Editorial

Wrist BiomechanicsToshiyasu Nakamura, MD, PhD^{1,2}¹ Clinical Research Center, International University of Health and Welfare, Tokyo, Japan² Department of Orthopaedic Surgery, Sanno Hospital, Tokyo, Japan

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The wrist is one of the most complex joints in the human body that includes the radiocarpal, midcarpal, and the distal radioulnar joints. It allows six-axis multidirectional motions, including flexion–extension, radial/ulnar deviation, pronation–supination, and circumduction. The wrist connects the hand and the forearm to transmit and distribute load between the two elements. It can also provide stability of the forearm and hand. Although many researchers have studied the wrist using biomechanics, but it is so complex there are still many unknown or unrevealed facts about this joint.

Techniques of biomechanics include kinematic and kinetic tests using cadaver specimen or living human, image analysis using radiographs, magnetic resonance imaging or computed tomography (CT) (recently, four-dimensional CT), and com-

puter simulation that includes finite element method or rigid spring models. The development of new techniques often leads to more contradictions. That is why we must always compare the result from biomechanical studies with the findings in the daily clinical practice. This step is always very important.

This issue includes a “Special Review” entitled “Biomechanics of the Distal Radioulnar Joint” described by Dr. Shohei Omokawa. The author approaches kinematics of the distal radioulnar joint based upon the research questions raised in his daily clinical practice. This is how biomechanics can help in understanding the wrist better.

Interesting articles on wrist, such as the interosseous membrane of the forearm, carpal kinematics, extensor carpi ulnaris, and risk of the portals of carpometacarpal arthroscopy are also included in this issue. Don't miss it.

Address for correspondence
Toshiyasu Nakamura, MD, PhD,
Department of Orthopaedic
Surgery, Sanno Hospital, 8-10-16
Akasaka, Minato-ku, Tokyo
107-0052, Japan
(e-mail: toshiyasu@ae.em-net.ne.jp).

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