

## **Publisher**

Deanship of Scientific Research (DSR)  
The University of Jordan  
Amman 11942 Jordan  
Fax: +962- 6- 5300815  
E-mail: [jmj@ju.edu.jo](mailto:jmj@ju.edu.jo)

*First Established in Jordan Medical Association in 1965*

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means: electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of the publisher.

*Jordan University Press*

## الناشر

عمادة البحث العلمي  
الجامعة الأردنية  
عمان: 11942 الأردن  
فاكس +962 -6 -5300815  
البريد الإلكتروني: [jmj@ju.edu.jo](mailto:jmj@ju.edu.jo)

*تأسست في نقابة الأطباء الأردنية عام 1965*

جميع الحقوق محفوظة، ولا يسمح بإعادة طباعة هذه المادة أو النقل منها أو تخزينها، سواء أكان ذلك عن طريق النسخ أم التصوير أم التسجيل أمغيره، وبأية وسيلة كانت: إلكترونية، أو ميكانيكية، إلا بإذن خطي من الناشر نفسه.

مطبعة الجامعة الأردنية

# JORDAN MEDICAL JOURNAL

Volume (60), Number (2), March 2026

## Editor-in-Chief

**Prof. Malik E. Juweid**  
University of Jordan, Amman, Jordan

## Editorial Board

**Prof. Kamil Fram**  
University of Jordan, Amman, Jordan

**Prof. Mamoun Ahram**  
University of Jordan, Amman, Jordan

**Prof. Mohammad Al-Tamimi**  
Hashemite University, Al-Zarqa, Jordan

**Prof. Khitam Al-Refu**  
Mutah University, Al-Karak, Jordan

**Prof. Hakam Al-Khateeb**  
Yarmouk University, Irbid, Jordan

**Prof. Nader Albsoul**  
University of Jordan, Amman, Jordan

## Editorial Office

### Editorial Secretary

Amal Al-Khawaldeh

### Arabic Editor

Ibrahim Rababah

### English Editor

Dr Samantha Hague

### Production

Na'eemeh Mofeed Al-Sarrawi

## Advisory Board

Yusuf Al-Gaud, Jordan  
Muayyad Ahmad, Jordan  
Walid abu Hammour, USA  
Hatem Shanti, USA  
Markus Schwaiger, Germany  
Raed Dweik, USA  
Samir Khleif, USA  
Zuhair Amarin, Jordan  
Inaam Khalaf, Jordan  
Nadera Sweiss, USA  
Ziyad M. Hijazi, USA  
Sharock Shariat, Austria

Andrea Gallamini, France  
Samir Elbabaa, USA  
Yaser Al-Rayyan, Jordan  
Amira Taher Al-Masri, Jordan  
Kamal Bani Hani, Jordan  
Shireen Wajeih, Egypt  
James Armitage, USA  
Mones Abu-Asab, USA  
Feras Hawari, Jordan  
Manar Al-Lawama, Jordan  
Orhan Alimoglu, Turkey  
Mariano del Sol, USA

Ahed Wahadneh, Jordan  
Malik Zohlof, Jordan  
Ali Guermazi, USA  
Faleh Tamimi, Qatar  
Mohammad Abu Faraj, Jordan  
Akram Al-Ibraheem, Jordan

