kheiri, Soheil Shahnaser, Mohammadreza Piri Ardakani*
10205	**Modified nail folding approach: A novel strategy for the treatment of subungual glomus tumors—A case series study** *Parviz Ahangar*
10298	**Investigating the outcome and side effects of intrathecal morphine injection in posterior fusion surgery of patients with idiopathic scoliosis** *Mir Bahram Safari, Shahram Shokuhi, Pouyan Shojaei*
10210	**Shining Light on the Neglected Deep MCL in Knee Injuries Short dMCL reconstruction** *Fereydoon Mojtahed Jaberi*
10208	**Non-cannulated versus cannulated cancellous screws for the internal fixation of femoral neck fractures in osteoporotic patients: A single-blind randomized clinical trial** *Shahab Mahdipour, Alireza Sadeghpour, Jafar Ganjpour, Hosein Aslani, Mohammadreza Moharrami, Hadi Alizadeh*

ID	Title
10203	**Prevention of tunnel enlargement in anterior cruciate ligament reconstruction using autologous ruptured Tissue: A double-blinded randomized controlled trial** *Hamid Reza Yazdi, Mohammad Amin Haghbin, Ahmad Azizi*
10212	**a novel Index for measuring the Posterior tibial slope using tibial plafond based on EOS radiography: a retrospective cohort study** *Hassan Kassir, Hamidreza Yazdi, Alireza Askari, Khazar Adib, Soroush Sarchahi, Mehdi Mohammadpoor*
10242	**Unraveling the Gut-Microbiota Nexus: Exploring the Role of Gut Dysbiosis in Periprosthetic Joint Infection after Total Joint Arthroplasty** *Naeemeh Kalali, Mohammad Hossein Ebrahimzadeh, Ali Moradi, Nafiseh Jirofti*
10300	**Management of Distal Tibial Interosseous Osteochondroma: A Case Series and Review of Literature** *Bagher Yazdanpanah*
10308	**Iran's Orthopaedic Landscape: Distribution, Per-capita Ratios, Female Inclusion, and Academic Standing among Residents and Surgeons** *Amir Human Hoveidaei, Mohammad Amin Khadembashiri, Mohammad Reza Ramezanpour, Omid Bahrami, Fatemeh Rashidi, Reza Niakan, Sina Esmaeili*
10310	**Efficacy of Pregabalin for Postoperative Pain Management after Arthroscopic Anterior Cruciate Ligament Reconstruction: A Double-Blind Placebo-Controlled Randomized Clinical Trial** *Pooya Hosseini-monfared, Seyed Morteza Kazemi, Emad Koohestani, Reza Minaie*
10322	**Restoring Shoulder Function: A Clinical Trial of Tecar Therapy for Frozen Shoulder** *Atefeh Rezaian Abarqui, Mohammad Pashmchi, Mahmood Vakili, Mohammadreza Vafaeenasab, Amidodin Khatibi*
10361	**The Outcome of Conversion Total Hip Arthroplasty Following Acetabular Fractures: A Systematic Review and Meta-analysis of Comparative Studies** *Farhad Shaker, Sina Esmaeili, Mobina Taghva Nakhjiri, Alireza Azarboo, Seyyed Hossein Shafiei*

ID	Title
10413	**Intrathecal baclofen efficacy for managing motor function and spasticity severity in patients with cerebral palsy: a systematic review and meta-analysis** *Mahdi Masrour, Amir Zare, Mohammad Hossein Nabian, Ana Presedo*
10415	**Long-Term Outcomes of Evans Titanium Wedges in Adolescent Flexible Flatfoot Surgery** *Babak Otookesh, Maryam Rahmanizadeh, Hamidreza Nematy, Morad Karimpour*
10421	**Personalized Reconstruction of Pelvic Giant Cell Tumor Using Custom 3D-Printed Prostheses: A Case Study** *Sadegh Saberi, Saeed Khabiri, Mahta Jannati Zadeh, Hamidreza Nemati, Morad Karimpour*
-	**Preoperative Embolization versus Radio-frequency Ablation to Minimize Intra-operative Blood Loss in Surgery for Metastatic Spine Disease** *Ali Ezzati, Emad Sadat , Drazen Prsa, Hamdan Abdelrahman, Thomas Logemann, Ahmed Shawky*
-	**Clinical Evaluation of Novel Beta-Tricalcium Phosphate Scaffold Graft in Opening Wedge High Tibial Osteotomy** *M. Shahrezayee, S. Hesaraki, S. Baghbani, S.R. Sharifzadeh, D. Feyzi, Y. Mehrabi, M.Sohrabi*

ID: 10207

Evaluation of avascular necrosis and related factors in COVID-19 patients receiving corticosteroids

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Introduction: This study aimed to determine the prevalence of avascular necrosis of the femoral head in COVID-19 patients receiving corticosteroids at Baqiyatallah Hospital.t5r

Materials and Methods: In this cross-sectional study, COVID-19 patients who have received corticosteroids and at least six months have passed since receiving corticosteroids were contacted, and they were contacted about any pain in the area. Hip pain, lameness, and movement restrictions were assessed. If the patient had a suspicious history, we invited them to undergo an MRI.

Results: The findings of this study showed that the prevalence of avascular necrosis is 9.2%, and none of the variables of age, sex, body mass index, dose of prednisolone, or remdesivir have a suitable predictive role in the occurrence of this complication ($P<0.05$).

Conclusion: The study's findings showed that steroid treatment in COVID-19 is valuable. However, the adverse effects of this treatment are very severe. High-dose steroid therapy causes

avascular necrosis, but case reports clearly show that steroid therapy cannot fully account for the rapid onset of avascular necrosis after recovery from COVID-19 infection, although it is a contributing factor.

Keywords: Avascular necrosis, covid 19, corticosteroid.

ID: 10293

Management of instability in patients with reverse shoulder prosthesis

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Introduction: Instability in patients with reverse prosthesis is not common, but can be catastrophe.

The reasons for prosthesis instability are: nonfunction of deltoid, insufficiency of subscapularis, and incorrect version of prosthesis component.

t5r

Materials and Methods: In this study, in 47 patients with shoulder prosthesis, seven patients who complained of prosthesis instability, evaluated and underwent surgical procedure.

The reason for revers prosthesis was cuff arthropathy, glenohumeral DJD, shoulder fractures and failed cases of hemiarthroplasty.

In operation, by use of artificial graft, the prosthesis motion in anteroposterior direction was controlled.

in this procedure, one graft bundle rolled over acromion and prosthesis neck, and the other bundle passed around coracoid and prosthesis.

Results: The most common reason for instability of reverse prosthesis in our patients was insufficiency of subscapularis, and nonfunctional deltoid as well.

Prosthesis instability was managed by use of artificial graft passed anteroposterior around prosthesis.

Conclusion: Shoulder instability in reverse prosthesis may be common especially in patients who had previous shoulder operation.

Instability can be managed by use of artificial graft restrain. It works like ACL-PCL, anteroposterior of prosthesis and make the prosthesis very stable.

Keywords: Reverse prosthesis, artificial graft, instability

ID: 10316

Designing and synthesis of injectable hydrogel based on carboxymethyl cellulose/carboxymethyl chitosan containing QK peptide for femoral head osteonecrosis healing

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Introduction: Femoral head necrosis is a debilitating disorder that typically caused by impaired blood supply to the hip joint. In this study, a novel injectable hydrogel based on Oxidized Carboxymethyl Cellulose (OCMC)-Carboxymethyl Chitosan (CMCS) polymers containing an angiogenesis stimulator peptide (QK) with a non-toxic crosslinking interaction (Schiff based reaction) was synthesized to enhance angiogenesis following femoral head necrosis in an animal model.t5r

Materials and Methods: The physicochemical features of fabricated injectable hydrogel were analyzed by FTIR, swelling and degradation rate, rheometry, and peptide release. Also, the safety and efficacy were evaluated following an in vitro hydrogel injection study and an avascular necrosis (AVN) animal model.

Results: According to the results, the hydrogel exhibited an appropriate swelling ratio and water uptake (>90 %, 24 h) as well as a suitable degradation rate over 21 days accompanied by a continuous peptide release. Also, data showed that hydrogels containing QK peptide boosted the proliferation, differentiation, angiogenesis, and osteogenic potential of both Bone Marrow mesenchymal Stem Cells (BM-MSCs) and human umbilical

vein endothelial cells (HUVECs) (****p < 0.0001 and ***p < 0.001, respectively). Furthermore, molecular and histological evaluations significantly demonstrated the overexpression of Runx2, Osteocalcin, Collagen I, VEGF and CD34 genes (**p < 0.01 and ***p < 0.001, respectively), and also femoral head necrosis was effectively prohibited, and more blood vessels were detected in defect area by OCMC-CMCS hydrogel containing QK peptide (bone trabeculae >9000, ***p < 0.001)

Conclusion: In conclusion, the findings demonstrate that OCMC-CMCS-QK injectable hydrogel could be considered as an impressive therapeutic construct for femoral head AVN healing.

Keywords: femoral head necrosis

ID: 10202

The effect of tranexamic acid on synovium of patients undergoing arthroplasty and anterior cruciate ligament reconstruction surgery

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Introduction: Preoperative hemorrhage can be reduced using anti-fibrinolytic medicine tranexamic acid (TXA). During surgical procedures,

local administration is being used more and more frequently, either as an intra-articular infusion or as a perioperative rinse. Serious harm to adult soft tissues can be detrimental to the individual since they possess a weak ability for regeneration.

Synovial tissues and primary fibroblast-like synoviocytes (FLS) isolated from patients were examined using TXA treatment in this investigation.t5r

Materials and Methods: FLS is obtained from rheumatoid arthritis (RA), osteoarthritis (OA), and anterior cruciate ligament (ACL)-ruptured patients. The in vitro effect of TXA on primary FLS was investigated using 3-(4,5-dimethylthiazol-2-yl)- 2,5-diphenyltetrazolium bromide (MTT) cell viability assays for cell death, annexin V/propidium iodide (PI) staining for apoptotic rate, real-time PCR for p65 and MMP-3 expression, and en-

zyme-linked immunosorbent assay (ELISA) for IL-6 measurement.

