Developments in Hand Surgery

In the early part of the 20th century, "hand surgeons" did not exist. The specialty developed during World War II in response to the large number of hand injuries sustained in battle. At that time, hand surgery required the expertise of a number of surgical specialists – including orthopedic surgeons, plastic surgeons and neurosurgeons – but gathering multiple specialists was not practical during wartime. The solution was to start a training program for surgeons to learn hand surgery skills, and the specialty was established. Since then, there have been many significant advances in hand surgery – particularly over the past several years.

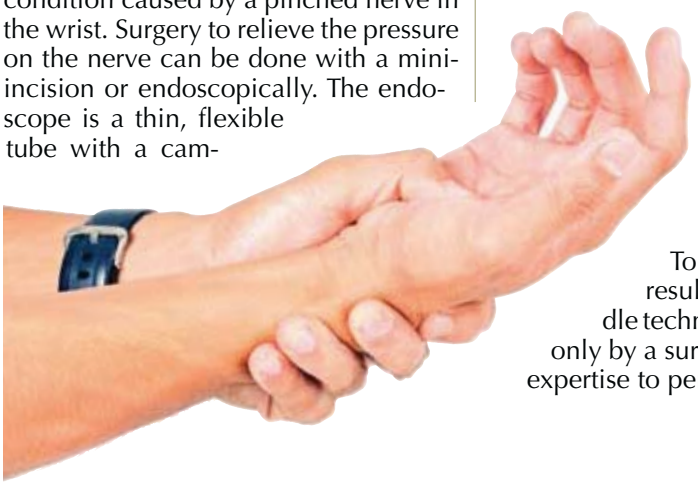
People with hand disability or pain are sometimes reluctant to have surgery, thinking that it will be an ordeal and the recovery will be long. However, recent advances in surgical techniques and technology have resulted in quicker recoveries and less pain.

Bone fractures of the hand, for example, can now be repaired more securely than ever before because of technological advancements and the type of equipment used. Patients are often able to return to work, to drive, and to do other household chores within a week after their procedure.

Cutting Edge Procedures

Minimally invasive techniques have had a dramatic impact on hand surgery, significantly expediting recovery.

Carpal tunnel syndrome is a painful condition caused by a pinched nerve in the wrist. Surgery to relieve the pressure on the nerve can be done with a mini-incision or endoscopically. The endoscope is a thin, flexible tube with a camera attached that lets doctors see structures inside the wrist without having to make a large incision. Both procedures require a minimal recovery period, and patients are able to quickly return to work and their regular activities. The superiority of one technique over the other has not been established.



Dupuytrens contracture is a genetically inherited deformity of the hand in which the connective tissue under the skin of the palm forms knots and ends up pulling one or more fingers into a bent position. Treatment for this condition previously required extensive surgery, but now it can be managed without even a single incision by using a procedure called *needle aponeurotomy*. During this procedure, the surgeon uses the tip of a needle to divide the knotted tissue through microscopic puncture wounds. There is minimal scar tissue formation. Recently an enzyme has become available that can be injected into the knot to dissolve it, allowing the physician to manipulate and straighten the finger during an office visit.

Another condition that can be treated with a needle technique is **trigger finger**, in which a finger or thumb becomes stuck in a bent position and then straightens with a snap. Trigger finger is caused by an inflammation of one of the flexor tendon sheaths, which are tubes that cover each of the tendons located on the palm side of the fingers and hand. During a needle procedure called *percutaneous trigger finger release*, doctors maneuver a needle under the skin to open the tendon sheath, which releases the locked finger. No incisions are required, and the patient can return immediately to full activities.

To ensure that good results are achieved, needle techniques should be done only by a surgeon who has special expertise to perform the procedures. Not all hand surgeons are experienced in the use of needle techniques.

Bioengineering

Patients undergoing hand surgery today also benefit from the use of biologically engineered tissues and bone, which can substitute for damaged structures, gaps in nerves or loss of tendon tissue. The availability of these man-made products – including collagen sheets, skin and bone substitutes and nerve tubes – minimizes the need for taking skin grafts, nerves or bone from another part of the patient's body.

Patients in our community are fortunate that the latest hand surgery procedures are available locally.

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