



AOTT

ACTA ORTHOPAEDICA et TRAUMATOLOGICA TURCICA

Acta Orthop Traumatol Turc
ISSN 1017-995X • EISSN 2589-1294

The Official Journal of
The Turkish Association of Orthopaedics and Traumatology (TOTDER)
and
The Turkish Society of Orthopaedics and Traumatology (TOTBİD)

**Executive Board of Turkish Association of
Orthopaedics and Traumatology**

Hasan Bombacı (*President*)
Mehmet Demirhan (*Former President*)
Serkan Aykut
Halil İbrahim Balcı
Ali Erşen
Erden Ertürer
Gökhan Kaynak
Cemal Kural
Yusuf Öztürkmen
Merter Yalçınkaya

**Executive Committee of the Turkish Society of
Orthopaedics and Traumatology**

Halit Pınar (*President*)
İrfan Öztürk (*Former President*)
Cem Nuri Aktekin
Ahmet Murat Bülbül
Önder Ersan
İrfan Esenkaya
Volkan Öztuna
Kahraman Öztürk
Aykın Şimşek
Ahmet Özgür Yıldırım

**Owner on behalf of the Turkish Association of Orthopaedics and Traumatology: Hasan
Bombacı • Publication Type: Bimonthly periodical • Publication date: July 1, 2020 •
Published by the Turkish Association of Orthopaedics and Traumatology**





AOTT

ACTA ORTHOPAEDICA et TRAUMATOLOGICA TURCICA

Editor-in-Chief

Önder Kılıçoğlu
İstanbul University, İstanbul School of
Medicine, İstanbul, Turkey
editor@aott.org.tr

Former Editor

Mehmet Demirhan
Koç University, School of Medicine,
İstanbul, Turkey

Technical Editors

Mehmet Demirel
Yüksekova State Hospital, Hakkari,
Turkey

Engin Eceviz
İstanbul Kartal Dr. Lutfi Kırdar Training
and Research Hospital, İstanbul, Turkey

İlker Eren
Koç University, School of Medicine,
İstanbul, Turkey

Murat Korkmaz
Koç University Hospital, İstanbul,
Turkey

Lezgin Mert
İstanbul University, İstanbul School of
Medicine İstanbul, Turkey

Associate Editors

Kaya Akan
Okan University, School of Medicine,
İstanbul, Turkey

Turgut Akgül
İstanbul University, İstanbul School of
Medicine, İstanbul, Turkey

Umut Akgün
Acibadem Mehmet Ali Aydınlar
University, School of Medicine, İstanbul,
Turkey

Ata Can Atalar
Acibadem Mehmet Ali Aydınlar
University, School of Medicine, İstanbul,
Turkey

Umur Aydoğan
Penn State Hershey Medical Center,
Pennsylvania, USA

Burak Beksaç
İstanbul, Turkey

Haluk Berk
Dokuz Eylül University, School of
Medicine, İzmir Turkey

Jason Cheung
Queen Mary Hospital, The University of
Hong Kong, Hong Kong

Derya Çelik
İstanbul University-Cerrahpaşa, Faculty
of Health Sciences, İstanbul, Turkey

Mehmet Ali Deveci
Koç University, School of Medicine,
İstanbul, Turkey

Bülent Erdemli
Ankara University, School of Medicine,
Ankara, Turkey

Emel Gönen
Koç University, School of Medicine,
İstanbul, Turkey

Gazi Huri
Hacettepe University, School of
Medicine, Ankara, Turkey

Murat Kayalar
Emot Hospital, İzmir, Turkey

Hakan Kınık
Ankara University, School of Medicine,
Ankara, Turkey

Esat Kıter
Odak Hospital, Denizli, Turkey

Salih Marangoz
Acibadem Mehmet Ali Aydınlar
University, School of Medicine, İstanbul,
Turkey

Haluk Özcanlı
Akdeniz University, School of Medicine,
Antalya, Turkey

Volkan Öztuna
Mersin University, School of Medicine,
Mersin, Turkey

Gökhan Polat
İstanbul University, School School of
Medicine, İstanbul, Turkey

Aksel Seyahi
Koç University, School of Medicine,
İstanbul, Turkey

Alpaslan Şenköylü
Gazi University, School of Medicine,
Ankara, Turkey

Ali Turgut
İzmir Tepecik Training and Research
Hospital, İzmir, Turkey

Mert Yalçınkaya
Kolan International Hospital, İstanbul,
Turkey

Alberto Maleci
Department of Neurosurgery, University
of Cagliari, Cagliari, Italy

