

Orthopaedic Connection

The Amazing Human Hand

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Transforming patient information into patient understanding.

This article about the hand was in Orthopaedic Connection several years ago, but since I have seen a large number of hand problems recently I decided to re do it.

As an Orthopaedic Surgeon I have been involved in the care of hands my whole professional life. In some places plastic surgeons also provide hand care. Mostly the hand and wrist is the province of Orthopaedic Surgeons such as myself. In large cities there are Orthopaedic Surgeons who have finished their traditional Orthopaedic Surgery residency as I did at the Cleveland Clinic and have taken further training to become a “hand surgery specialist”.

While I take care of the great majority of hand problems and injuries that come my way, these “super specialist” doctors are a valuable resource for me and my patients for very unusual or difficult cases.

An Incredible Instrument

Consider the versatility of the hand. It can perform an infinite variety of tasks. The hand can write, play a violin and paint a picture. The hand can also lift and carry heavy loads, build things, box and do karate.

How Does The Hand Do This?

The hand can do this because it is ridiculously complicated! The bones of the hand and wrist allow for a combination of great mobility and strength. There are eight bones in the wrist and nineteen in the hand. In one hand and wrist there are 27 bones. In the whole body there are only 204 bones.

This arrangement allows for a near universal joint at the wrist.

Anatomy

I'm really trying not to get too technical!

- Innumerable little joints between all these 27 hand and wrist bones.
- They all must move and slide together.
- Big muscles that move the hand are in the forearm.
- Many tendons connect these muscles to the bones.
- In the hand there are also a large number of smaller muscles that add further delicacy and movement.
- Add in dozens of nerves, arteries and veins.

Key Tools

Your hands are really key tools used in every daily activity. Besides the development of the human brain over millions of years, the next most amazing thing is the development of the thumb which over a similar length of time has evolved to become opposite the four fingers. The thumb allows us to do all the things we humans do. Try to do things with your hand without using your thumb to oppose the fingers!

Well, you can scratch, swing on a branch and hold a banana pretty well. Probably couldn't do Orthopaedic Surgery, though. See what I mean. The thumb is the key.

Injuries

In my practice I have seen it all. I am convinced there are a limitless number of things my patients can do to injure their hands. From an injury standpoint I'd have to say hands top the list. People will never stop

punching walls and breaking bones, getting bitten by their cat or cutting off fingers with power tools to name but a few.

- Lacerations of nerves, blood vessels, tendons
- Infections
- Crush injuries
- The list is endless

Hand Diseases

There are a huge number of things that can affect the hand besides trauma and injury. Such things as arthritis, carpal tunnel, tumors, ganglions, congenital problems, infections and so much more.

Time to stop and re-group. I am going to eventually get into how I treat most of these problems so please keep coming to class. There is much more to learn when I write future articles about the hand.

My patients put their trust in me and what I do improves the quality of their lives.

Gratiot County Herald Archive and Office Website

I sincerely hope all of our loyal readers will take advantage of an endless amount of musculoskeletal information. It is easy! Log onto www.orthopodsurgeon.com.

It gives access to 1) All Website articles, 2) Your Orthopaedic Connection, 3) Every GCH article from most recent to the first - full text! It covers everything I do in the office and hospital.

Good Health. Good Life. All the Best to you.

Dr. Haverbush