Student's Elbow (Olecranon Bursitis)

The olecranon is the bony tip of your elbow. A bursa is a soft bag of fluid lying over a joint in the body. ‘-itis’ means inflammation. So olecranon bursitis is a condition where there is inflammation and soft swelling at the back of your elbow.

What is a bursa?

A bursa is a small sac that contains a small amount of fluid. The fluid is similar to the fluid in joints (synovial fluid). There are several bursae in the body, including one just over the olecranon. Bursae help to make movement smooth between bones which ‘stick out’ and the overlying skin.

Normally the bursa cannot be felt but when it gets inflamed, it becomes larger so that you can see the bulge and feel a soft lump over the back of your elbow. It is sometimes said to resemble the shape of a goose egg, although it may come in different shapes and sizes.

What are the causes of olecranon bursitis?

There are a number of possible causes of olecranon bursitis:

- **Mild but repeated injury** is thought to be the common cause. For example, people who lean on their elbows a lot cause friction and repeated mild injury over the olecranon. (Sometimes names are given to this condition when the cause is clear. For example, when it occurs in people who study whilst leaning on their elbows on a desk, it is called 'student's elbow'. Other names include 'miner's elbow', 'plumber's elbow', etc, when the job involves crawling a lot using elbows.)
- **Repeated elbow movements** may be a cause in certain athletes. For example, those whose sports involve throwing by raising the arm above the head (such as cricket or baseball players, javelin throwers) or weightlifters.
- **One-off injury** such as a blow to the back of the elbow may set off inflammation.
- **Arthritis.** One or more bursae may become inflamed as part of a generalised arthritis. (Note: most cases of olecranon bursitis are not associated with arthritis.) Types of arthritis which can be associated with bursitis include rheumatoid arthritis, gout and ankylosing spondylitis.
Infection of a bursa. This may occur if there is a cut in the skin over a bursa, which allows in germs (bacteria). Some illnesses may make infection more likely - for example, diabetes or conditions where the immune system does not work as well as normal. There is not always an obvious cause for the infection.

Unknown (idiopathic). Many cases occur for no apparent reason. However, it is possible that some of these are due to a mild injury that has been forgotten.

What are the symptoms of olecranon bursitis?

You cannot normally feel or see a bursa. If the olecranon bursa is inflamed then it causes a thickness and swelling over the back of the elbow. The bursa may also fill with fluid and it then looks like a small soft ball.

There are two types of olecranon bursitis:

- Infected (septic)
- Non-infected (aseptic)

It is not always obvious which type it is, but the symptoms tend to be slightly different. The non-infected type is the most common.

Aseptic bursitis

Most cases are painless, or are only mildly painful. The movement of the elbow joint is not affected. It may hurt to put any pressure on your elbows - for example, if you lean on them at a desk. It may also hurt a little when you bend your elbow. The swelling looks the same colour as the rest of your skin, or slightly pink. It may feel the same temperature as the rest of your skin, or may be slightly warm. The swelling is soft rather than hard when you touch it, and you may be able to feel the fluid moving within it when you press on it.

A bursitis associated with another condition such as arthritis may not be painful itself but you will have other symptoms related to the arthritis, such as joint pains.

Septic bursitis

If the bursa is infected then you will usually develop pain, redness and tenderness behind the elbow. There may also be redness and swelling spreading away from the elbow. You may have a high temperature (fever). There may be a graze or wound on the skin over the swelling, where the germs (bacteria) entered.

How is olecranon bursitis diagnosed?

If you have a straightforward case of olecranon bursitis, the doctor may be able to diagnose it without any tests. The swelling is very typical and because the elbow is so close to the skin, it is usually quite easy to feel.

However, other tests are sometimes needed to rule out other causes of elbow swelling, such as infection (septic arthritis), gout or rheumatoid arthritis. Tests which might be needed include blood tests and an ultrasound scan. If you have had a significant injury, an X-ray might be needed to make sure there is no break (fracture).

If infection (‘septic olecranon bursitis’) is suspected, the fluid in the swelling may be drained (aspirated) by the doctor. This may be done by your GP in the surgery in some cases. The skin is cleaned, then a needle is inserted into the swelling. Some of the fluid is drawn up into a syringe. A sample is then sent to the lab to see which germs (bacteria) are causing the infection. This can then help guide the right treatment for you. The fluid in the sample can also rule out other causes of the swelling, such as gout. There is a small risk of introducing an infection by inserting the needle.

Do I need to see a specialist?

Your GP may often be able to diagnose and treat you without you needing a referral to a specialist. However, if there is doubt about the diagnosis, or if you have an associated condition such as rheumatoid arthritis, you may be referred. Also if your GP is not practised at aspirating these swellings, he or she may refer you to someone with plenty of experience.

What is the treatment for olecranon bursitis?

In many cases, olecranon bursitis clears up on its own with simple care such as resting the elbow, avoiding pressure on it, and applying ice packs. Some people find a compression bandage on the elbow makes it more comfortable. As long as there is no infection, over time most cases of olecranon bursitis will then settle on their own.

Other treatments advised in some cases include:

- **Anti-inflammatory medication** (such as ibuprofen, naproxen, diclofenac, etc) may be prescribed to reduce inflammation and swelling. Paracetamol is another option if the elbow is painful.
- **Draining the fluid (aspiration)** can be done by a healthcare professional with a sterile needle and syringe if a lot of fluid builds up. However, the fluid tends to build up again after being drained. Therefore, you may be advised to wear a tight pressure bandage for a while after the fluid has been drained, to prevent it building up again.
- **A steroid injection** into the bursa may cure the problem. Steroids are good at reducing inflammation. However, steroid injections sometimes cause infection in the bursa.
Surgery to remove the bursa is an option if the above do not work. Antibiotics are needed if the cause of the bursitis is an infection. Normally an antibiotic such as flucloxacillin or erythromycin is used until the results of the tests on the aspirated fluid are available. Then the choice of treatment can be changed if necessary and directed at the exact germs (bacteria) causing the infection. Flucloxacillin and erythromycin treat the most common types of germs which cause olecranon bursitis.

If you protect the elbow from excessive friction and rubbing it may prevent further bouts of bursitis. This may mean using elbow pads if you need to lean on your elbows whilst working.

Will it come back after treatment?
Not usually. If you tend to lean on your elbows then avoiding this may make it less likely to come back again. Try to avoid this position, or use a cushion or pad so your elbows don’t rest on a hard surface.

Further reading & references
- Olecranon bursitis; NICE CKS, July 2015 (UK access only)

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Document ID: 4604 (v41)
Last Checked: 28/09/2016
Next Review: 28/09/2019

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