

The olecranon (oh-LEH-cruh-nahn) is part of the ulna bone at the elbow. It is the bony prominence or pointy tip that can be felt best with a bent elbow. Some people call it the “funny bone”. The bursa is a normal thin sac of fluid that lies between this bony tip and the skin. It helps the skin slide over the bone smoothly. Normally, this sac has only a small bit of fluid inside of it and lays flat; the fluid is not typically detectable. However, the bursa can become irritated or inflamed and fill with extra fluid (see Figure 1). When this happens, swelling develops at the back of the elbow. This swelling is called olecranon (elbow) bursitis. Oftentimes, this enlargement at the tip of the elbow is painless, but at times, it can be uncomfortable.

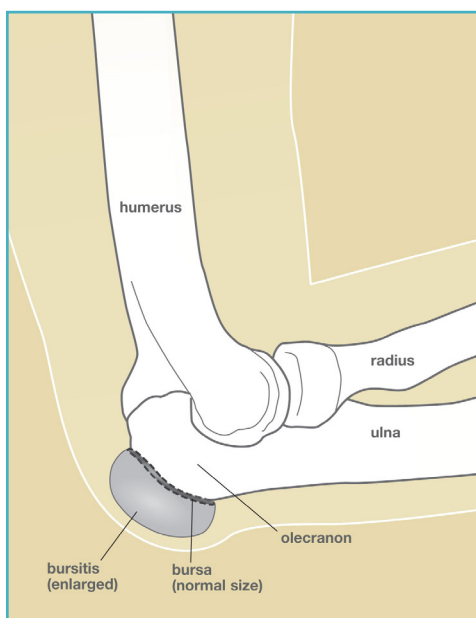


Figure 1 - Elbow anatomy with swollen olecranon bursa, as it happens in olecranon bursitis

The tricep tendon inserts onto the olecranon. Sometimes a bone spur (enthesophyte) develops within the tricep tendon. This is typically buried within the tendon and not thought to be part of the cause of bursitis. Therefore it does not require removal to treat bursitis.

Causes

There are many potential causes for olecranon bursitis. Trauma, such as hitting the elbow or falling on the back of the elbow, can lead to this condition. People who lean their elbows against hard surfaces can develop this problem over time. This is common in people who drive a lot where they rest their elbow on an arm rest. Those with conditions such as gout, rheumatoid arthritis or kidney failure needing dialysis can be more likely to get this condition. In many cases, the cause is not known.

Signs and Symptoms

Swelling or a mass is the first sign of olecranon (elbow)

bursitis. Sometimes, the onset of this can be abrupt or gradual. The size of the bursitis can vary. The bursa can be very small, or it can grow to a soft golf ball-size mass at the tip of the elbow (see Figure 2). Most people seek medical care because they are concerned about the swelling. Generally, the bursitis does not cause pain. However, pain can result if the bursa becomes infected, which will cause tenderness, redness, or warmth in the area.



Figure 2 - Swollen olecranon bursa in olecranon bursitis

A bursa is a closed space. This means an infection of a bursa starts off in a contained limited area. If the infection erodes through the bursal sac, the infection can rapidly spread up and down the arm. This may become a limb or life-threatening infection if the muscle covering called fascia becomes infected. When an infection changes from local in one area to systemic where bacteria spread along tissue or through the blood to other areas, you become much sicker. This is called sepsis and includes signs such as low blood pressure, high heart rate, fever, tiredness, change in mental focus, sleepiness, and causes many laboratory abnormalities.

Diagnosis

Your doctor might order an x-ray to look for a broken bone, bone spur, or calcium deposit at the elbow (see Figure 3). If your physician has a concern for an infection or an underlying condition such as gout, rheumatoid arthritis or kidney issues, blood tests can be ordered to check for an infection or another cause. If your physician feels that the bursal sac is infected, fluid might be removed from the bursa with a needle and sent for testing. The fluid may be analyzed for bacteria or crystals. Gout is caused by uric acid crystals. Pseudogout is caused by calcium pyrophosphate crystals. The crystal deposition problems look similar to infection.

Treatment

If the bursa does not seem to be infected, then treatments can be limited and non-invasive. Treatment



Figure 3 - X-ray of elbow showing soft-tissue outline of olecranon bursa and a calcium deposit, which your doctor may look for in olecranon bursitis

- **Aspiration:** If the fluid sac aggravates you, your doctor might offer to remove the fluid from the bursa first with a needle (aspiration).

If your doctor thinks you have an inflammatory but not infectious bursitis, it may be helpful to remove and test the fluid for gout or pseudogout crystals. If crystals are identified, it can be helpful to try oral steroids or an injection of steroid into the bursa. It is also important to test the fluid for bacteria. If bacteria are present your doctor should not start any type of steroid. Avoiding pressure and use of a wrap is also helpful in this type of bursitis.

If the bursa is infected, antibiotics might be needed. Depending on infection severity and other factors, you may require oral or IV antibiotics. An infected bursa can start out as a limited, deep infection only at the elbow. Infected skin is called cellulitis. Skin-only infections are often resolved with antibiotics alone. Deep infections like a bursitis are more likely to require fluid evacuation through one or more needle drainages. If this drainage and antibiotics are not improving the infection, a surgery may be required.

options can include:

- **Avoiding activities that irritate the area:** This means it is necessary to avoid resting the elbow on a hard surface. People commonly rest their arm on a car arm rest or the edge of a table. This chronic pressure and friction over the olecranon can increase chances of developing a bursitis.
- **Using wraps and pads:** To reduce swelling and cushion the area, consider applying a snug elbow wrap or elbow pad.
- **Taking medication:** You can also try taking oral anti-inflammatory medications or acetaminophen if there is any pain.

Sometimes it may be necessary to surgically remove the bursal sac if your infection cannot be cleared or if the bursa fluid keeps returning, but is not infected, and is causing problems. Because the bursal fluid lifts the skin away from the bone, it creates space. This space likes to reaccumulate fluid after surgery. Therefore, sometimes a drain is used. The drain continues to withdraw fluid after surgery. It is removed when the amount of fluid per day is minimal. Sometimes more than one surgery is needed if the skin fails to heal or prolonged drainage is present. One secondary treatment technique may require your surgeon to rotate a local muscle to cover the olecranon bone and fill the space with tissue rather than fluid.