Results: MTT assays revealed a significant decrease in cell viability in FLS of all groups of patients following treatment with 0.8-60 mg/ml of TXA within 24 h. There was a significant increase in cell apoptosis after 24 h of exposure to TXA (15 mg/ml) in all groups, especially in RA-FLS. TXA increases the expression of MMP-3 and p65 expression. There was no significant change in IL-6 production after TXA treatment. An increase in receptor activator of nuclear factor kappa-B
ligand (RANK-L) production was seen only in RA-FLS.

Conclusion: This study demonstrates that TXA caused significant synovial tissue toxicity via the increase in cell death and elevation of inflammatory and invasive gene expression in FLS cells.

Keywords: Arthroplasty Synovium Toxicity Tranexamic acid

ID: 10425

Production of novel nanoformulation of doxycycline and chitosan coated on nylon suture in prevention of adhesion and repair in zone 2 hand tendon surgery: A randomized controlled clinical trial

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Introduction: Tendon adhesion to surrounding tissues is the most common complication reported after tendon repair. To date, effective solutions to prevent tendon injury are still lacking. This thread has been made for the first time with promissing results in tendon healing.t5r

Materials and Methods: A total of 100 patients with flexor tendon injury in zone II were recruited. All first three case groups had a novel coating process on 4/0 nylon thread and then sterilized with gamma then packed in clean room. The patients were divided into a control group, a chitosan only coated group , a doxycycline only coated group , and an doxycycline-chitosan coated on nylon suture group according to the different tendon treatments applied. The control group was not subjected to other treatments. The patients were followed at 1, 2, 3, 6, and 12 months after surgery and the ranges of active flexion and extension lag in the proximal and distal interphalangeal joints were evaluated.

Results: The means of total active ranges of motion of the interphalangeal joints (excluding rupture cases) in the chitosan and doxycycline groups did not significantly differ between each other but significantly differed from that of the doxycycline-chitosan and control groups. Statistical analysis showed a significant difference in the clinical grades of the outcomes among the doxycycline-chitosan and other groups and more pronounced to control group. The incidence of complications in the control and chitosan only groups was found to be significantly higher than that in the doxycycline only and doxycycline-chitosan groups; no significant difference was observed between the control and chitosan groups.

Conclusion: In this study, innovative suture was applied to promote healing of the flexor tendon in zone II and prevent adhesion with no adverse effect and no ruptured observed. This technique presents a new method to solve the issue of tendon adhesion and healing simultaneously after repair.

Keywords: zone2 hand tendon doxycycline chitosan

ID: 10224

Investigation of background, novelty and recent advance of iron (II,III) oxide- loaded on 3D polymer based scaffolds as regenerative implant for bone tissue engineering: A review

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Introduction: Bone tissue engineering had crucial role in the bone defects regeneration, particularly when allograft and autograft procedures have limitations. In this regard, different types of scaffolds are used in tissue regeneration as fundamental tools. In recent years, magnetic scaffolds show promising applications in different biomedical applications (in vitro and in vivo).t5r

Materials and Methods: As superparamagnetic materials are widely considered to be among the most attractive biomaterials in tissue engineering, due to long-range stability and superior bioactivity, therefore, magnetic implants shows angiogenesis, osteoconduction, and osteoinduction features when they are combined with biomaterials. Furthermore, these scaffolds can be coupled with a magnetic field to enhance their regenerative

potential. In addition, magnetic scaffolds can be composed of various combinations of magnetic biomaterials and polymers using different methods to improve the magnetic, biocompatibility, thermal, and mechanical properties of the scaffolds.

Conclusion: Bone Tissue engineering (TE) was organized in treating tissue injury caused by diseases, accidents, and different harsh conditions. Replacing damaged tissue with healthy produced tissue attracted lots of attention from biomedical researchers in recent years. Bone TE organized existing biomedical scaffolds throw magnetic biomaterials. Magnetic scaffolds should prepare well-suited for use in bone tissue or drug delivery systems. In these regards, magnetic scaffolds must be nontoxicity and have a lack of biodegradability.

Keywords: MagneticMaterials Scaffold MagneticField BoneTissueIron(II,III)oxide

ID: 10292

Non-operative Management of Distal Radius Fractures by Mumiaee: A Randomized Clinical Trial

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Introduction: This placebo-controlled randomized clinical trial (RCT) aimed to compare 1) the time of union and 2) radiological and 3) clinical outcomes between two groups of patients, one taking the “Mumiaee” as a complimentary treatment and the other taking a placebo drug.t5r

Materials and Methods: In a two-arm RCT, 44 patients with acute distal radius fractures (DRF) were enrolled in this study. The patients were divided into two groups: intervention group (M group), patients received a daily dose of 4 capsules each containing 250mg Mumiaee plus 10 mg Avisel powder for one month. In the control group (P group), they received 4 capsules containing only 100 mg of Avisel powder. Then, radiography pa-

rameters and clinical outcomes were evaluated.

Results: The result shows a significant differences in range of motion, grip strength, and clinical questionnaire scores between two groups after 6 weeks. Also, there was a statistically variance in wrist extension, grip strength and Mayo wrist score 12 weeks post-operation.

Conclusion: The results of two groups revealed that the M group exhibited improvement of grip strength, wrist extension, and Mayo questionnaire outcomes compared to the P group. Additionally, the union time in the M group was shorter than in the P group. When comparing wrist flexion and extension of two groups, the intervention group demonstrated better outcomes than the control group after 12 weeks. The Mumiaee emerges as safe and appropriate approach for expediting bone repair following surgery for distal radius fracture. However, to provide more definitive insights into the efficacy of Mumiaee, further research is essential.

Keywords: Distal-radius-fractures Mumiaee Radiography clinical-outcome

ID: 10323

An analysis of vascular patterns and angiogenic factors in Charcot arthropathy; a review article.

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Introduction: Charcot arthropathy is a severe complication of diabetic neuropathy characterized by unique vascular patterns and angiogenic factors. This review analyzes these vascular changes and their role in the pathogenesis of the condition.t5r

Materials and Methods: We conducted a comprehensive literature review examining vascular patterns, angiogenic factors, and biochemical pathways in Charcot arthropathy. We compared these findings with vascular involvement in ischemic diabetic foot ulcers and explored the potential roles of microRNAs and gradual cortical distraction techniques

Results: Charcot arthropathy is associated with increased local blood flow due to autonomic dysfunction and arteriovenous shunting, contrasting with the reduced flow in ischemic diabetic foot ulcers. The RANKL/OPG signaling pathway, oxidative stress, and inflammatory cytokines contribute significantly to vascular calcification and bone remodeling in Charcot patients.

Specific microRNAs may regulate vascular function and angiogenesis in this condition. Gradual cortical distraction techniques show promise in improving vascular status, but their relationship to Charcot onset requires further investigation.

Conclusion: Understanding the complex vascular patterns and angiogenic factors in Charcot arthropathy is crucial for developing effective diagnostic and therapeutic strategies. Further research is needed to elucidate the exact mechanisms and potential interventions targeting these vascular changes.

Keywords: Charcot neuroarthropathy diabetes angiogenesis

ID: 10201

The Complication Rate and Hip Function After Revision of Infected Hip Arthroplasty with Bone Defects using Bone Allografts: A Systematic Review and Meta-Analysis

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Introduction: The use of bone allografts in revision total hip arthroplasties (THAs) due to infection remains a contentious issue. We conducted a systematic review and meta-analysis to assess complication rates and hip function subsequent to the revision of infected hip arthroplasty with bone defects using bone allografts.t5r

Materials and Methods: A comprehensive search of PubMed, Web of Science, Embase, and the Cochrane Library databases was conducted up to April 2023 for clinical trials. The primary outcomes evaluated were complications such as re-infection and hip functional scores. Weighted mean difference (WMD) with a 95% confidence interval (CI) was employed as a pooled estimation for clinical outcomes using random-effects meta-analysis, considering heterogeneity.

Results: 12 clinical trials were included in the meta-analysis involving a total of 342 participants. The pooled mean difference in Harris Hip Score (HHS) was 36.86 (29.58 to 44.13) post-surgery. In a subgroup analysis among studies employing structural grafts, the HHS increased by 36.99 (29.56 to 44.42) scores. The mean rate of aseptic loosening was 5% overall. Subgroup analysis revealed that among studies utilizing morselized grafts, the rate of aseptic loosening was 4%. The reinfection rate was 6% in total. Subgroup analysis demonstrated that among studies utilizing morselized and structural allografts, reinfection rates were 6% and 3%, respectively. The incidence of dislocation in the morselized and structural groups was 2% and 5%, respectively.

Conclusion: Revision of infected hip arthroplasty with bone defects using bone allografts could result in improved hip function. Intriguingly, morselized allografts are often associated with increased rates of reinfection. Additionally, our analysis of existing research indicates elevated rates of dislocation with structural allografts compared to morselized allografts.

Keywords: Bone allograft, Infection, hip arthroplasty

ID: 10289

Simultaneous femoral head reduction osteotomy (FHRO) combined with periacetabular osteotomy (PAO) for the treatment of severe femoral head asphericity in Perthes disease

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Introduction: The purpose of this study is to describe the mid-term clinical and radiologic outcomes of concur- rent femoral head reduction osteotomy (FHRO) and periacetabular osteotomy (PAO) in Legg–Calvé–Perthes disease (LCPD) patients with major aspherical femoral head deformities.t5r

Materials and Methods: The study included four Perthes patients in Stage IV of Waldenstrom's classification with a mean age of 10.5 and severe femoral head asphericity. They were treated with a combination of FHRO + PAO and followed for at least 2 years. An evaluation of the radiological outcome of the surgery was carried out based on the lateral center to edge angle (LCEA), the anterior center to edge angle (ACEA), the Tönnis angle, the head sphericity index, the Stulberg classification, the extrusion index, and Shenton's line integrity. An evaluation of the clinical outcome was made by evaluating hip range of motion (ROM), Harris hip score (HHS), and Merle d'Aubigné -Postel score.

