Savannah HEALTH PERSPECTIVE©

Ganglions

Mark Jenkins, D.O.

Ganglions make up around fifty to seventy percent of all soft tissue tumors of the wrist and hand. They occur in females about three times more than in males. Seventy percent of all ganglions occur between the second and fourth decades but can occur at any age- including children. Preceding trauma is only reported close to ten percent of the time. There is no correlation with any occupation. There are also no scientific reports of a benign ganglion changing into a malignant tumor.

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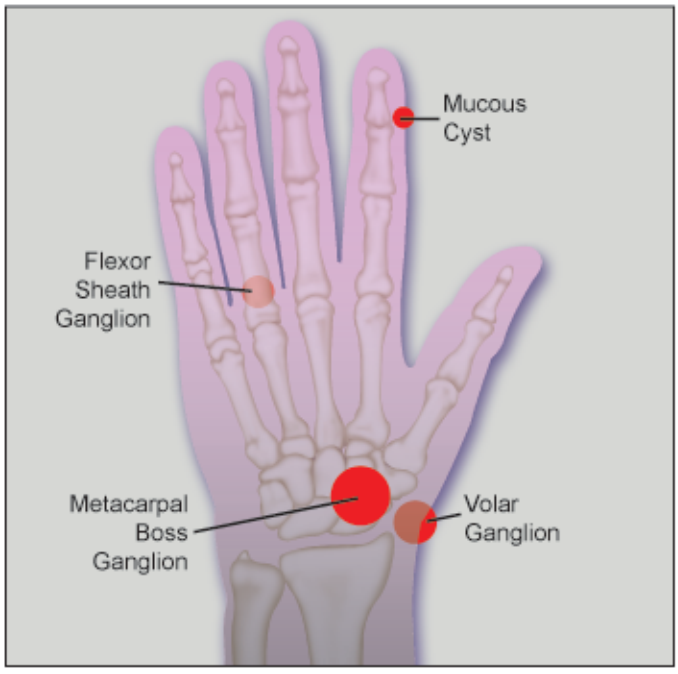
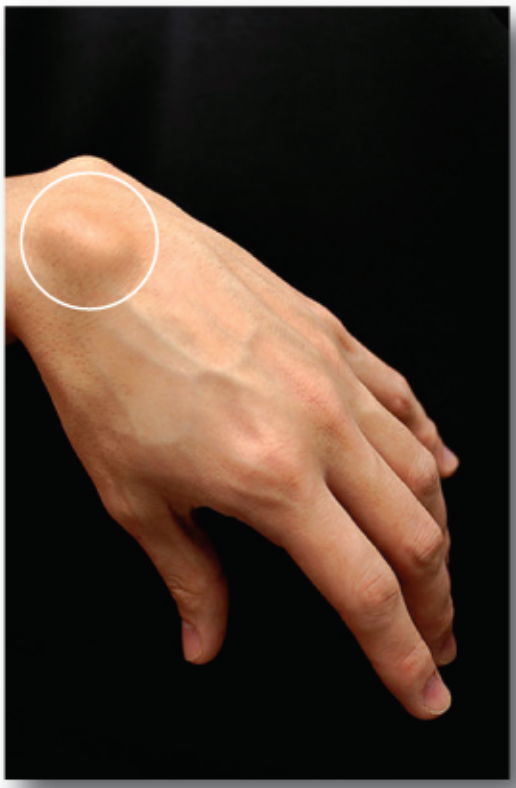
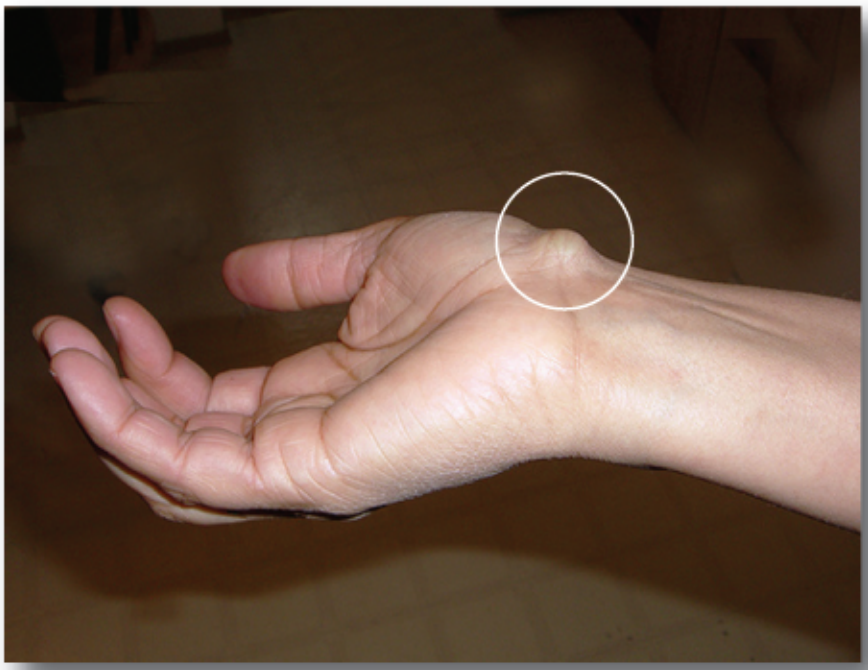