# المجلة الطبية الأردنية

المجلد (60) العدد (2)، آذار 2026

## رئيس هيئة التحرير

أ.د. مالك جويعد

الجامعة الأردنية، عمان، الأردن

## أعضاء هيئة التحرير

أ.د. محمد التميمي

الجامعة الهاشمية، الزرقاء، الأردن

أ.د. نادر البصول

الجامعة الأردنية، عمان، الأردن

أ.د. مأمون أهرام

الجامعة الأردنية، عمان، الأردن

أ.د. حكم الخطيب

جامعة اليرموك، إربد، الأردن

أ.د. كميل أفرام

الجامعة الأردنية، عمان، الأردن

أ.د. ختام الرفوع

جامعة مؤتة، الكرك، الأردن

## أمينة السر

أمل الخوالدة

## محرر اللغة العربية

ابراهيم ربابعة

## محررة اللغة الإنجليزية

سامنثا هيچ

## التصميم والإخراج

نعيمة مفيد الصراوي

## الهيئة الاستشارية

أ.د. مارينو ديل سول، أمريكا

أ.د. عاهد وهادنة، الأردن

أ.د. علي قرمزي، أمريكا

أ.د. فالح التميمي، قطر

د. محمد أبو فرح، الأردن

د. أكرم الإبراهيم، الأردن

أ.د. أندريا جالاميني، فرنسا

أ.د. سميع البعباع، أمريكا

أ.د. ياسر الريان، الأردن

أ.د. أميرة المصري، الأردن

أ.د. مالك الزحلف، الأردن

أ.د. كمال بني هاني، الأردن

أ.د. شيرين وجيه، مصر

أ.د. جيمس أرمتاج، أمريكا

د. مؤنس ابو عصب، أمريكا

أ.د. فراس الهواري، الأردن

أ.د. منار اللواما، الأردن

أ.د. أورهان علمغلو، تركيا

أ.د. يوسف قاعود، الأردن

أ.د. مؤيد أحمد، الأردن

أ.د. حاتم الشطي، أمريكا

أ.د. وليد أبو حمور، أمريكا

أ.د. ماركوس شوايجر، ألمانيا

أ.د. رائد دويك، أمريكا

أ.د. سمير خليف، أمريكا

أ.د. زهير عمارين، الأردن

أ.د. أنعام خلف، الأردن

أ.د. نادرة الصويص، أمريكا

أ.د. زياد حجازي، أمريكا

أ.د. شاركوت شريعت، ألمانيا

# Jordan Medical Journal

## Contents

Volume (60), Number (2), March 2026

### Articles

---

<b>ORIGINAL ARTICLE</b>	<b>158</b>
<b>Serum Toll-Like Receptor 2 Concentration in Pediatric Atopic Dermatitis: A Case-Control Study</b> Aya A. Al-Rubaye, Asaad Q. Al-Yassen	
<b>ORIGINAL ARTICLE</b>	<b>167</b>
<b>Comprehensive Evaluation of Coagulation and Anticoagulation Markers in Chronic Kidney Disease: Diagnostic and Prognostic Insights</b> Hind Shaker Almamoori, Taha Y. Shammar, Shaymaa Wahbi Salman Alhamami	
<b>ORIGINAL ARTICLE</b>	<b>181</b>
<b>Factors Affecting Insulin Therapy Acceptance Among Patients with Type 2 Diabetes Mellitus at a Tertiary Care Center in Jordan</b> Munther S Momani, Morad Ahmad, Dima Alhawajreh <sup>1</sup> , Yomna Alfaqeeh, Sara Al Nahhas, Noor Abdallat, Aseel Sakarneh, Abrar Jaber	
<b>ORIGINAL ARTICLE</b>	<b>194</b>
<b>Coxsackie B Virus-Induced Autoimmunity in Type 1 Diabetes Mellitus: Mechanisms and Emerging Prevention Strategies</b> Seyi Samson Enitan, Richard Yomi Akele, Osareniro Eguagie Osakue, Chukwudi Amaechi Ofodile, Chinwendu Nwanneoma Ikonne, Kester Awharentomah Digban, Oluwakemi Anike Ladipo, Akintunde Akintayo Akinjinmi, Chinenye Alaezi Okorochoi, Comfort Bosedo Enitan, Okeoghene Marcel Edafetanure-Ibeh <sup>7</sup> , Agbolahan Adegboyega Adebajo, Abiodun Oluwasegun Adetola, Joan Osamouyi Odigie, Ernest Chibuike Ohanu, Oluwanifemi Adefiyinfoluwa Ajayi	
<b>ORIGINAL ARTICLE</b>	<b>229</b>
<b>Meta-analysis on the Influence of Testosterone Therapy on Male Kidney Function</b> Ahmad R. Al-Qudimat, Amgad Mohamed Elshoeibi, Salma Elgamal, Manal Abdalla, Rayyan Mukhtar, Kalpana Singh, Mohammad R. Alqudimat, Dina Mohamed, Aksam Yassin, Omar M. Aboumarzouk	
<b>ORIGINAL ARTICLE</b>	<b>249</b>
<b>Patterns of Skin Diseases Diagnosed on Biopsies in Jordan</b> Nesreen Bataineh, Moath Alrjoub, Maram Abdaljaleel, Anwar Rjoub, Mohannad Al-Bakain	
<b>ORIGINAL ARTICLE</b>	<b>263</b>
<b>Awareness and Knowledge of Isotretinoin Use and Side Effects among Jordanians: A Cross-Sectional Study</b> Rand Murshidi, Jehad Feras AlSamhori, Abdel Rahman Feras AlSamhori, Ahmad Feras AlSamhori, Rama Ammouri, Miramar Haddad, Ruba Orabi, Ayham Mohammad Hussein, Heba Lala, Mahmoud Abdallat	
<b>ORIGINAL ARTICLE</b>	<b>278</b>
<b>Optimising Systemic Therapy in Oncology: A Step Ahead in the Application of Pharmacogenetics, A Narrative Review</b> L. Sepideh Parchami Ghazae, Kateryna Marchenko-Tolsta, Tamara Kozymenko, Nataliya Seredynska, Roman Fedorytenko	

