291 North Fireweed
Soldotna, AK 99669
907-262-6454
www.kenaipeninsulaortho.com

Orthopaedic Surgeon:
Henry G. Krull, M.D.

Hand and Wrist Specialist:
Edwin D. Vyhmeister, M.D.

Ganglion Cyst

Ganglion cysts are fluid filled lumps or masses that arise from tendons or joints, most commonly about the wrist and hand, and less commonly about the foot and ankle. They can be found around any tendon or joint, even the knee, shoulder, hip. The cysts become filled with fluid that lubricates tendons or joints. The fluid can become very thick and jelly-like. Cysts themselves are not harmful, but can put pressure on surrounding structures such as tendons and nerves.

Symptoms:

Ganglion cysts often present as painless masses, sometimes very small like pebbles, and sometimes as large as tennis balls. The most common location is the back of the hand and wrist. The cyst can become painful due to pressure on surrounding structures such as tendons or nerves. The can sometimes interfere with normal joint motion. Pressure on nerves can cause numbness and tingling. Cysts often fluctuate in size, as the fluid volume changes. They are often sensitive to pressure, such as when the cyst is bumped.

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Cause:

Ganglion cysts often arise spontaneously, without incident or event, or may occur following trauma, or with overuse. Inflammatory diseases, such as rheumatoid arthritis, are also associated with the development of ganglion cysts. Cysts may also arise due to meniscal tears in the knee or labral tears in the shoulder or hip (paralabral cysts), or in association with massive rotator cuff tears. The common factor with all ganglia are excessive fluid production, and a weakness in tissue that surrounds joints or tendons that allows the fluid to escape to form a balloon sack of fluid. This phenomenon can be seen in garden hoses that have a weakness in the wall of the hose that allows a water-filled bubble to form, and can be seen in auto or bicycle tires that have a weakness in the tire wall that allows air to escape and form a bubble.

Diagnosis:

A careful history and physical examination will diagnose most cases of ganglion cysts. X-rays may be obtained to evaluate for other causes of pain, and to evaluate for soft tissue *masses* that may represent tumors instead. Diagnostic ultrasound is often used to evaluate the size and location of cysts, as well as examine its proximity to nerves and blood vessels. MRI may be required to characterize the cyst, and to help differentiate from tumor.

Treatment:

Treatment usually begins with conservative (nonsurgical) treatment. Surgery is reserved for those who do not improve, or who have progression of symptoms (pain, tenderness, or loss of function) despite appropriate conservative treatment.

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Nonsurgical Treatment

-- Observation is a very appropriate first step, particularly for smaller cysts that do not cause significant symptoms. Since cysts often resolve spontaneously, immediate treatment is not always necessary.
--Bracing may help to relieve symptoms by restricting joint or tendon movement that can be associated with fluid production. Modalities such as anti-inflammatories, ice, and heat, may provide symptom improvement.
--Needle aspiration (fluid removal with a needle) with or without cortisone injection can be curative. This is often done with ultrasound guidance. Removing fluid can be challenging, though, because the fluid can become very thick, making removal with a needle difficult. The recurrence rate with needle aspiration of ganglion cysts is about 70%, meaning most of them return.
--PRP injection following needle aspiration may be curative, with a considerably lower recurrence rate.

Surgery

Surgery may be required when there is progression of symptoms (increase size of the cyst, and / or increased pain), or failure to improve with conservative treatment. Cyst excision (removal) can be done under a local anesthetic in the office or outpatient surgical setting. Cysts are occasionally removed arthroscopically, through small incisions, particularly those about the wrist, knee, and shoulder. The recurrence rate with surgical excision approaches 30%, meaning some of these cysts return.