

CLINICS IN PLASTIC SURGERY

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Hand Surgery Update I

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Evaluation of the Patient Presenting with a Painful Wrist

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Successful treatment of wrist pain secondary to injury or disease is strongly influenced by prompt determination of the correct diagnosis. The authors have found that a systematic, structured approach consisting of a detailed history and a thorough physical examination supplemented with the most appropriate imaging modalities will accurately establish the diagnosis in almost all patients. By assisting the surgeon in diagnosing the cause of wrist pain as quickly as possible, an algorithmic approach can greatly minimize disability, medical costs, and time lost from work.

Update on Imaging Techniques of the Wrist and Hand

Viktor M. Metz, Patrick Wunderbaldinger, and Louis A. Gilula

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Several imaging techniques are available and necessary for evaluation and treatment of hand and wrist pathology. Conventional radiography is still the imaging technique of first choice for evaluation of abnormalities of the wrist and hand. Bone scintigraphy is an important diagnostic tool with a high sensitivity but low specificity. Arthrography should be performed if abnormality of ligamentous or triangular fibrocartilaginous pathology is suspected; however, using arthrography, all three major compartments and both wrists should be examined arthrographically. In selected cases, such as occult fractures, fracture healing, and early detection of avascular necrosis, advanced imaging techniques, such as magnetic resonance imaging and computed tomography, may be necessary and are helpful to achieve correct diagnosis.

Current Status of Wrist Arthrodesis and Wrist Arthroplasty

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Peter M. Murray

A variety of conditions may cause chronic pain and loss of function of the wrist, including rheumatoid arthritis, post-traumatic arthritis, and osteoarthritis. During the later half of the twentieth century, surgeons' efforts have fluctuated between various forms of wrist arthrodesis and wrist arthroplasty designs. Currently, most consider the use of arthroplasty in the wrist with only narrow indications, whereas others favor the use of either limited or panarthrodesis of the wrist. Nevertheless, the ultimate goal is to provide the patient with the ability to position the hand to perform activities of daily living and personal hygiene.

Current Status of Metacarpophalangeal Arthroplasty and Basilar Joint Arthroplasty of the Thumb

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Peter M. Murray

Implant arthroplasty of the metacarpophalangeal joint is primarily indicated in patients with rheumatoid arthritis. The concept of replacing the digital metacarpophalangeal joint is relatively new. Prior to the first prosthetic replacement for the destroyed metacarpophalangeal joint in 1959, the use of various soft-tissue interposition techniques had been reported and subsequently have been abandoned. Using concepts that have been successful in the hip and knee, surface replacement implants for the digital metacarpophalangeal joint have been developed that closely approximate the anatomy of the metacarpal head and proximal phalangeal base. Early results have been promising.

Surgical Principles and Planning for the Rheumatoid Hand and Wrist

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Eugene T. O'Brien

The large volume of literature dealing with surgery for the rheumatoid hand and wrist is replete with many surgical techniques available to the surgeon caring for these patients. It is imperative to determine the effect of these many procedures on the rheumatoid patient's quality of life. Because of the inexorable progress of the disease, some of the recommended procedures have not stood the test of time, and longer follow-ups have significantly diminished the initial enthusiasm for the procedure. A review of the principles and techniques of surgery for the rheumatoid hand and wrist is presented. Emphasis is placed on which procedures work and which do not.

Cumulative Trauma Disorders

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Philip E. Higgs and V. Leroy Young

A direct relationship between work activities and the onset of musculoskeletal symptoms has not been definitively proven, but several diagnostic entities are thought to be caused or magnified by repetitive motions or cumulative trauma on the job. This article discusses the identification and treatment of these recognized clinical entities, including compressive neuropathies, sites of tenosynovitis (such as trigger digit, de Quervain's syndrome, and intersection syndrome), epicondylitis, and carpometacarpal arthritis. These conditions typically produce a definable set of symptoms and physical findings, and standard treatment approaches have been identified. If the picture is unclear and diagnosis of a specific clinical condition cannot be established, the authors recommend that physicians not label patients with vague diagnostic terms unsupportable by objective criteria.

Reflex Sympathetic Dystrophy: The Controversy Continues

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Rahul K. Nath, Susan E. Mackinnon, and Eric Stelnicki

The clinical syndrome classically referred to as *reflex sympathetic dystrophy* is the focus of intense debate regarding its definition, incidence, diagnosis, and treatment. An increasingly common opinion is that reflex sympathetic dystrophy is overdiagnosed and may constitute only approximately 10% of all regional pain syndromes. Accurate diagnosis requires emphasis on anatomic principles and incorporation of placebo controls. Treatment methods follow traditional protocols of temporary or permanent sympathectomy when the diagnosis of reflex sympathetic dystrophy has been made.

Fractures of the Hand

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Fred G. Corley, Jr and Robert C. Schenck, Jr

Fractures of the hand are among those most commonly encountered in an active clinical practice. Appropriate treatment and attention to detail and follow-up and rehabilitation can enable most patients with these injuries to resume an active, productive life within a reasonable amount of time. Certain pitfalls and complications occur in these fractures, and prompt attention and recognition of these complications and pitfalls results in improved function and a decreased amount of time lost to the injury.

Arthroscopy in Hand Surgery

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Karen Johnston Jones

As techniques of wrist arthroscopy move into the second decade of clinical development, hand surgeons are finding increasing applications for arthroscopic surgery in both the diagnostic and therapeutic aspects of their practices. Diagnostic arthroscopy of the wrist joint is now the gold standard in the evaluation and treatment of patients with chronic wrist pain that cannot be explained by history, physical examination, and standard imaging modalities.

Endoscopic Carpal Tunnel Release: In Favor

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Daniel J. Nagle

The controversy surrounding endoscopic carpal tunnel release is put into historical perspective. The literature is reviewed and endoscopic carpal tunnel release and open carpal tunnel release are compared. It is concluded that endoscopic carpal tunnel release offers patients a safe, predictable solution to their carpal tunnel syndrome that will allow them a rapid return to normal activities.

Endoscopic Carpal Tunnel Release: The Voice of Polite Dissent

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E. Gene Deune and Susan E. Mackinnon

Endoscopic carpal tunnel release is a controversial topic in hand surgery. Its proponents believe that by selectively transsecting the transverse carpal ligament, patients treated with endoscopic carpal tunnel release have less postoperative morbidity than patients who undergo open carpal tunnel release. Closer examination of recent studies shows that there may not be any benefits and that complication rates are higher with endoscopic carpal tunnel release. A procedure that is proposed as a new technique to

replace another should improve on these success rates and decrease morbidity, cost, and operative time. Most importantly, the complication rate should be lower. This article summarizes the current literature on endoscopic carpal tunnel release and provides a basis for evaluating the potential merits or disadvantages of this new technique.

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