Results: All radiographic measures improved; three patients were classified as Stulberg class II and one as class III. The LCEA, ACEA, and Tönnis angle improved by 29° (from 3° to 32°), 16° (from 14° to 30°), and − 10° (from 18° to

8°), respectively. The mean femoral head sphericity index and extrusion index improved by 12% (from 83 to 95%)
and − 33% (from 40 to 7%). No disruption was observed in the postoperative Shenton's line. According to HHS, all patients have shown excellent hip function, which improved by 27 points (from 69 to 96). Moreover, the hip ROM was increased from 222° to 267°. The follow-up period did not reveal any serious postoperative complications, such as osteonecrosis or conversion to arthroplasty.

Conclusion: Combined FHRO with PAO may improve the hip joint's morphology and function in patients with residual femoral head deformity and acetabular dysplasia due to LCPD. Despite being considered a complex and demanding hip surgery, these results suggest a more widespread implication of the salvage procedure.

Keywords: Femoral head reduction osteotomy, perthes

ID: 10307

Direct posterior approach versus Posteromedial approach: which is better for management of posterior cruciate ligament tibial avulsion fractures?

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Introduction: Open reduction of avulsion of posterior cruciate ligament (PCL) fragment may be achieved through posteromedial approach or direct posterior approach. The posteromedial approach has problems in providing maximum visualization and easy reduction and application of fixation implant. The aim of our study was to assess the outcomes of direct posterior approach for the reduction and fixation of tibial posterior cruciate ligament (PCL) avulsion fractures.t5r

Materials and Methods: Between octobr 2019 and april 2022, 39 PCL avulsion fractures operated through the direct posterior approach in prone position (mean age, 25.8 years). After fixation, the end of the PCL tissue is also sutured to the fixation site. The minimum follow-up period was 13 months. Results were assessed radiologically and clinically. Final functional outcome was assessed using the Lysholm knee scoring system.

Results: All patients had achieved bony union of tibial avulsion fractures without secondary displacement at the time of last follow up. The mean knee flexion at last follow up was 137° (128–145) with full extension in all patients. The PDT was positive in 6 patients (15%), 4 grade I, and 1 grade II. The mean Lysholm score was 92 (87–100). No neurovascular or hardware

related complications or deep vein thrombosis were reported.
Conclusion: The direct posterior approach can achieve proper and easy reduction and stable fixation for pcl tibial avulsion fracture, achieve good functional results.
Keywords: Direct posterior approach, PCL avulsion

ID: 10343

Marginal Bone Resection and Immediate Internal Fixation in Multidrug Resistant Chronic Septic Nonunions of Lower Limb Long Bones: A Case Series

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Introduction: This study aimed to evaluate the efficacy of a combined treatment approach integrating extensive debridement, immediate internal fixation, and the Masquelet technique for the management of infected nonunion of long bones in the lower limbs caused by multidrug-resistant (MDR) and extensively drug-resistant (XDR) bacteria.t5r

Materials and Methods: This retrospective case series was conducted at the Imam Khomeini Hospital Complex, Tehran, Iran, a tertiary-level academic referral center. The study documented consecutive cases of patients presenting with infected nonunion of the tibia or femur, with a positive culture for MDR or XDR bacteria, treated between January 2019 and December 2022. Inclusion criteria were adults with a confirmed diagnosis of infected nonunion due to MDR or XDR bacteria, with exclusion criteria including patients with unrelated infections or allergies to the components of the treatment regimen. The primary outcomes measured were infection resolution and bone healing.

Results: The study cohort comprised 16 patients, predominantly male (87.5%) with an average age of 38.5 years. MRSA was identified as the causative agent in 31.25% of the infec-

tions. Patients were followed for a period ranging from 12 to 26 months. The treatment protocol was uniformly applied across all cases. Successful bone union was observed in the majority of patients within 140 to 240 days following grafting. However, there were two instances where amputation was necessitated due to the failure to eradicate the infection. Complications arose in three cases during the follow-up period: two required re-debridement due to a recurrence of the infection, and one was subjected to bone transport owing to persistent nonunion. Notably, all cases that either failed or encountered complications were smokers.

Conclusion: In this integrated approach, high rates of infection resolution and bone healing were achieved, suggesting this method as a viable option for these complex cases.

Keywords: Infection nonunion osteomyelitis Multidrug-resistant Masquelet

ID: 10412

Distal Radius fractures treatment with new PCP and external fixator method: a clinical trial study

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Introduction: Distal radius fractures (DRFs) are among the most common injuries requiring orthopedic surgery. Percutaneous pinning (PCP) is a common method for surgical treatment and pin tract infection and pin loosening are the most common complications. Different techniques had been used to reduce these complications. In this study, a new external fixator method with PCP and related complications evaluated clinicallyt5r

Materials and Methods: 84 patients with DRFs treated with PCP technique. They were divided into two groups. Patients with new clamp external fixation were in intervention group (36 patients) and those with conventional pining as control group (48 patients). They were followed up in the 1, 6 and 12 weeks after the surgery and pain score, redness, surgical site infection, pin loosening, and post-op drainage investigated.

Results: Pin loosening rate was significantly lower in intervention group, 0% and 18% for intervention and control group (p-value= 0.012), respectively. The surgical site infection (SSI) was lower in intervention group, which 8.8% and 12.8% for intervention and control groups (p-value=0.436), respectively.

Conclusion: Using new external fixator method with PCP (Pi clamp method) in Distal radius fractures resulted in lower pin loosening and SSI rate which was in accordance with recent biomechanical studies. It is recommended to design more studies with larger samples to investigate the clinical effects of this method and its complications

Keywords: Distal radius fracture percutaneous pinning

ID: 10194

Does tranexamic acid diminish hemorrhage and pain in open elbow arthrolysis? a systematic review and meta-analysis

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Introduction: Effective hemostasis has the potential to reduce inflammation and pain, leading to potential benefits in the early rehabilitation of patients who undergo elbow arthrolysis. In the present study, we aim to assess the effects of tranexamic acid (TXA) on elbow arthrolysis postoperative blood loss, patients' pain perception according to the visual analog scale (VAS), elbow range of motion (ROM), and complications.t5r

Materials and Methods: We systematically searched PubMed, Web of Science, SCOPUS, and Cochrane Library. We included controlled trials, either randomized (RCT) or non-randomized studies of intervention (NRSI) comparing the effects of intravenous tranexamic acid (TXA) treatment with placebo/no treatment on postoperative blood loss, pain VAS score, elbow ROM, and complications, in patients who underwent open or closed elbow arthrolysis surgery. Results: One RCT, and three NRSIs met eligibility criteria. The meta-analysis determined

that tranexamic acid application reduced drain output 34 mm on average (WMD: -34.00; 95% CI: -49.45, -18.55). There was a discrepancy among included articles in terms of intra-operative blood loss; although the study with the largest sample size (291 and 296 patients in the case and control groups, respectively) reported reduced intra-operative blood loss in patients who received TXA. The pooled estimation for the pain VAS score on the first day post-operatively indicates a reduction in pain among patients in the TXA group (WMD: -0.82; 95% CI: -1.36, -0.28). Results for ROM, and complications' rate such as hematoma and ulnar nerve palsy were not different between the two groups.

Results:

Conclusion: TXA may be beneficial to reduce elbow arthrolysis bleeding volume. However, it dose not seem to affect final elbow ROM and patients' pain score. Further high-quality clinical trials are needed to draw a robust conclusion on this topic.

Keywords: Tranexamic acid-Elbow arthrolysis-Hemorrhage

ID: 10197

A new magnetic internal distractor: cadaveric study of changes in trapeziometacarpal joint forces

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Introduction: Distraction is a new treatment for trapeziometacarpal joint osteoarthritis. The purpose of this study was to test the efficiency of magnetic distraction using a new internal distractor in cadavers.t5r

Materials and Methods: The distractor consists of two magnets embedded inside titanium capsules that are implanted on either side of the trapeziometacarpal joint with the same poles facing each other, so that the force between the magnets distracts the joint. Intra-articular forces were recorded pre-implantation, immediately after implantation and again 10 minutes later. We also studied the changes in the forces before and after the procedure in different thumb positions.

Results: After implantation of the magnetic distractor, the intra-articular force was reduced in all the thumb
positions (Table 1). After 10 minutes of magnetic distractor implantation, the intra-articular force was

reduced in all the thumb positions. We found no association between the distance between the two implants and intra-articular force changes after implantation (rho ¼ 0.19; p ¼ 0.60). The mean scores for intra-articular force were significantly different among three sets of time intervals in all the thumb positions

Conclusion: Our findings show that the trapeziometacarpal joint could be offloaded in all the studied trapeziometacarpal positions.

Keywords: Magnetic Internal Distractor-Trapeziometacarpal osteoarthritis

ID: 10241

A new magnetic internal distractor: cadaveric study of changes in trapeziometacarpal joint forces

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Conclusion: Our findings show that the trapeziometacarpal joint could be offloaded in all the studied trapeziometacarpal positions.