---

---

**ORIGINAL ARTICLE**

303

**Medical Education in the Abbasid Era: From Mentoring to Qualifying Examinations**

Noor Almaani, Walid S. Almaani

---

**ORIGINAL ARTICLE**

317

**Prevalence of Laser Hair Removal in the Arab World and Theoretical Implications for HPV**

**Transmission: A Narrative Review**

Khitam Al-Refu, Kamil Mosa Fram

---

**ORIGINAL ARTICLE**

325

**Understanding Research Integrity: Analysis of Retracted Health Sciences Articles from Jordanian Institutes**

Obada Al-leimon, Hamzah Abu Mahmoud, Noor Aldeen Albanna, Laith Kreshan, Wafika A Suliman

---

## Instructions for Authors

Jordan Medical Journal (JMJ) is a peer-reviewed Journal. Authors are invited to submit their work on any topic of wide spectrum coverage including epidemiology, public health, medicine, surgery, biomedical sciences, nursing, dentistry, indigenous disease, and statement of health care of interest to health care professionals regionally and globally.

Original, unpublished papers undergo a careful peer review before being accepted for publication. The Editorial Board reserves the right to make the final decision on publication. Please see the **Editorial policy**.

The journal publishes several types of manuscripts:

1. Original research articles that present novel findings.
2. Review articles on special and up-to-date topics.
3. Case reports with a review of the related literature, especially interesting or challenging clinical cases.
4. Editorials and letters to the editor that can be written by a member of the Editorial Board or submitted by readers.

### Authors Responsibility

Manuscripts are received with the understanding that they are not under simultaneous consideration by another journal. An abstract published before a full report is not regarded as a duplicate publication. Please see the **Submission Process**.

Accepted manuscripts or parts of them should not be published elsewhere without JMJ permission.

### Manuscript Preparation

The format of the JMJ complies with “Uniform Requirements for Manuscripts submitted to Biomedical Journals” published by the International Committee of Medical Journal Editors in Vancouver, British Columbia, in 1979 (the widely accepted Vancouver Style), as described in the JMJ November 1993.<sup>1</sup> With the exception of blood pressure, all units of measurement and laboratory values must be expressed in SI units; conventional units may be included parenthetically.

Manuscript’s text, tables, references, and figure legends must be typewritten, double-spaced on 8 ½ x 11 inch or size A4 paper, with margins of at least 1 inch. Word limits (excluding references) and maximum number of tables/figures and references for each type of manuscripts are listed below:

Manuscript type	Word limits	Maximum number of tables and/or figures	Maximum number of references
Original research article	5000	8	60
Review articles	7000	12	100
Case reports	1000	3	15
Editorials and letters to the editor	900	-	-

### Submission checklist

#### 1. Cover Letter

The cover letter serves to introduce the submission to the editorial staff. The letter should explain any deviation from the standard format and any potential conflicts concerning the exclusive nature of the paper. The authors' cover letter must contain these statements:

“The manuscript has been seen and approved by all authors and has not been published or is considered for publication elsewhere. The authors transfer all copyright and ownership to the Jordan Medical Journal.”

## **2. Manuscript**

The submission should be typed as double-spaced with 1” margins on 8.5” x 11”, or A4 paper. The first author’s last name should appear after the title page. Pages should be numbered consecutively, beginning with the title page. We recommend that the authors insert line numbers into the manuscript to allow the reviewers to precisely indicate where changes should be made. The authors are encouraged to use programs such as Grammarly to ensure the accuracy and appropriateness of the language used in the manuscript.

### **Full Title Page**

The title page will have the followings:

**Title:** Must be concise and informative to describe the contents of the manuscript. Do not use registered/trademark terms in the manuscript title. The title should not be more than 85 characters long including spaces.

**Authors:** Provide first name(s) and family name(s) of each author and check that all names are accurately spelled.

**Author Affiliations:** Please list departmental/institutional affiliations for authors. Please tie each author to the appropriate department(s)/institution(s) where the work was performed using consecutive, superscripted Arabic numbers.

**Corresponding Author Info:** Provide the name, street address, telephone and fax numbers, and the e-mail address of the corresponding author.

**Acknowledgments:** Use this section to acknowledge individuals who have provided personal assistance. Please give full names of all individuals mentioned in this section.