Peter Obid
Department of Spine Surgery, Scoliosis
Center, Asklepios Paulinen Clinic,
Wiesbaden, Germany

The Official Journal of the Turkish
Association of Orthopaedics and
Traumatology (TOTDER) and
the Turkish Society of Orthopaedics
and Traumatology (TOTBID)



Publisher
İbrahim KARA

Publication Director
Ali ŞAHİN

Editorial Development
Gizem KAYAN TEKAÜT

Deputy Publication Director
Gökhan ÇİMEN

Publication Coordinators
İrem SOYSAL
Arzu YILDIRIM
Deniz KAYA
Bahar ALBAYRAK
Emre KARA

Finance and Administration
Zeynep YAKIŞIRER ÜREN
Betül ÇİMEN

Project Coordinators
Sinem Fehime KOZ
Doğan ORUÇ

Graphics Department
Ünal ÖZER
Deniz Elif DURAN
Beyzanur KARABULUT

Contact Address:
Büyükdere Cad. 105/9 34394
Mecidiyeköy, Şişli, İstanbul, Turkey
Phone: +90 212 217 17 00
Fax: +90 212 217 22 92
E-mail: info@avesyayincilik.com

International Scientific Review Consultants

Chee Kidd Chiu
University of Malaya, Kuala Lumpur,
Malaysia

Gregory J. Della Rocca
Department of Orthopaedics, University
of Missouri Orthopaedics, 1 Hospital
Drive, Columbia, Missouri, USA

Kamil Eyvazov
Department of Orthopedics and
Traumatology, Azerbaijan Scientific
Research Institute of Traumatology and
Orthopedics, Azerbaijan

Enrique Gomez-Barrena
Department of Orthopedics and
Traumatology, Hospital Universitario La
Paz, Universidad Autónoma de Madrid,
Madrid, Spain

Horia Haragus
University of Medicine and Pharmacy
'Victor Babes', Timisoara, Romania

Jose Manuel Ignacio
Department of Orthopedics, University of
the Philippines, Manila, Philippines



AOTT

ACTA ORTHOPAEDICA et TRAUMATOLOGICA TURCICA

AIMS AND SCOPE

Acta Orthopaedica et Traumatologica Turcica (AOTT) is an international, scientific, open access periodical published in accordance with independent, unbiased, and double-blinded peer-review principles. The journal is the official publication of the Turkish Association of Orthopaedics and Traumatology, and Turkish Society of Orthopaedics and Traumatology. It is published bimonthly in January, March, May, July, September, and November. The publication language of the journal is English.

The aim of the journal is to publish original studies of the highest scientific and clinical value in orthopedics, traumatology, and related disciplines. The scope of the journal includes but not limited to diagnostic, treatment, and prevention methods related to orthopedics and traumatology. Acta Orthopaedica et Traumatologica Turcica publishes clinical and basic research articles, case reports, personal clinical and technical notes, systematic reviews and meta-analyses and letters to the Editor. Proceedings of scientific meetings are also considered for publication.

The target audience of the journal includes healthcare professionals, physicians, and researchers who are interested or working in orthopedics and traumatology field, and related disciplines.

Acta Orthopaedica et Traumatologica Turcica is currently indexed in Web of Science-Science Citation Index Expanded, PubMed/Medline, PubMed Central, Scopus, DOAJ, Index Copernicus, and TUBITAK ULAKBIM TR Index.

The editorial and publication processes of the journal are shaped in accordance with the guidelines of the International Committee of Medical Journal Editors (ICMJE), World Association of Medical Editors (WAME), Council of Science Editors (CSE), Committee on Publication Ethics (COPE), European Association of Science Editors (EASE), and National Information Standards Organization (NISO). The journal is in conformity with the Principles of Transparency and Best Practice in Scholarly Publishing (doaj.org/bestpractice).

All manuscripts must be submitted via the online submission system, which is available at www.aott.org.tr. The journal guidelines, technical information, and the required forms are available on the journal's web page.

Expenses of the journal are covered by the article processing charges and the financial support received from the Turkish Association of Orthopaedics and Traumatology and the Turkish Society of Orthopaedics and Traumatology. Potential advertisers should contact the Editorial Office. Advertisement images are published only upon the Editor-in-Chief's approval.

