

Preface

Upping Our Game in Foot and Ankle Research



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Editor

Present-day Orthopedic Foot and Ankle clinical practice is built upon over a century of research, much of that research involving anatomic and cadaveric studies subject to historical limitations that challenge the veracity of its findings. This is not to disrespect those who did the research or the clinical advances it spurred. It is rather simply a statement of cold hard truth. State-of-the-art mechanical testing, biology, imaging, and modeling capabilities have greatly expanded the rigor with which research can be done over the past three decades since I graduated from the University of Iowa with my PhD in mechanical engineering. These new capabilities afford new opportunities to better understand the complex and foundational interplay of biology and mechanics in the foot and ankle, which can lead to evidence-based practice improvements. With an eye admittedly more toward biomechanics (my own specialty), this issue of *Foot and Ankle Clinics of North America* aims to survey some of the latest and greatest work in this context.

It is not a very well-kept secret, but scientists love to measure things. This is because measurement is at its core an objective quantitative process. A quote from Lord Kelvin from the 1880s captures this idea: “When you can measure what you are speaking about, and express it in numbers, you know something about it; but when you cannot measure it, when you cannot express it in numbers, your knowledge is of a meagre and unsatisfactory kind: it may be the beginning of knowledge, but you have scarcely, in your thoughts, advanced to the stage of science, whatever the matter may be.”¹ In this vein, the authors contributing to this issue were asked to focus on ways in which new measurement tools and capabilities were being used to address longstanding clinical issues, such as failure of total ankle replacement and the description of complex 3D bony pathologic conditions.

It has been a pleasure working with such a talented group of scientists to bring this issue to you! Our vision was to query a representative cross-section of the Foot and Ankle Research Community. We focused primarily on PhD researchers who spend most of their time doing rigorous research in this area, without losing sight of its clinical application. It feels as if we are at a critical crossroads in foot and ankle research, with new tools and techniques coming available each year that promise to offer new insights. As representatives of the scientific community, the authors who contributed papers to this issue and I encourage you to join us as we up our game in foot and ankle research.

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REFERENCES

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