**Grant/Funding Support:** List grant/funding support, if any, on the full title page.

**Running Title:** At the bottom of the page, please include a short running title of no more than 45 characters long, including spaces, and should give a general idea as to the subject of the paper.

### **Formal Abstract page**

For original papers, the abstract page should contain a structured abstract of no more than 250 words. The abstract should not include footnotes, figures, tables or citations. The abstract must be structured into four distinct sections: A) Background and Aims introducing the significance of the topic and the precise purpose of the paper; B) Materials and Methods describing the principal methods; C) Results presenting the main findings; D) Conclusions summarizing the significance of the work.

For reviews and case reports, an unstructured abstract of no more than 200 words should be submitted.

### **Keywords**

Three to five keywords should be included at the end of the abstract page or the summary page.

### **Introduction**

The introduction presents a brief background of the topic and states the significance and purpose(s) of the study.

## **Materials and Methods**

This section must provide sufficient information to permit detailed evaluation and duplication of the work by other investigators. Ethical guidelines followed must be described. Approval of institutional human research review committees or animal welfare committees should be placed here. Please see the **Editorial policy**.

## **Results**

In this section, report the findings of the work. Use tables and figures where appropriate to improve the clarity of the presentation of the results.

## **Discussion**

Discuss the results in relation to other published works in the same field. Offer explanations for any differences or discrepancies between the presented work and previous reports. Offer possible recommendations, hypotheses, and logical speculations.

## **References**

References should be numbered consecutively in the order in which they are first mentioned in the text, not alphabetically. All references must be cited in the text or tables. Unpublished data and personal communications can be mentioned within the manuscript as such between parentheses but not as references.

References to journal articles should include, in this order: (1) authors, (2) title, (3) journal name (as abbreviated in index medicus), (4) Year, (5) volume, and (6) inclusive page numbers. References to books should include (1) authors, (2) chapter title (if any), (3) editors' names (if any), (4) title of book, (5) city of publication, (6) publisher, and (7) year. Volume and edition numbers and specific page numbers should be included when appropriate. The author is responsible for the accuracy and completeness of the references and their correct textual citation. Refer to reference citations and listings in the text for proper format. For example:

**Journal:** Hammoudeh A. Cigarette Smoking Cessation among Jordanians after Sustaining Acute Coronary Events. *JMJ* 2002; 2: 122- 125.

**Book Chapter:** Weinstein L, Swartz MN. Pathogenic properties of invading microorganisms. In: Sodeman WA Jr. Sodeman WA, eds. *Pathologic mechanism of disease*. Philadelphia: WB Saunders, 1974; 457-472.

## **Tables**

Type the tables double-spaced within the manuscript where the authors want the tables to be placed or at the end of the manuscript. The tables must be numbered consecutively according to their appearance in the manuscript using Arabic numbers (1, 2, 3, etc.). Place the table legend that contains the table number above the table and provide a meaningful title for the table contents. Any additional notes should be numbered as superscripts and explained below the table as footnotes.

## **Figures**

High-quality figures can be used in the manuscript. It is recommended to use the minimum number of figures required. Do not duplicate data already present in the text or tables. Submit the figures in their actual size with a label at least 1.5 mm high. The largest size that can be published without reduction is 17.5 cm wide and 22cm tall. The figures can be placed where the authors want them to appear in the manuscript or at the end of the manuscript.

The figures must have legends that are typed double-spaced below the figures containing the figures' numbers and a brief description of the figures that would allow interpretation of the figures. The figures must be numbered consecutively according to their appearance in the manuscript using Arabic numbers (1, 2, 3, etc.).

Note: color illustrations are accepted if they make an exceptional contribution to the article. Authors will be required to bear the cost of color figures at the cost price.

### **Proofs**

Proof of accepted manuscripts will be returned to the authors. Timely correction of the proof is essential to ensure speedy publication of the article. At this stage, authors may only make minor corrections. Major modifications (i.e. new data, figures, etc)of accepted manuscripts are not accepted. At this point, the author may order reprints.

### **Responsibilities of Authors**

Please see the **Revised Editorial policy**.

### **Ethical considerations**

Please see the **Revised Editorial policy**.

### **Privacy Statement**

The names and email addresses entered in this journal site will be used exclusively for the stated purposes of this journal and will not be made available for any other purpose or to any other party.

### **Articles**

Section default policy

### **Privacy Statement**

The names and email addresses entered in this journal site will be used exclusively for the stated purposes of this journal and will not be made available for any other purpose or to any other party.

رقم الإيداع لدى المكتبة الوطنية  
(د/2007/3635)  
المجلة الطبية الأردنية/ فصلية