



## Letter from the Editors-in-Chief



It is our privilege to present the 23<sup>rd</sup> edition of the *University of Pennsylvania Orthopaedic Journal*. The legacy of the UPOJ began in 1985 under the auspices of former chairman Dr. Carl T. Brighton. Since that time, the UPOJ has been published annually, with the exception of a brief hiatus between 1993 and 1997. Thus, with the presentation of the 23<sup>rd</sup> edition of the UPOJ, we celebrate the 28<sup>th</sup> anniversary of the oldest resident-run orthopaedic journal in the nation.

We proudly dedicate this edition of the UPOJ to Dr. R. Bruce Heppenstall, who continues to serve as a member of the Penn orthopaedic faculty with the same vigor that he has maintained for an astounding 38 years. This year marks Dr. Heppenstall's retirement from the operating room, leaving a great void in the ORs at both Pennsylvania Hospital and the Hospital of the University of Pennsylvania. Throughout his long and storied career, Dr. Heppenstall has earned the respect and admiration of his colleagues, mentors, and students. There are few on the faculty who could run an OR with such confidence and good-natured candor. This edition is a small tribute to Dr. Heppenstall's sincere dedication to resident education and unremitting loyalty to Penn Orthopaedics.

This year marks a change in the structure and format of the UPOJ. With the hope of providing a more complete representation of the extensive ongoing research within our department, we have moved to an "extended abstract" format for all submissions. This format allows our authors to share their work with our readership without compromising the submission of future full-length manuscripts to other peer-reviewed scientific journals. Furthermore, we are now able to include abstracts submitted to the Orthopaedic Research Society and the American Society for Bone and Mineral Research by our colleagues in the McKay Orthopaedic Research Laboratory. It is our great pleasure to display this prestigious work within the UPOJ for the first time, and we hope that the new format increases both the breadth and readability of its contents.

Since 1997, the UPOJ has remained financially independent from the Department of Orthopaedic Surgery. The support from educational grants and advertisers allow us to bring this publication to print. We extend our greatest thanks to our industry sponsors for their contributions toward our mission of musculoskeletal research and education.

The publication of the UPOJ would not be possible without the tireless efforts of our chairman Dr. L. Scott Levin and program director Dr. Craig L. Israelite. We are further indebted to the invaluable mentorship of our faculty advisors Dr. Jaimo Ahn and Dr. Samir Mehta. The support, creative input, and oversight that these individuals have donated to the UPOJ throughout the academic year have been truly instrumental in making the 23<sup>rd</sup> edition a reality. We would further like to thank the following resident colleagues and subspecialty section editors for their hard work and enthusiasm: Dr. Ryan M. Taylor (Trauma), Dr. John G. Horneff, III (Shoulder and Elbow), Dr. Nicole S. Belkin (Sports Medicine), Dr. Adam T. Griska (Hand), Dr. Kevin J. McHale (Pediatrics), Dr. Stephen J. Torres (Adult Reconstruction), and Dr. Christos Photopoulos (Spine).

On behalf of our fellow authors and editors, we welcome you to the 23<sup>rd</sup> edition of the UPOJ. Within its pages are a vast array of ideas, experiments, and discoveries, and we trust that culture of innovation at Penn Orthopaedics will foster this tradition for many years to come.



Sincerely,  
Andrew H. Milby, MD and Sarah M. Yannascoli, MD  
Editors-in-Chief

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