Statements or opinions expressed in the manuscripts published in the journal reflect the views of the author(s) and not the opinions of the Turkish Association of Orthopaedics and Traumatology, editors, editorial board, and/or publisher; the editors, editorial board, and publisher disclaim any responsibility or liability for such materials.

All published content is available online, free of charge at www.aott.org.tr.

Turkish Association of Orthopaedics and Traumatology holds the international copyright of all the content published in the journal. The journal's content is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License (CC BY-NC-ND 4.0).

Editor in Chief: Önder Kılıçoğlu MD, PhD

Address: TOTDER Genel Merkezi, Şehremini, Koyuncu Sk. No: 4/5 , 34104 Fatih, İstanbul, Turkey

Phone: +90 212 530 15 08

Fax: +90 212 530 15 21

E-mail: editor@aott.org.tr

Publisher: AVES

Address: Büyükdere Cad., 105/9 34394 Mecidiyeköy, Şişli, İstanbul, Turkey

Phone: +90 212 217 17 00

Fax: +90 212 217 22 92

E-mail: info@avesyayincilik.com

Web page: www.avesyayincilik.com



AOTT

ACTA ORTHOPAEDICA et TRAUMATOLOGICA TURCICA

CONTENTS

Research Articles

- 355 Effect of COVID-19 pandemic on the fracture demographics: Data from a tertiary care hospital in Turkey**
Ali Turgut, Hakan Arlı, Ümit Altundağ, Sertan Hancıoğlu, Ercüment Egeli, Önder Kalenderer
- 364 Outcome after the surgical treatment of the Dubberley type B distal humeral capitellar and trochlear fractures with a buttress plate**
Muhammed Taha Demir, Sema Ertan Birsnel, Muhammet Salih, Yusuf Pirinçci, Olgar Birsnel, Hayrettin Kesmezacar
- 372 Relationship between the tilt angle of bipolar radial head prostheses and radiological radiocapitellar instability**
Jun-Gyu Moon, Jung-Hoon Kim, Young-Jin Jung, Moo-Joon Lim, Hee-Dong Lee
- 378 Elastic stable intramedullary nailing for treatment of pediatric forearm fractures: A 15-year single centre retrospective study of 173 cases**
Zenon Pogorelič, Marko Gulin, Miro Jukić, Ana Neveščanin Biliškov, Dubravko Furlan
- 385 A retrospective comparison of the conventional versus three-dimensional printed model-assisted surgery in the treatment of acetabular fractures**
Anil Murat Öztürk, Onur Süer, Suzan Şirintürk, Kemal Aktuğlu, Figen Govsa, Mehmet Asım Özer
- 394 Effects of Kinesio Taping on pain, paresthesia, functional status, and overall health status in patients with symptomatic thoracic outlet syndrome: A single-blind, randomized, placebo-controlled study**
Emine Aygül Ortaç, Tunay Sarpel, İlke Coşkun Benliday
- 402 Comparison of efficacy between combined periarticular and incisional injections versus periarticular injection alone of bupivacaine for pain control after total knee arthroplasty: A prospective randomized controlled trial**
Nuray Altay, Baran Sarıkaya, Mahmut Alp Karahan, Evren Büyükkırat, Orhan Binici, Cemil Ertürk, Mehmet Akif Altay
- 408 Validity and reliability of the Turkish version of the Self-reported Foot and Ankle Score in patients with foot or ankle pain**
Gökhan Yazıcı, Melek Volkan Yazıcı, Deniz Bayraktar, Fatmagül Varol, Arzu Güçlü Gündüz, Nilgün Bek
- 414 Cross-cultural adaptation, and validation of the Turkish version of the Nonarthritic Hip Score**
Zeynep Hazar Kanık, Uğur Sözlü, Sevim Beyza Ölmez, Selda Başar, Ulunay Kanatlı
- 423 Diagnostic accuracy of ultrasound in subscapularis tendon abnormalities and the importance of operator experience**
Uğur Toprak, Sefa Türkoğlu, Çiğdem Aydoğan, Emrah Kovalak, Suzan Saylısoy, Duygu Siddıkoğlu, Akkan Mahmud