Keywords: Trapeziomental distraction force-sensing resistor cadaver

ID: 10313

The results of the treatment of juvenile hallux valgus by the lateral hemiepiphysiodesis of the first metatarsal joint

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Introduction: Surgical correction of juvenile hallux valgus (JHV) with soft tissue surgery or proximal or distal metatarsal osteotomy or a combination of both is associated with a high rate of recurrence (20-40%). An alternative treatment for symptomatic or progressive JHV is percutaneous lateral hemiepiphysiodesis of the first metatarsal with or without medial proximal hemiepiphysiodesis of the medial proximal phalanx of great toe, which has been introduced since 1956 and is a simple procedure with minimal soft tissue and bony damage and rapid adolescent recovery and early return to daily and sports activities. t5r

Materials and Methods: : From 2015 to 2020, 22 patients(32 feet)in a simple convenience sampling were enrolled in the study, informed consent was obtained from all parents.16 of patients were female and 8 of them were male. Patients were treated with hemiepiphysiodesis of the lateral proximal first metatarsal by a screw with or without hemiepiphysiodesis of the proximal phalanx of the great toe. Radiographs were taken from all patients before and after surgery and at intervals of three months to at least 2 years after surgery to measure

intermetatarsal angle (IMA) hallux valgus angle (HVA) proximal metatarsal joint angle (PMAA) and Metatarsal length ratio. Data were collected with a checklist and analyzed with paired t-test, X2 Fisher exact test, and by using SPSS22 statistical software. P<0.05 was considered significant.

Results: The average age at the time of surgery was 9 years old and 4 months.The mean postoperative follow-up was 3 years and 2 months. The age of the patients was 9.4 ± 4.1 years and the bone age was 9±1.8 years.The follow-up period was 36±2. The hallux valgus angle (HVA) decreased from 30.3±2.6 degrees to 24.6±2.8 degrees,which was significant(P<0,001).The intermetatasal angle (IMA) decreased from 6.6 ± 2.3 degrees to 3.1 ± 1.0 degrees,which was significant, (P < 0.001).The HVA correction was 4.7±3.7 degrees in patients with bone age of 10 years or less compared to 3.8±2.6 degrees in patients with bone age of more than 10 years, (P < 0.001)) which was a significant difference.The ratio of the length of the first metatarsal before and after the operation did not change significantly (P>0.06).The clinical and functional results of the foot by using the American Orthopedic Foot and Ankle Society (AOFAS) score increased from 70.5 to89.9 which was statistically significant P < 0. 001)

Conclusion: : Clinical, Radiological and functional results of first metatarsal hemiepiphysiodesis to correct juvenile halugs valgus is promising, although it cannot correct deformity as much as first metatarsal osteotomy, but it was technically simple, easy and had few complications, especially in children with younger bone age. performing this method is very effective.

Keywords: : halugs valgus, hemiepiphysiodesis, juvenile

ID: 10330

Does Metal Allergy to Total Joint Arthroplasty Components Exist? A Systematic Review and Meta-analysis

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Introduction: Implant-related metal hypersensitivity reactions have been reported in various case reports and cohort studies. The incidence of metal allergy in the general population was reported to be around 10 to 20%. The exact extent of the prevalence of metal hypersensitivity from metallic orthopedic implants is difficult to define given its complicated presentation and diagnosis. This study was done to perform a comprehensive review of the literature on the definition, diagnostic methods, and prevalence of metal allergy in patients undergoing total joint arthroplasty.t5r

Materials and Methods: A comprehensive search was performed in Medline, EMBASE, Scopus, and Web of Science databases. A systematic review was conducted, focusing on studies that evaluated metal hypersensitivity in patients who had undergone total joint arthroplasties. Nine studies were included in the analysis. The pooled prevalence of metal hypersensitivity

was calculated, and heterogeneity among the studies was assessed using the I^2 statistic and p-value.

Results: The prevalence of metal hypersensitivity in patients who underwent total joint arthroplasties varied widely among different populations, with reported rates ranging from 15 to 54%. The pooled prevalence of metal hypersensitivity across the nine studies was found to be 25%. The heterogeneity among the studies was high (I^2=91%, p-value<0.01), indicating significant variability in the reported prevalence rates.

Conclusion: The prevalence of metal hypersensitivity in patients who have undergone total joint arthroplasties shows considerable variation across different studies, with a pooled prevalence of 25%. Further research is needed to standardize diagnostic criteria and improve the understanding of implant-related metal hypersensitivity.

Keywords: Metal-hypersensitivity, orthopedic-implants, total-joint-arthroplasty, systematic-review

ID: 10332

Anthropometric Variations in Caput-Collum-Diaphyseal Angle Among Iranian Elderly Population: Recommendations for Proximal Femoral Nail Design

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Introduction: Proximal femoral nails (PFNs) are widely used as the surgical management of unstable proximal femur fractures. These implants are designed with fixed femoral neck-shaft angles in different sizes according to the anthropometric studies in Western population. In this study, we aimed to evaluate the Caput-collum-diaphyseal (CCD) angle in the Iranian population and find if any design modification for PFNs is needed for the Iranian population.t5r

Materials and Methods: In this retrospective study, we evaluated patients with hip and pelvic radiographs who visited our hospital between 2015 and 2023. The CCD angles were measured on AP pelvic and hip radiographs. The mean CCD angle of the Iranian population was calculated. Also, correlation anal-

ysis was conducted to evaluate the CCD angle in different age groups. All data analysis was done by SPSS 26.0.

Results: We had 1040 patients with a median age of 72 (60-99). The mean CCD angle of the Iranian population was 130.6 ± 5.9 (range from 115.4 to 149). It was found that 117 (11.3%) patients had Coxa Vara or Coxa Valga. The CCD angles were not significantly different between men and women. As the optimal range of CCD angle covered by a PFN implant has not been determined so far, we considered two acceptable ranges and examined our population based on that. Considering a range of CCD± 5°, the most commonly available western PFN designs (125°, 130°, 135°) can cover 88.7% of Iranian patients. Considering a range of CCD± 2.5°, these designs can cover 79.65% of the Iranian patients. Therefore, at least (CCD± 5°) 11.30% (4.7% coxa vara, 6.6% coxa valga) and at most 20.35% (8.22% coxa vara, 12.66% coxa valga) will not be covered by currently designed PFN CCD angles, respectively.

Conclusion: From a cost-effectiveness perspective, we would recommend Iranian manufacturers to allocate around 20% of their PFN products to patients in these extreme ranges of CCD angle.

Keywords: Neck-Shaft-Angle, Caput-Collum-Diaphyseal-Angle, Proximal-Femoral-Nail, Iranian-population

ID: 10344

Accuracy of Preoperative Hip Aspiration in Diagnosing Infection Prior to Conversion to Total Hip Arthroplasty is Low

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Introduction: Proximal femoral fractures are a common ailment in the elderly population, often necessitating conversion to total hip arthroplasty (cTHA) following failed open reduction and internal fixation (ORIF). The occurrence of infection prior to cTHA complicates the process and is linked to higher rates of THA failure and periprosthetic joint infections. While the effectiveness of preoperative hip aspiration for diagnosing infections has been established in THA patients as per the Musculoskeletal Infection Society (MSIS) criteria, a significant gap exists in its utility for pre-cTHA cases. The key questions driving our study are:

1.How effective is preoperative hip aspiration for detecting infections in patients slated for cTHA?

2.What is the clinically significant cutoff value for inflammatory markers like CRP and ESR, which can aid in diagnosing infections prior to cTHA?

t5r

Materials and Methods: This retrospective study evaluated patients from Imam Khomeini Hospital Complex in Tehran, Iran,

between 2017 and 2021, who were scheduled for cTHA following failed ORIF. Exclusion criteria included failed aspiration, recent antibiotic use, and insufficient synovial fluid for testing. All participants underwent preoperative ESR/CRP testing, joint aspiration, and intraoperative cultures, with the latter serving as the diagnostic gold standard.

Results: Our analysis comprised 38 patients (22 males, 16 females), with an average age of 50 ± 16.4 years. The sensitivity of preoperative hip aspiration was found to be low at 17.7%, although specificity was high at 81.0%. For CRP, an area under the curve (AUC) of 0.643 was observed, and a cutoff value of 8.8 mg/L exhibited a sensitivity of 64.3% and specificity of 64.7%. ESR did not show promise as a diagnostic tool, with an AUC of 0.577.

Conclusion: Preoperative hip aspiration exhibited poor sensitivity, though high specificity, for diagnosing infections in patients undergoing cTHA. CRP values demonstrated moderate diagnostic potential, while ESR did not show significant promise. The data underline the need for improved diagnostic methods and possibly integrating multiple tests for better clinical outcomes. Future research should focus on identifying more accurate diagnostic tests or combinations of tests for detecting infections in patients slated for cTHA.

Keywords: Joint Aspiration, Periprosthetic joint infection

ID: 10345

Latent Infections in Conversion Total Hip Arthroplasty: A Systematic Review and Meta-Analysis of Diagnostic Methods

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Introduction: Accurate diagnosis of latent infections prior to conversion THA is crucial for successful surgical outcomes. This systematic review aimed to provide a comprehensive evaluation of the current literature regarding the diagnosis of latent infections before conversion THA.t5r

Materials and Methods: systematic search of PubMed, EMBASE, and Cochrane (CENTRAL) databases was conducted, and the diagnostic accuracy of various markers and techniques were assessed. The quality of the included studies was evaluated using the QUADAS-2 instrument.

Results: Five studies comprising 661 patients were included in the review. Pooled analysis using C-reactive protein (CRP) as a diagnostic marker resulted in a sensitivity and specificity of 72% and 76%, respectively, while using erythrocyte sedimentation rate (ESR) yielded a sensitivity and specificity of 75% and 78%, respectively. Fibrinogen and platelet count showed lower sensitivity and specificity compared to CRP and ESR. The best combined markers were CRP and serum platelet count, with a sensitivity of 76% and specificity of 86% based on one study.

Conclusion: Our review underscored the limitations and inconsistencies present in current diagnostic methods for latent infections in conversion surgery. Future research needs to fo-

cus on standardizing threshold values, exploring the potential of synovial fluid analysis, imaging techniques, and molecular methods, as well as developing tailored diagnostic algorithms.
Keywords: periprosthetic joint infection

ID: 10407

Impact of Tourniquet Use on Bone Cement Penetration in Osteoporotic Total Knee Arthroplasty: A Triple-Blind Randomized Controlled Trial

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Introduction: This randomized controlled trial aimed to compare the effect of bone marrow density on cement penetration following TKAs with and without tourniquet use.t5r

Materials and Methods: We designed a triple-blind randomized controlled trial. Patients diagnosed with knee OA admitted to our clinic with TKA indications were assessed based on eligibility criteria. patients were randomly assigned to the tourniquet and no tourniquet groups. Assessments were performed on day 60 post-operation. We assessed cement penetration and the effect of bone marrow densimetry.

