CQ HAND + UPPER LIMB
SPECIALIST ORTHOPAEDIC SURGEON

PATIENT INFORMATION

Avascular necrosis of the femoral head

What you're feeling

Avascular necrosis of the femoral head means the ball of your hip joint is losing its blood supply. Without blood, part of the bone weakens and can eventually collapse. The pain usually sits deep in your groin, and it can spread to your thigh or even your knee. Many people feel it most when they walk, climb stairs, or stand up after sitting for a while.

This condition tends to affect people in their late 30s and early 40s. It often starts quietly. Some small areas of affected bone cause no pain at all and are only picked up on a scan. Larger areas are more likely to cause trouble, with a 25% to 50% risk of the problem getting worse over time. Nearly 80% of people already have late-stage disease by the time they see a doctor, which means the window to protect the hip before the bone collapses can be narrow.

Day to day, the pain can limit how far you can move your hip. Turning your leg inward or moving it out to the side may feel stiff or restricted. Getting in and out of a car, lowering yourself onto a low chair, or putting on shoes and socks can become awkward. Some people notice a limp. Others feel a catching, locking, or grinding sensation in the hip, which can mean the surface of the joint is damaged.

If your symptoms followed a hip injury or fracture in childhood, the picture can be similar. Groin pain is the usual complaint, and it can appear months or even years after the original injury. In children with Legg-Calvé-Perthes disease, a form of the same condition, a limp and hip, thigh, or knee pain are the usual signs, and most children go through 12 to 18 months of difficulty before their symptoms settle.

Whatever the cause, the pain tends to flare with activity and load on the hip. If deep groin pain is not settling, it is worth having it looked at early.

What's actually happening

Your hip is a ball-and-socket joint. The ball is the femoral head, and it needs a steady supply of blood to stay alive. That blood arrives through a small set of vessels that wrap around the top of your thigh bone and enter the ball through a narrow window. There is very little backup. If those vessels are squeezed shut, blocked, or damaged, the bone they feed is cut off.

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When bone loses its blood supply, the cells inside it die. Your body tries to repair the dead patch, but that repair work brings swelling into a space with no room to expand. The pressure this creates squeezes off the remaining blood supply even further. Meanwhile, the weakened bone keeps taking your weight. Tiny cracks form in the layer of bone just under the joint surface, and without living bone to heal them, they grow. The ball can then flatten or collapse, and the smooth cartilage over it loses its support.

Think of the femoral head as a bridge built from living stone. Dead stone looks the same on an early scan, but it no longer carries load the same way, and enough of it fails quietly before anyone notices. That is why the groin pain you read about above often arrives late, and why early diagnosis matters.

Several things can cut off the supply. A hip dislocation or fracture can tear or kink the vessels. Steroid medicines and heavy alcohol use can change the blood and the marrow inside the bone until flow slows or stops. Clotting problems can block the small vessels outright. In about 10% to 20% of cases, no cause is ever found.

Where the dead patch sits matters too. A patch at the front of the ball carries more load and is more likely to collapse than one tucked away from the weight-bearing area.

What we can do about it

Dr Kieran Hirpara, a hip surgeon at Mater Private Hospital Rockhampton, starts with the least invasive options that suit your condition. Patients are generally referred to our clinic by their GP; if a physiotherapist has suggested you see us, you will still need a referral from your GP in order to be eligible for the Medicare rebate. At your first visit we take a history, examine your hip, and arrange scans where they are needed. Scans also tell us the stage of the condition, which shapes what we recommend.

If the affected patch of bone is small, causes no pain, and sits away from the weight-bearing area, we may simply watch it with regular check-ups and scans. If you do have pain, we usually try non-operative care first. That means changing how you load the hip, easing back on activities that flare your symptoms, and physiotherapy to keep the joint moving and the surrounding muscles strong. Some people are asked to take less weight through the leg for a while. We give this a fair trial before talking about anything further.

For pain, simple pain relief and anti-inflammatory medicine can help you stay active while the hip settles. We do not use cortisone or other injections for this condition, so we will not offer them as part of your care.

If the bone has not yet collapsed, surgery can aim to save the joint itself. One option is to drill small channels through the neck of the femur into the dead patch, which eases pressure inside the bone and gives new blood vessels a path in. This is sometimes combined with a graft of your own bone marrow cells placed into the channel to help the bone heal. Another option is to move a small piece of healthy bone, with its blood supply still attached, into the damaged area. For some hips, cutting and reangling the thigh bone can shift weight away from the dead patch. These joint-preserving operations work best before collapse, and we will talk through which, if any, suits your stage. If the ball has already collapsed or the joint surface is worn, the usual step is a total hip replacement, where the worn ball and socket are replaced with artificial parts. We consider surgery when non-operative care has not given enough improvement, and we will weigh the options with you as a shared decision.

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What to expect

This condition rarely settles on its own. Once the blood supply is cut off, the affected patch of bone keeps weakening under your weight. More than one-third of people with painful osteonecrosis of the femoral head see the bone collapse faster within 1 year. Left alone, the disease usually moves towards collapse of the ball and gradual wear of the whole joint.

Timing is hard to predict. Some people feel worsening pain over months. Others get a longer run before trouble starts, and symptoms can even appear years after the first signs. If your hip problem followed an injury, keep in mind that pain can show up as late as 8 years after the injury, even when early scans looked clear. That is why your surgeon will want to follow you for a long time, not just the first few months.

Where you sit when the condition is found shapes what happens next. If the dead patch is small, causes no pain, and sits away from the weight-bearing area, watching it with regular check-ups may be all that is needed. If it is caught before the bone collapses, joint-preserving surgery gives the hip its best chance of staying intact. If the ball has already flattened, the usual path is a total hip replacement, where the worn surfaces are replaced with artificial parts. Replacements done for this condition have shown improved survival since 1993, meaning fewer need redo surgery over time.

Be aware that a joint-preserving operation does not always stop the disease. If the causes that led to the bone death continue, or the graft does not reach the whole affected area, the hip can still deteriorate. A previous joint-preserving operation can also make a later hip replacement more technically demanding and may affect the short-term result.

The realistic goal is a hip that lets you manage daily life with less pain, not a promise of a cure. Early diagnosis and timely treatment give you the widest range of options, which is why it is worth acting while the bone is still intact.

When to see someone

See your GP if you have deep groin pain that has lasted more than a few weeks, or pain that spreads to your thigh or knee and will not settle. Ask for a specialist review if scans show an area of dead bone in your hip, even if it is not yet painful, because larger areas carry a real risk of getting worse. Ask sooner rather than later if the pain is stopping you sleeping, working, or walking your usual distances. Go to an emergency department if you have had a hip injury or fall and cannot put weight on the leg, or if sudden groin pain follows a known hip problem. If groin pain starts during pregnancy, mention it to your doctor so the hip can be checked. Children who limp, or who favour one leg after a fall, should also be reviewed early.

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