

Bruce Heppenstall, Orthopedic Surgery

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| DEATHS

| PRINT



R. Bruce Heppenstall, a professor emeritus of orthopedic surgery in the Perelman School of Medicine and former chief of orthopedic surgery at the Hospital of the University of Pennsylvania, died on January 4. He was 82.

Dr. Heppenstall was born in Manitoba and earned an engineering degree from the University of Manitoba in 1962, then a medical degree from the same university in 1966. He later pursued postdoctoral studies at the Health Science Centre in Winnipeg. In 1969, he relocated to the United States.

Bruce Heppenstall

Dr. Heppenstall first attended Penn's School of Medicine as an orthopedic resident in 1969. He conducted research at Penn under Carl Brighton, focusing on investigations into oxygen tension and the electrical effects of the growth plate. In 1974, he was promoted to assistant professor in the department of orthopedic surgery, and he became a full professor in 1980. The same year, he published his textbook, *Fracture Treatment and Healing*, which is still cited today and which contained information distilled from his research on wound healing and the treatment of fractures. Dr. Heppenstall continued to hold dual appointments as the chief of the fracture service at the Hospital of the University of Pennsylvania and as chief of orthopedic surgery at the Philadelphia Veterans Affairs Medical Center.

Dr. Heppenstall is widely recognized for his contributions to fracture biology, conducting innovative studies of the metabolic effects of tissue ischemia. This research used nuclear magnetic resonance spectroscopy to describe the derangements of intracellular energy metabolism caused by ischemia in the context of compartment syndrome or tourniquet use. This approach enabled the simultaneous monitoring of blood pressure and compartment pressure, contributing to the introduction of the term "Delta pressure." This term was widely adopted in contemporary diagnosis of compartment syndrome. In 1986, Dr. Heppenstall received the prestigious Kappa Delta Award of the American Academy of Orthopedic Surgery for this work, the most esteemed accolade in orthopedic research.

Aside from his primary role at Penn in the department of orthopedic surgery, Dr. Heppenstall also held an appointment as a lecturer in occupational therapy in the Hospital of the University of Pennsylvania. In 2016, Dr. Heppenstall retired from Penn and took emeritus status. The department of orthopedic surgery created the annual Bruce Heppenstall Trauma Lectureship after his retirement to recognize his many contributions to the field.

Dr. Heppenstall was a beloved father, doctor, educator, friend, and colleague. Outside of his work, he enjoyed traveling, music, and sailing.

He is survived by his son, Mark David; his daughter, Darcy; former wives, Carol Heppenstall and Betty Jane Bruck; and his stepchildren, Christopher and Matthew Bruck. A funeral service was held on January 26.

In lieu of flowers, contributions may be made to advance orthopedic research through the R. Bruce Heppenstall, MD Lecture and Research Fund at Penn Medicine. Donations can be made online by visiting www.pennmedicine.org/heppenstallfund (<http://www.pennmedicine.org/heppenstallfund>).