Results: In total 160 participants, 80 within each group, were included in the analyses. There were no significant differences between groups concerning basic and demographic characteristics and baseline values ($p>0.05$). In most regions of the lateral femur radiography, the average cement penetration was significantly greater in the group without a tourniquet compared to the group with a tourniquet ($p<0.001$). Anterior-posterior tibia, and lateral tibia radiography, the average cement penetration there were no significant differences in the two groups($p>0.05$).

In the without-touriquet group, individuals with osteoporosis had higher average cement penetration in the tibia's anterior-posterior view compared to those with normal bone density or osteopenia ($p < 0.05$). Moreover, people with osteoporosis had higher cement penetration in the femur's lateral view ($p < 0.05$) and the tibia's anterior-posterior view ($p < 0.05$) than those with normal bone density.

Conclusion: In a rigorously conducted triple-blind clinical trial, the effect of tourniquet use on cement penetration during total knee arthroplasty (TKA) was investigated. Tourniquet application did not lead to significant improvements in cement penetration depth. Both the tourniquet and non-tourniquet groups achieved cement penetration within the desired range of 2-5 mm. Notably, individuals with osteoporosis exhibited higher cement penetration in the non-tourniquet group. This finding raises important considerations regarding the potential impact on the need for stem utilization and the risk of prosthesis loosening. However, further investigation is warranted to fully elucidate the clinical implications of these observations.

Keywords: TKA Cement BMD

ID: 10408

Assessment of Spinopelvic Parameters in Patients with Hip Osteoarthritis: A Case-Control Study

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Introduction: Although the biomechanical implications of hip osteoarthritis (HOA) on hip joint have been extensively studied, its potential impact on the overall spinopelvic alignment remains less explored. We aimed to investigate whether there are discernible differences in sagittal spinopelvic parameters between patients with end-stage HOA and healthy individuals. t5r

Materials and Methods: This case-control study was performed on 363 participants, 210 normal individuals (120 females) as controls, and 153 patients (80 females) candidates for total hip arthroplasty (THA) due to primary HOA as cases. Data were extracted from our hip registry database. Controls had a lateral spinopelvic x-ray in our clinic for other reasons, but they had no hip or spine osteoarthritis. Pelvic incidence (PI), Sacral Slope (SS), and Pelvic Tilt (PT) were measured by two orthopedic surgeons in both groups. Ethical approval was obtained from IRB. SPSS 26.0 was used.

Results: The mean age of patients and controls were 52.1+10.1 and 41.5+8.6, respectively (p=0.34). There was no significant difference regarding BMI and gender between the groups. In patients with primary HOA, the mean PI, PT, and SS angles were 49.8+11, 6.77+3.5, and 45.4+10. In the control group, the mean PI, PT, and SS were 50.2+9.1, 11.2+5.7, and 40.1+8.5. No significant difference was found regarding PI and SS between the controls and cases. However, PT was significantly but weakly lower in HOA patients than controls (p = 0.046).

Conclusion: Our study showed no significant difference between spinopelvic parameters in patients with HOA and controls. However, PT was weakly but significantly lower in HOA patients than healthy individuals.

Keywords: spinopelvic, hip, osteoarthritis

ID: 10295

Avascular necrosis predictive factors after closed reduction in patients with developmental dysplasia of the hip

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Introduction: Developmental dysplasia of the hip (DDH) is a common pediatric orthopedic condition. Closed reduction (CR) is the conservative treatment approach with high success rates for DDH. However, avascular necrosis (AVN) is a severe potential complication after this procedure. This study retrospectively assessed the potential risk factors for AVN occurrence after CR and Spica cast immobilizationt5r

Materials and Methods: In a retrospective observational study, 71 patients (89 hips) with DDH aged 6–24 months old undergoing CR were enrolled. All patients were followed up for 3 years, and their demographic data, initial Tönnis grade, pre-reduction procedures, abduction angle in the Spica cast, and the AVN presence (based on Bucholz and Ogden classification [3rd–4th class]) were documented.

Results: Of 71 patients (89 hips) with a mean age of 12.5 ± 3.9 months, 13 patients (18 hips) developed AVN. The mean age of patients in the AVN and non-AVN groups was 14.3 ± 4.9 and 12.2 ± 3 months (P = 0.07); also, the mean abduction angle in patients with and without AVN was 51.86 ± 3.66 and 58.46 ± 3.91 (P < 0.001) in univariate analysis. The distribution of ini-

tial Tönnis grade, and previous conservative procedures, adductor tenotomies during the CR were comparable between the two groups (P > 0.05). We found age 12 months and 54° in abduction angle as the best cutoff values for differentiating AVN patients from non-AVN and the risk of experiencing AVN for patients older than 12 months was odds ratio (OR) =4.22 (P = 0.06) and patients with abduction angle greater than 54 was OR = 34.88 (P < 0.001).

Conclusion: In this study, older age at the time of intervention and larger abduction angle in the hip Spica cast were two predictors of experiencing AVN in DDH patients after undergoing CR treatment approach. Performing CR at a younger age and keeping the abduction angle lower than 54° in the hip Spica cast could help to have the best possible prognosis.

Keywords: Closed reduction, DDH, AVN

ID: 10205

Modified nail folding approach: A novel strategy for the treatment of subungual glomus tumors-A case series study

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Introduction: Glomus tumors (GTs) are rare benign tumors that originate from the glomus body in the skin of the fingertips, toes, and nail beds. GTs are more prevalent in women than in men and can occur sporadically or as part of an inherited condition known as multiple GTs. The exact cause of GTs is unknown, but it is believed that mutations in the cells of the glomus body contribute to their developmen.t5r

Materials and Methods: We report a case series involving 17 patients who underwent the nail folding approach for surgical removal of subungual GTs.

Results:

Conclusion: The primary objective of this article is to provide evidence supporting the safety and effectiveness of this technique. Additionally, we aim to introduce clinicians to a new, secure, and efficient treatment option for patients with subungual GTs.

Keywords: glomus tumor, nail, subungual

ID: 10298

Investigating the outcome and side effects of intrathecal morphin e injection in posterior fusion surgery of patients with idiopathic scoliosis

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Introduction: Pain management after spinal surgery remains a challenge for patients undergoing posterior spinal fusion (PSF) in adolescent idiopathic scoliosis (AIS). Regional anesthetic methods such as continuous epidural infusion of local anesthetic [epidural analgesia (EPI)] and intrathecal narcotics and morphine (ITM) have been investigated. Each regional method has certain advantages. For example, intraoperative ITM is relatively easy to perform and provides rapid and short-term pain control after spinal fusion. Therefore, in this study, we investigated the consequences and complications of intrathecal morphine injection in posterior fusion surgery of patients with idiopathic scoliosis.t5r

Materials and Methods: In this study, as a single-blind clinical trial, patients who were candidates for posterior fusion surgery for patients with idiopathic scoliosis referred to Imam Khomeini Hospital were enrolled in two groups with and without intrathecal morphine injection.

Results: In this study, a total of 60 patients, 30 patients with intrathecal morphine injection (56.7% male and 43.3% female

with an average age of 21.2 ± 4.9 years) and 30 patients without intrathecal morphine injection (60% male and 40% of women with an average age of 19.3 ± 8.8 years) were included in the study.Intrathecal morphine injection had a double effect in reducing the average pain of the pain scores (P<0.05). The t-test showed that on average, pain medication was requested every 7 hours in patients with intrathecal morphine injection and every 3 hours in patients without intrathecal morphine injection (P<0.05).

Conclusion: Intrathecal morphine injection leads to a significant reduction of postoperative pain and reduction of oxygen use, reduction of the need for narcotic drugs, and reduction of the average time of the first oral administration, and increases the hours of pain medication request, but leads to an increase in nausea, itching and side effects. severe allergic reaction, respiratory distress, or spinal headache) within 24 hours after surgery.

Keywords: intrathecal morphine idiopathic scoliosis

ID: 10210

Shining Light on the Neglected Deep MCL in Knee Injuries Short dMCL reconstruction

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Introduction: The medial collateral ligament (MCL) has long lingered in the shadows of knee injury discussions, particularly its deeper component by its more notorious counterparts like the ACL and meniscus. The deep MCL, situated within the knee joint, plays a crucial but often neglected role in stabilizing the medial aspect of the knee. Injuries to this deep component can manifest with symptoms similar to those of superficial MCL tears but may also involve subtle signs of anteromedial rotatory instability, such as a feeling of "giving way" during pivoting movements.

Conservative management is foundational. However, in cases of persistent instability or significant functional impairment, surgical intervention may be warranted .

One of the commonly employed techniques is the augmentation of the deep MCL using autograft or allograft tissue.

t5r

Materials and Methods: Diagnosing deep MCL tears requires a meticulous physical examination. Patient may run easily and valgus stress test be negative but being unable to pass a ball by inner border of his foot. In addition to traditional tests for MCL integrity, such as valgus stress testing, clinicians may employ specialized maneuvers like the Slocum test to assess for anteromedial rotatory instability. This test evaluates the degree of tibial translation and rotation relative to the femur, providing

valuable insights into the presence of a deep MCL tear and associated instability.

When conservative measures fail to adequately address deep MCL instability, surgical reconstruction may be indicated. One of the commonly employed techniques is the augmentation of the deep MCL using autograft or allograft tissue. This involves creating a small incision over the medial aspect of the knee and accessing the deep MCL. The ligament is then carefully assessed for the extent of injury and any associated damage. Using minimally invasive techniques, the surgeon then augments the deep MCL using graft material, reinforcing its strength and stability. Postoperatively, patients undergo a structured rehabilitation program to optimize healing and restore function.