AOTT

ACTA ORTHOPAEDICA et TRAUMATOLOGICA TURCICA

- 430 Comparison of contact surface areas of metatarsal diaphyseal osteotomies for correction of hallux valgus: Experimental study**
A. Meriç Ünal, Aydın Budeyri, Bahattin Baykal
- 438 Comparison on effects of platelet-rich plasma versus autologous conditioned serum on Achilles tendon healing in a rat model**
Erdiç Genç, Serdar Yüksel, Aysel Çağlar, Ozan Beytemur, M Akif Güleç
- 445 Cadmium in bone cement induces necrosis and decreases the viability of residual osteosarcoma cells: A xenograft study**
Nihat Demirhan Demirkıran, Safiye Aktaş, Ayşe Pınar Erçetin Özdemir, Ömer Bekçioğlu, Melek Aydın, Hasan Havitçioğlu
- 453 Effects of a novel biodegradable implant system on a rat tibia fracture model**
Mehmet Yalçınözan, Mehmet Türker, Meriç Çırpar

Case Reports

- 461 A rare case of delayed hypersensitivity reaction to metal ions secondary to a remnant pedicle screw fragment after spinal arthrodesis**
Jiha Kim
- 465 Concomitant fat embolism syndrome and pulmonary embolism in a patient with patent foramen ovale**
Raymond DK Yeak, Siew Khei Liew

Letters to the Editor

- 469 Comment on “Psychometrical properties of the Turkish translation of the New Knee Society Scoring System”**
Mahmut Enes Kayaalp
- 472 Comment on “IL1-RN variable number of tandem repeats polymorphism with osteoarthritis risk”**
Beuy Joob, Viroj Wiwanitkit



AOTT

ACTA ORTHOPAEDICA et TRAUMATOLOGICA TURCICA

FROM THE EDITOR

Dear AOTT readers,

Clarivate (formerly SCI-Thompson Reuters) has recently reported the WoS Journal Impact Factor (JIF) scores for 2019. It is my pleasure to announce that the JIF score of Acta Orthopaedica et Traumatologica Turcica journal has reached 1.121, indicating an increase of 25% as part of a constant rise in the past four years. I would like to thank the reviewers and editors of our journal for their contributions during the review process.

I personally would like to thank the authors of articles with high citation rates for enabling such an increase:

9 citations

*Taş S, Yılmaz S, Onur MR, Soylu AR, Altuntaş O, Korkusuz F. Patellar tendon mechanical properties change with gender, body mass index and quadriceps femoris muscle strength. Acta Orthop Traumatol Turc. 2017 Jan;51(1):54-59.

7 citations

*Deveci MA, Paydaş S, Gönüşen G, Özkan C, Biçer ÖS, Tekin M. Clinical and pathological results of denosumab treatment for giant cell tumors of bone: Prospective study of 14 cases. Acta Orthop Traumatol Turc. 2017 Jan;51(1):1-6.

*Sobhan MR, Mehdinejad M, Jamaladini MH, Mazaheri M, Zare-Shehneh M, Neamatzadeh H. Association between aspartic acid repeat polymorphism of the asporin gene and risk of knee osteoarthritis: A systematic review and meta-analysis. Acta Orthop Traumatol Turc. 2017 Oct;51(5):409-415.

6 citations

* Alcelik I, Blomfield M, Öztürk C, Soni A, Charity R, Acornley A. A comparison of short term radiological alignment outcomes of the patient specific and standard instrumentation for primary total knee arthroplasty: A systematic review and meta-analysis. Acta Orthop Traumatol Turc. 2017 May;51(3):215-222.

* Yang S, Chen C, Wang H, Wu Z, Liu L. A systematic review of unilateral versus bilateral percutaneous vertebroplasty/percutaneous kyphoplasty for osteoporotic vertebral compression fractures. Acta Orthop Traumatol Turc. 2017 Jul;51(4):290-297.

5 citations

* Reisoglu A, Kazimoglu C, Hanay E, Agus H. Is pin configuration the only factor causing loss of reduction in the management of pediatric type III supracondylar fractures? Acta Orthop Traumatol Turc. 2017 Jan;51(1):34-38.

* Capkin S, Zeybek G, Ergur I, Kosay C, Kiray A. An anatomic study of the lateral patellofemoral ligament. Acta Orthop Traumatol Turc. 2017 Jan;51(1):73-76.

I have faith that with your support and contributions, our journal will continue to succeed in the years to come.

Respectfully,

Dr. Önder Kılıçoğlu
AOTT Editor-in-Chief