Ganglions usually occur in a single mass. The size can decrease with rest and increase with activity. Ganglions can even resolve spontaneously. A ganglion usually originates from a nearby joint or tendon sheath. Plain x-rays of the mass are generally normal. The recurrence rate with incomplete excision is a little over fifty percent. The most common presentations are pain, weakness and cosmetic complaints. The first reported ganglion was reported in 1746.

Microscopically, the ganglion is a cystic fluid filled sack or multiple small sacks. The walls are smooth, white, translucent and are made of collagen with no synovial lining (unlike the joint itself). The fluid is usually viscous, jelly-like with high concentrations of glucosamine, albumin, globulin and hyaluronic acid. Usually no inflammatory or mitotic cells are seen under the microscope. The thick fluid usually dissects through the joint capsule or tendon sheath to form a duct that becomes the cyst.

Ganglions are further defined by their location. Three ganglions, the volar wrist ganglion, the volar retinacular ganglion and the DIP joint ganglions make up ninety percent of the wrist and hand masses. The dorsal wrist ganglion, flexor





(L) Metacarpal Boss Ganglion (Dorsal)
(R) Volar Ganglion

sheath ganglion, mucous cyst and the metacarpal boss ganglion make up most of the remaining tumors.

The Dorsal Wrist Ganglion usually comes off of the scapholunate ligament on the back of the hand. Early recurrence after surgery excision is rare and again, usually due to incomplete excision. Later recurrence, years later, is felt to be the formation of a new ganglion in most cases. Initial treatment is aspiration of the mass with injection of a steroid preparation. Surgical excision is reserved for semiautomatic painful ganglions.

The Volar Wrist Ganglion occurs on the front of the wrist and is the second most common ganglion at about 20 percent. These generally come off of the ligaments between the radius bone and the scaphoid bone (wrist joint). Treatment is the same as the dorsal ganglion but must be careful with aspirations due to the close proximity to the radial artery.

Flexor Sheath Ganglions are the third most common ganglion at around 12 percent. It generally arises from the pulley system in the fingers. Recurrence is rare with surgical excision, but most of these respond well to aspiration and injection.

Mucous Cysts are ganglions off of the last finger joint (called the DIP joint). These usually occur between the fifth and seventh decade of life. Usually there is associated arthritis at that same joint. The cyst generally exits on either side of the extensor tendon. Pressure on the nearby nail bed can cause a groove in the nail to develop. Good results are reported with surgical excision and the nail can often grow back normally once the pressure is removed from the mass.

The Metacarpal Boss is also a ganglion that occurs on the back of the hand at the insertion of the extensor carpi radialis tendons. An arthritic spur is often associated with this mass. This mass may respond well to aspiration and injection, but good results are also reported with surgical excision.

The last mass to discuss is the Giant Cell Tumor. This tumor is benign but can be locally aggressive. Microscopically, this mass is characterized by multiple multinuclated giant cells (hence the name). This mass is clinically more firm to palpation than a ganglion. It is better treated with surgical excision.

As you can see, most lumps and bumps of the wrist and hand are benign. They generally respond well to treatment but most are not surgically treated unless they remain symptomatically painful. Any mass that is painful or enlarging quickly should be examined by a physician to rule out the small few that are cancerous.

For more information on ganglions or other orthopaedic issues, Dr. Jenkins can be contacted at Chatham Orthopaedics, 4425 Paulsen Street, Savannah, Georgia 31405 or you may call him at (912) 355-6615