Results:

Conclusion: Over the past three years, research influenced by pioneers has shed light on the vague nature of deep MCL injuries and their management. Studies have emphasized the importance of early recognition and targeted treatment approaches tailored to the specific characteristics of deep MCL tears. Furthermore, advancements in diagnostic techniques, including the integration of the Slocum test into clinical practice, have enhanced the accuracy of deep MCL injury diagnosis, enabling more effective treatment strategies and improved outcomes for patients.

Keywords: deep MCL reconstruction knee

ID: 10208

Non-cannulated versus cannulated cancellous screws for the internal fixation of femoral neck fractures in osteoporotic patients: A single-blind randomized clinical trial

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Introduction: The incidence of femoral neck fractures in osteoporotic patients is rising worldwide and is associated with significant increases in healthcare and social costs, as well as dependency. Improving minimally invasive treatment strategies, including internal fixation with screws, can result in favorable clinical outcomes and lesser incidence of complications, while preserving the hip. This study compared the outcomes of using non-cannulated cancellous screws (NCS) and cannulated cancellous screws (CS) in the internal fixation of undisplaced intracapsular femoral neck fractures (UIFNF) of osteoporotic patients of Iranian descent.t5r

Materials and Methods: This randomized clinical trial was conducted on the patients referring to an institutional tertiary hospital in northwestern Iran between March 2020 and June 2021. The patients' preoperative, perioperative, and postoperative characteristics were evaluated for at least two years. Primary endpoints were defined as the incidence of hip-related com-

plications, while secondary endpoints were assessed based on the patients' hip function using Harris Hip Score (HHS).

Results: Fifty-seven patients with osteoporosis and UIFNF were included in the final analysis, with 27 patients in the NCS group and 30 patients in the CS group. The surgical duration, the amount of intraoperative blood loss, and the frequency of C-arm were considerably lower in the CS group ($p < 0.05$). The incidence of implant failure was higher in the NCS group ($p = 0.04$). Screw migration occurred more frequently in the CS group ($p = 0.03$). The HHS values were significantly higher for the NCS group than those of the CS group at both the 1-year and 2-years of follow-up assessments (1 year, $p = 0.007$; 2 years, $p = 0.001$).

Conclusion: Fixation using CS was accompanied by enhanced perioperative outcomes and lower implant failure rates compared to the NCS group. However, patients in the NCS group posed a reduced risk of complications, including screw migration, and experienced a long-term improvement in HHS scores.

Keywords: femoral neck fracture; cancellous screw

ID: 10203

Prevention of tunnel enlargement in anterior cruciate ligament reconstruction using autologous ruptured Tissue: A double-blinded randomized controlled trial

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Introduction: Background: An anterior cruciate ligament (ACL) tear is one of the most common injuries of the knee joint. Recent studies have shown that using autologous ruptured tissue (ART) during ACLR to prevent tunnel enlargement may be associated with better functional and clinical outcomes. This study aimed to compare the prevention of tunnel enlargement and short-term clinical outcomes in ACLR with and without suturing ART to hamstring graft in patients with acute ACL injury.
t5r

Materials and Methods: Methods: This randomized and double-blind controlled clinical trial was conducted on
44 knees with acute ACL candidates for ACLR who were referred to Firouzgar Hospital affiliated with the Iran University of Medical Sciences from 2019 to 2022. Patients were randomly assigned to two intervention groups (use of ART during ACLR) and control groups (ACLR standard) with equal ratios. Twelve months after the surgery, the Tibial tunnel enlargement (TTE), Lysholm, and International Knee Documentation Committee (IKDC) Questionnaires were evaluated in two groups.

Results: Thirty-five knees (18 intervention and 17 control) completed the study. Twelve months after surgery, the TTE rate in the intervention group was significantly lower than in the control group (38.8% vs. 64.7%, p: 0.001). The mean diameter of the tibial tunnel 12 months after the operation based on all three axial, sagittal, and coronal views in the intervention group was significantly lower than the control group ($p<0.05$). Surgical outcomes were excellent or good in 77.8% and 58.8% knees of intervention and control groups, respectively (p: 0.012). The mean score of Lysholm and IKDC in the intervention group was significantly better than that of the control group. No serious complications or revisions were observed in the two groups($p<0.05$

Results:

Conclusion: Our study showed that the use of ATR during ACLR was associated with significantly less TTE and better functional and clinical outcomes compared with the standard technique. This method can be considered a high-efficiency method for reconstructing a complete ACL tear.

Keywords: AclR, Autologous_ruptured_Tissue, Tibial tunnel enlargement

ID: 10212

a novel Index for measuring the Posterior tibial slope using tibial plafond based on EOS radiography: a retrospective cohort study

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Introduction: To assess posterior tibial slope (PTS), various multiple measurement indices were introduced depending on the use of the anatomical axis, whose measurement is complex and influenced by interpersonal variation. This study aimed to develop a new index based on EOS radiographic findings to determine the PTS using the tibial plafond and compare it with previous standard methods.t5r

Materials and Methods: In this retrospective cohort study, the profiles of 172 healthy people who underwent standard true lateral radiograph of full tibia in EOS between April 2016 and April 2022 at our university hospital were reviewed. Six indicators of PTS measurement include: Anterior tibial cortex (ATC), Total Mechanical axis of the tibia (TMAT), Posterior tibial cortex (PTC), Distal tibia anatomical axis (DTAA), Total anatomical (TA) and Tibial proximal anatomical axis (PTAA) and the new plafond -plateau index (P-PI) was evaluated for all participants based on EOS radiographic findings. PTS in P-PI was evaluated by measuring the angle formed between the tibial plafond and the tibial plateau in EOS long-bone tibial radiographs.

Results: The mean slope in regarding ATC, PTC and P-PI was 11. 5±1. 97, 6. 16±2.1 and 3.2±2.5, respectively .The mean slope was significantly different based on different indicators. ($p<0.05$) A significant positive correlation was found between the P-PI index with ATC, DTAA, and TA to measure PTS. The mean TMAT index in patients with bowing ≥5° was significantly higher than in patients with bowing < 5°. (P: 0.001)

Conclusion: This study showed that the measure of PTS was different based on indexes. Based on the EOS findings, the new P-PI index had appropriate accuracy and validity for measuring PTS. In patients with bowing above 5°, the TAMT index underestimates the amount of PTS, and long bone is recommended in these patients. The P-PI index was not affected by deformity and bowing compared to other indexes.

Keywords: Posterior Tibial slope, EOS imaging

ID: 10242

Unraveling the Gut-Microbiota Nexus: Exploring the Role of Gut Dysbiosis in Periprosthetic Joint Infection after Total Joint Arthroplasty

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Introduction: Periprosthetic joint infection is a serious complication that can occur after total joint arthroplasty. Recent research has suggested an association between the gut dysbiosis and PJIs. The gut microbiome may have a significant impact on the development of PJI. The composition of gut microbiota is shaped and modified by various factors, including genetics, nutrition, smoking, obesity, diabetes, and Inflammatory bowel diseases. Gut microbiota plays an important role in maintaining the host's health, and alterations in its balance can lead to gut dysbiosis, which can contribute to the onset of a wide range of infections, especially PJIt5r

Materials and Methods: The loss of the mucosal barrier in the gut may be linked to acute and chronic PJI. An increase in biomarkers such as Zonulin, soluble CD14, and lipopolysaccharide in patients undergoing arthroplasty and suffering from PJI confirms the hypothesis that the loss of the mucosal barrier in the gut may be associated with PJI. There are many Modifiable risk

factors for PJI; antibiotic prophylaxis is one of the most crucial risk factors that can alter the gut microbiota and shift it to dysbiosis, leading to the development of PJI.

Results:

Conclusion: This review examines the relationship between gut dysbiosis and PJI and summarizes research evidence supporting the correlation between gut microbiota and PJI. The results of this comprehensive review suggest that there is a link between gut dysbiosis and an increased risk of PJI. Although the evidence is limited, patients with PJI were found to have altered gut permeability and higher levels of inflammation markers, indicating an underlying dysbiosis.

Keywords: Gut-Microbiota Prosthetic-Joint-Infection PJI Gut-dysbiosis Biomarkers

ID: 10300

Management of Distal Tibial Interosseous Osteochondroma: A Case Series and Review of Literature

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Introduction: The interosseous part of the distal tibia is one of the regions in which osteochondroma can occur. Osteochondroma typically occurs among growing children and causes gradual ankle deformity by its pressure effect on the fibula. We presented six patients (Fi ve boys and one girl with median age of 13 years old) with distal tibial interosseous osteochondroma. They were treated by a 18 0̂ fibular osteotomy around its longitudinal axis just proximal and distal to the lesion. All patients were treated without any complication except for one who developed non-union of the site of the fibular osteotomy. In the last follow-up, all the patients were pain-free, and no recurrence was reported. Various methods have been described for resecting interosseous osteochondroma of the distal tibia, with or without fibular osteotomy and with or without acute correction of ankle deformity during resection surgery. Still, there is no consensus over the best method for resecting such lesions.t5r

Materials and Methods: Osteochondroma is a common benign bone tumor usually found at the metaphysis of the distal femur and proximal part of the tibia. Osteochondroma is not common near the ankle joint, and it is more prevalent in cases of HME.18,19 However, all our patients were cases of solitary exostosis. Osteochondroma of the distal tibia causes valgus de-

formity of the ankle. The valgus deformity of the ankle is characterized by tapering of distal tibia epiphysis from medial to lateral and shortening of the fibular bone.20 Valgus deformity of the ankle has to be treated to avoid osteoarthritis of the ankle in the future. Table 1 summarizes the studies that reported distal tibial interosseous osteochondroma [Table 1]. Different methods have been applied to resect the lesion. Some surgeons resected the lesions through anterolateral or posterolateral approaches without fibula osteotomy. The problem with osteochondroma resection without osteotomy of the fibula is its limited access to the lesion; thus, identifying the borders of osteochondroma is hard, and its complete resection is difficult. Danielsson et al.7 reported recurrence

Results:

Conclusion: Conclusion Various methods have been described for resecting interosseous osteochondroma of the distal tibia, with or without fibular osteotomy and with or without acute correction of ankle deformity during resection surgery. However, there is no consensus over the best method for resection of such lesions. More controlled investigations with larger sample sizes are required to identify the best surgical method.

