



Dedication to Dr. R. Bruce Heppenstall

Andrew H. Milby, MD and Sarah M. Yannascoli, MD



We are proud to dedicate this 23rd edition of the UPOJ to a living legend in orthopaedic surgery who embodies the academic ideal of scholarship, education, and clinical excellence. Dr. R. Bruce Heppenstall has served Penn Orthopaedics with loyalty and distinction for no less than 38 years, and his achievements continue to inspire us in the operating room, at the bedside, and in the laboratory.

Dr. Heppenstall was born in Canada and completed his undergraduate and medical education at the University of Manitoba. He subsequently performed a rotating internship and residency in general surgery at the Winnipeg General Hospital in Manitoba. His interest in the care of patients with traumatic injuries motivated him to pursue a residency in orthopaedic surgery at the University of Pennsylvania under the tutelage of Dr. Edgar L. Ralston. Following a postdoctoral fellowship at the University of California in San Francisco sponsored by the National Institutes of Health, Dr. Heppenstall returned to Penn, where he has remained as a keystone of the faculty in orthopaedic surgery since that time.

Early in his career, Dr. Heppenstall continued the tradition of scientific inquiry that was inspired by Dr. Ralston through extensive collaboration with surgeon-scientist, and later department chair, Dr. Carl T. Brighton. Together, they performed detailed investigations of bone electrobiology and the physiologic optimization of fracture healing. Along with an ongoing appreciation of the evolving techniques of internal fixation, this work culminated in publication in 1980 of the comprehensive text, *Fracture Treatment and Healing*. Incredibly, Dr. Heppenstall maintained this commitment to scientific inquiry alongside a busy clinical practice and duties as chief of the fracture service at the Hospital of the University of Pennsylvania and chief of orthopaedic surgery at the Philadelphia Veterans Affairs Medical Center.

In addition to his seminal contributions to fracture biology, Dr. Heppenstall was early to recognize the crucial importance of soft tissue management in traumatic injuries.

A growing interest in the metabolic effects of tissue ischemia ultimately led to long and rewarding collaboration with eminent biophysicist Dr. Britton Chance. Using nuclear magnetic resonance spectroscopy, Dr. Heppenstall and Dr. Chance were able to describe the derangements of intracellular energy metabolism induced by ischemia in the setting of compartment syndrome or tourniquet use. An elegant animal model of compartment syndrome that allowed for careful simultaneous monitoring of blood pressure and compartment pressure gave rise to the term Delta pressure, or difference between the compartment pressure and mean arterial pressure; a value that is still relevant to diagnosis of compartment syndrome in daily practice. The recognition of the value of this work culminated in the receipt of the prestigious Kappa Delta Orthopaedic Research Award in 1986.

Despite these achievements, Dr. Heppenstall could never be accused of resting on his laurels, and the countless students and residents that rotated with him were most likely to be impressed by his wit, candor, and work ethic. Dr. Heppenstall's direct approach to communication has demonstrated to generations of residents that there is truly no substitute for being honest with patients and their families. In the operating room, regardless of the case being performed, Dr. Heppenstall was always looking beyond the next step. It was a fatal mistake to be caught without a plan in Dr. Heppenstall's operating room, but as quickly as you were chastised, you would catch a glimpse of a smile from beneath his mask.

We can think of no individual who more fittingly captures the ideals of academic and clinical excellence put forth in this issue of the UPOJ than Dr. Heppenstall. Cathcart 8 and Founders 4 have lost one of their most colorful personalities and tireless educators, but we are truly grateful that Dr. Heppenstall is still seeing patients and remains available to us as a mentor. His legacy will continue to inspire surgeon-scientists at Penn Orthopaedics for many generations to come.