Keywords: Excision,Fibula, Osteochondroma, Osteotomy, Tibia

ID: 10308

Iran's Orthopaedic Landscape: Distribution, Per-capita Ratios, Female Inclusion, and Academic Standing among Residents and Surgeons

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Introduction: The evolving landscape of orthopaedic surgical care, underscores the importance of an equitably distributed orthopaedic workforce. Despite rising demand, global disparities persist in the availability of orthopaedic surgeons. This study examines the geographic distribution of orthopaedic professionals in Iran, compares it with Turkey and England, and analyzes the presence and productivity of women in Iran's academic and non-academic orthopaedic settings.t5r

Materials and Methods: In this cross-sectional study, publicly accessible data from the Iran Medical Council and the Iranian Scientometrics Information Database were utilized to compile a list of orthopaedic surgeons (OS) classified into academic, non-academic, and both. Data on orthopaedic residents (OR)

and provincial population statistics were gathered from national sources to calculate the per capita distribution of OS and OR across Iran's provinces. Per capita was defined as per 100000 people in all the statistics.

Results: In total, 2504 OS (96.5% male) and 266 academic OS (97.7% male) were identified. Iran's per capita ratio of OS was 3.13 per population, whereas Turkey and the United Kingdom reported ratios of 4 and 8, respectively. Tehran (the province of Iran's capital) and Sistan-and-Baluchestan exhibited the highest and the lowest per capita ratio, respectively, for both OS (6.32, 0.97) and academic OS (0.78, 0.00). Several provinces (32.2%) had 0.00 female OS per capita. OR per capita was 0.80 in total, with Tehran demonstrating the highest ratio (1.90). We found no significant difference in H-index of male and female academic OS (p=0.827). A weak positive correlation was identified between the per capita of OS and the availability of OR training within each province (p=0.028).

Conclusion: In developing countries like Iran, orthopaedic surgeons are concentrated in larger cities due to financial, legal, and lifestyle factors. This trend is also seen among academic surgeons, with urban areas having more due to higher populations and universities. Although, based on the literature, female performance in orthopaedics surgery is equal to males and in our study we showed that their scientific productivity is also not less than males, it was shown that they are underrepresented in all provinces of Iran.

Keywords: Orthopaedic-surgeons Distribution Per-capita-Ratio Female-orthopaedic-surgeons

ID: 10310

Efficacy of Pregabalin for Postoperative Pain Management after Arthroscopic Anterior Cruciate Ligament Reconstruction: A Double-Blind Placebo-Controlled Randomized Clinical Trial

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Introduction: Postoperative pain management is crucial for enhancing recovery and patient satisfaction after anterior cruciate ligament (ACL) reconstruction. New studies have been conducted on optimizing multimodal regimens and reducing reliance on opioids in orthopedic practice. However, there is a lack of well-established and universally accepted strategies for perioperative pain control.

Pregabalin is a compound that acts by binding to the alpha-2-delta subunit of voltage-gated calcium channels within the central nervous system. This interaction decreases the release of neurotransmitters, such as glutamate, ultimately regulating neuronal hyperexcitability and delivering an analgesic effect. Pregabalin has been shown as an effective pain control agent in cardiac and gynecological surgeries. In this study, we aim to evaluate the efficacy of preoperative pregabalin on the pain intensity and need for analgesic supplementation following ACL reconstruction surgery. t5r

Materials and Methods: In this double-blind randomized clinical trial, 100 patients who were candidates for arthroscopic ACL reconstruction at our hospital were randomized to the pregabalin and placebo groups. Patients in the pregabalin group received 150 mg of pregabalin two hours before the surgery. All ACL surgeries were performed using a four-strand hamstring graft by an experienced surgeon. Pain intensity was assessed using a Visual Analogue Scale (VAS) before the surgery and at 6, 12, and 24 hours after the surgery. The need for analgesic supplementation and adverse effects were also evaluated.

Results: The patients in the pregabalin group demonstrated significantly lower postoperative VAS pain scores at 6, 12, and 24 hours after the surgery compared to the control group (p-values<0.001) (Figure 1). The need for acetaminophen supplementation was significantly lower in the pregabalin group compared to the control group (Table 1). However, the pethidine use was not significantly different between the two groups. There were no reported side effects including dizziness, blurred vision, and headache in the two groups.

Conclusion: In conclusion, our results demonstrated that preoperative administration of pregabalin can significantly reduce postoperative pain scores and analgesic supplementation after arthroscopic ACL reconstruction compared to placebo. Our findings suggest a potential analgesic benefit of pregabalin in the context of ACL reconstruction surgery. The observed effects underscore its promising role in postoperative pain management.

Keywords: Anterior Cruciate Ligament, Pain, Pregabalin

ID: 10322

Restoring Shoulder Function: A Clinical Trial of Tecar Therapy for Frozen Shoulder

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Introduction: Adhesive capsulitis, commonly known as frozen shoulder, is an inflammatory condition characterized by stiffness and shoulder pain. Various physiotherapy interventions, such as heat or ice, ultrasound therapy, transcutaneous electrical nerve stimulation (TENS), and laser therapy, are employed to manage this condition. Recently, Tecar therapy, which utilizes high-frequency electromagnetic currents (0.3-1.2 MHz), has gained attention for treating musculoskeletal disorders.t5r

Materials and Methods: This clinical trial was conducted to evaluate the effectiveness of Tecar therapy in treating frozen shoulder in patients referred to Shahid Sadoughi Rehabilitation Clinic in Yazd. Patients with shoulder pain for at least one month prior to referral, along with restricted passive shoulder joint movement compared to the opposite shoulder, and a confirmed diagnosis of frozen shoulder, were included in the study. Thirty patients were randomly assigned to either

the treatment group or the control group, each consisting of 15 participants. The treatment group received Tecar therapy three times a week for six weeks, along with NSAIDs and topical ointment, while the control group received only NSAIDs and topical ointment. Pain intensity was measured using the Visual Analog Scale (VAS) at the beginning of the study, and again at the end of the third and sixth weeks. Additionally, the Shoulder Pain and Disability Index (SPADI) and limitations in flexion, abduction, and external rotation movements were assessed at these time points.

Results: At the beginning of the study, there was no significant difference in shoulder pain between the two groups. However, shoulder pain significantly decreased over time in both groups following treatment (P=0.001). The effect of time and group interaction was statistically significant (P=0.004). By the sixth week, the average shoulder dysfunction scores were 24.83 ± 11.14 in the Tecar therapy group and 33.4 ± 8.1 in the control group, showing a significant difference (p=0.024). Similarly, the average SPADI scores in the Tecar therapy group and the control group were 23.3 ± 8.56 and 30.57 ± 10, respectively, with a significant difference (p=0.024). SPADI scores significantly decreased over time in patients with frozen shoulder (P=0.001), and the interaction between time and group was statistically significant (P=0.001). The mean VAS scores also showed a significant difference between the two groups by the sixth week (p=0.04), with a significant decrease over time (P=0.001).

Conclusion: The significant reduction in shoulder pain and dysfunction observed in the Tecar therapy group over six weeks,

highlights its potential as a beneficial treatment modality. Patients receiving Tecar therapy experienced greater improvements in shoulder function and reported less pain compared to those receiving standard treatment. These findings suggest that incorporating Tecar therapy into the treatment regimen for frozen shoulder could enhance patient outcomes.

Keywords: Frozen shoulder, Tecar therapy, Shoulder

ID: 10361

The Outcome of Conversion Total Hip Arthroplasty Following Acetabular Fractures: A Systematic Review and Meta-analysis of Comparative Studies

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Introduction: Conversion total hip arthroplasty (THA) is considered the main treatment plan for patients with first-line treatment failure of acetabulum fracture. This meta-analysis aims to assess the effect of the type of initial treatment and timing of surgery on the outcomes of conversion THA.t5r

Materials and Methods: Using PRISMA guidelines, MEDLINE/PubMed, Scopus, Web of Science, and CENTRAL Cochrane were searched for articles published before October 14, 2022. Comparative studies investigating the outcome of THA following treatment failure of acetabular fracture were included. These articles were categorized into three groups, and the outcomes of treatment plans in each group were compared: (A) primary THA vs. conversion THA, (B) THA following conservative treatment vs. THA following ORIF, and (C) acute THA vs. delayed THA following prior treatment failure. Review Manager (RevMan, version 5.3) software was utilized to perform the statistical analysis.

Results: Twenty-four studies met the inclusion criteria (13,373 patients). Concerning group (A), the following complications were significantly higher in conversion THA: Infection (OR[95%-CI]=3.19[2.12, 4.79]), dislocation (OR[95%CI]=4.58[1.56, 13.45]), heterotopic ossification (OR[95%CI]=5.68[3.46, 9.32]), and Revision (OR[95% CI]=2.57[1.65, 4.01]). Postop HHS (SMD[95% CI]=− 0.66[− 1.24, − 0.08]) was significantly lower and operation time (SMD[95% CI]=0.88[0.61, 1.15]), blood loss (SMD[95% CI]=0.83[0.56, 1.11]), and bone graft need (OR[95% CI]=27.84[11.80, 65.65]) were significantly higher in conversion THA. Regarding group (B), bone graft need (OR[95% CI]=0.48[0.27, 0.86]) was considerably higher in patients with prior acetabular fracture conservative treatment, while other outcomes were comparable. Respecting group (C), there were no significant differences in analyzed outcomes. However, systematically reviewing existing literature suggested a higher incidence rate of DVT following acute THA.

Conclusion: There were significantly higher postoperative complications and lower functional outcomes in conversion THA compared to primary THA. While complications and functional outcomes were comparable between ORIF and the conservative groups, the bone graft need was significantly higher in the conservative group. There were no significant differences between aTHA and dTHA. These results can assist surgeons in designing treatment plans based on each patient's clinical situation.

Keywords: Acetabular-fracture, Conversion-THA, Total-hip-arthroplasty, Secondary-THA, Treatment-failure

ID: 10413

Intrathecal baclofen efficacy for managing motor function and spasticity severity in patients with cerebral palsy: a systematic review and meta-analysis

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Introduction: Spasticity can significantly affect a patient's quality of life, caregiver satisfaction, and the financial burden on the healthcare system. Baclofen is one of only a few options for treating spasticity. The purpose of this study is to investigate the impact of intrathecal baclofen (ITB) therapy on severe40.23 spasticity and motor function in patients with cerebral palsy.t5r

Materials and Methods: We conducted a systematic review in PubMed, Scopus, Ovid, and the Cochrane Library in accordance with the PRISMA guidelines. We included studies based on eligibility criteria that included desired participants (cerebral palsy patients with spasticity), interventions (intrathecal baclofen), and outcomes (the Ashworth scales and the Gross Motor Function Measure [GMFM]). The within-group Cohen's d standardized mean differences (SMD) were analyzed using the random effect model.

Results: Involving 343 patients averaging 15.78 years old and 289 µg/day baclofen the average spasticity score (SD)

dropped 40.25% from 3.2 (0.78) to 1.9 (0.72) after the intervention. The SMD for spasticity reduction was − 1.7000 (95% CI [-2.1546; -1.2454], p-value < 0.0001). MAS and Ashworth Scale subgroups had SMDs of -1.7845 and -1.4837 respectively. Average age, baclofen dose, and measurement time did not affect results. Involving 117 patients averaging 13.63 years old and 203 μg/day of baclofen The average GMFM (SD) increased by 9.62% to 43.88 (26.18) from 40.03 (26.01). Motor function improvement was observed in GMFM with an SMD of 0.1503 (95% CI [0.0784; 0.2223], p-value = 0.0030). The 203 medical complications reported in 501 ITB implantations included six new-onset seizures (2.96% of medical complications), seven increased seizure frequency (3.45%), 33 infections (16.26%), eight meningitis (3.94%), and 16 cerebrospinal fluid leaks (7.88%) and 75 catheter and pump complications.

Conclusion: Our meta-analysis demonstrated that ITB can be an effective treatment for severe spasticity, but it has a significant side effect profile. The lack of double-blind placebo-controlled studies, non-randomized research limitations, and consensus on outcome metrics and scales make it difficult to draw firm conclusions. Nonetheless, ITB can improve patients' mobility and lead to spasticity control. Future studies should focus on implementing randomization and control to the extent that the nature of the problem permits. Further research is also needed to determine potential influencing factors, identify subgroups

of patients who may benefit more, and determine long-term outcomes. Additionally, alternative delivery methods for baclofen may provide additional treatment options for CP patients. Finally, comprehensive guidelines are required to determine the best protocol for initiating and managing patients with severe spasticity caused by CP.

Keywords: Spasticity Cerebral palsy Intrathecal Baclofen

ID: 10415

Long-Term Outcomes of Evans Titanium Wedges in Adolescent Flexible Flatfoot Surgery

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Introduction: Flexible flatfoot is a common deformity characterized by the loss of the medial longitudinal arch, particularly prevalent in children. This study evaluates the efficacy of using Evans porous titanium wedges (EPTWs) to correct this condition in adolescents.t5r

Materials and Methods: Between November 2021 and May 2022, 61 Evans osteotomies were performed on 36 patients (29 males, 7 females, mean age 11 years). Preoperative radiographs and fluoroscopic evaluations guided the selection of 6- and 8-mm EPTWs. Patients were immobilized in a non-weight-bearing cast for six days post-surgery, followed by weight-bearing radiographs and clinical assessments. Radiographic parameters such as calcaneal inclination angle, talonavicular coverage angle, and Meary's angle were measured pre- and post-operatively.

Results:

Conclusion: Evans porous titanium wedges were shown to be quite effective in correcting foot alignment in cases with adolescent flexible flatfoot surgery. This technique improves functional results by reducing discomfort and improving FAAM

scores, in addition to restoring normal anatomical angles. Compared to standard grafts, EPTWs provide a better option since they minimize problems, provide strong long-term stability, and increase patient satisfaction.

Keywords: Flatfoot Prostheses Osteotomy Osseointegration

ID: 10421

Personalized Reconstruction of Pelvic Giant Cell Tumor Using Custom 3D-Printed Prostheses: A Case Study

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Introduction: Pelvic tumors, accounting for 15-20% of primary bone tumors, require complex resections, especially in the peri-acetabular area, which presents considerable surgical risks and obstacles. Recent breakthroughs in metal 3D printing have made it possible to create personalized prostheses suited to the patient's anatomy and biomechanical requirements.t5r

Materials and Methods: The preoperative planning involved CT and MRI imaging to map the tumor and plan resection. A prosthesis was designed using Mimics and 3-matic software, with a patient-specific instrument for accurate resection, and fabricated using selective laser melting.

Results: The personalized prosthesis was implanted after the tumor was fully removed during the surgical surgery using patient-specific instruments. The intraoperative confirmation of the prosthesis's fit and stability was made possible by the strategically positioned screws and the porous structure at the prosthesis's contact surface, which facilitates osseointegration.

Improvements in pelvic stability and functioning were seen in the patient post-surgery.

Conclusion: The customized implant resulted in favorable results in this challenging operation and demonstrated the merits of using patient-specific 3D-printed prostheses in complex pelvic tumor surgical cases. The prosthesis was designed to fit the patient's specific anatomy, resulting in accurate excision and efficient repair and osseointegration.

Keywords: Prosthesis Pelvis Giant Cell Tumors

Preoperative Embolization versus Radio-frequency Ablation to Minimize Intra-operative Blood Loss in Surgery for Metastatic Spine Disease

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Introduction: Preoperative embolization is a known effective method for reducing intraoperative blood loss (IBL) in metastatic spine disease (MSD). Radiofrequency ablation (RFA) is a recently introduced technique in the palliative treatment of MSD. This study evaluates the effectiveness of RFA compared to embolization in reducing IBL in MSD.

Methods: This study analyzed 18 patients who underwent pre**operative embolization for MSD compared to 20 pa**tients who underwent intraoperative RFA. All patients underwent surgical corpectomy of the index lesion, vertebral body replacement cage, and pedicle screw instrumentation. Intraoperative blood loss, peri-operative blood transfusion, peri-operative complications, and re-operations were evaluated in both groups. A statistically significant p-value was set at < 0.05.

Results: Evaluated 18 patients in the embolization (EMB) group and 20 in the RFA group. The demographic data was similar between both groups. There was no statistically significant difference regarding mean IBL in both groups (1050 +/- 210 ml in the EMB group vs. 935 +/- 250 in the RFA group, p-value 0.1358). There was no statistically significant difference between both groups regarding perioperative transfusions and complications. No cases were re-operated in both groups.

Conclusion: Radiofrequency ablation effectively reduces intraoperative blood loss compared to angioembolization in surgi-

cal corpectomy for metastatic spine disease. RFA represents a valuable alternative in cases when preoperative angioembolization fails

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Clinical Evaluation of Novel Beta-Tricalcium Phosphate Scaffold Graft in Opening Wedge High Tibial Osteotomy

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The aim of study

The opening wedge high tibial osteotomy (OWHTO) technique has been widely used to correct angular deformity without much loss of bone stock accurately and to prevent the risk of peroneal nerve injury, which may be possible after fibular osteotomy. However, OWHTO creates an osseous gap that results from this procedure and requires osteogenesis to resolve the defect. The current study compares the clinical and radiographic results after OWHTO using allogenous bone grafts versus TCP granules as grafting materials. The primary purpose of this study was to show that β-TCP could be an exciting and potentially game-changing bone substitute, avoiding some drawbacks of allogeneic bone grafts.

Methods: 42 individuals (84 knees) undergoing bilateral OWHTO were prospectively enrolled in this clinical investigation. The minimum duration of postoperative follow-up was 12 months (12–54 months), with a complete retention rate of all subjects. Adult patients, aged 22 to 45 years, presenting with genu varum and eligible for OWHTO, were included. Randomization occurred intraoperatively after the completion of the osteotomy, whereby the patient's lower extremity side was allocated to either the allograft group or the synthetic group. The osteotomy

gap was packed on one side with an allogenous tricortical bone graft (Iranian Tissue Bank, Iran). For the synthetic graft side, β-TCP pieces (2-10 mm) were utilized to fill the osteotomy defect. Postoperative assessments were scheduled at two weeks to evaluate wound healing, with subsequent visits at one, three, and six months for radiological and clinical evaluation conducted by an independent examiner. Pain intensity was reassessed at each follow-up using the WOMAK and VAS scores. Detailed documentation of adverse events, perioperative complications, and surgical variables, including operative time and length of hospital stay, were maintained. Follow-up imaging included anteroposterior and lateral knee radiographs at one and six months, hip-knee-ankle radiographs at three months, and a computed tomography (CT) scan at the final follow-up.

Results and Conclusions: There were no intraoperative complications. The WOMAC and VAS scores, demonstrated significant improvements at 12 months post-operatively in both groups ($P<0.05$). Statistically significant improvements were observed in post-operative comparisons across all subdomains of both groups ($P<0.05$), except for physical function in the allogenic graft group ($P=0.087$). Post-operative WOMAC scores, including subdomains (except pain, $P=0.305$) and VAS scores, were comparable between the two groups ($P<0.05$). The Post-operative union assessment indicated that the majority of cases were in the consolidation phase of bone fusion (54.8%), followed by cloudy bone formation (31%). Overall, in two groups, no different clinical or radiological outcomes were observed. This study suggests that β-TCP pieces can be a viable bone substitute, addressing some disadvantages of allogeneic bone grafts.