The hip joint is the largest joint of the human body. It is a ball and socket joint. The thigh bone (femur) ends with a rounded projection or ball (femoral head), which fits into the socket (acetabulum) of the pelvic girdle. Both the ball and socket are lined with cushioning tissue called cartilage.

The joint is sealed inside a tough capsule made of membrane (synovial capsule), which contains lubricating fluid that aids smooth motion of the joint. The ball is anchored firmly into the socket with tough connective tissue called ligaments. The muscles of the legs overlay these ligaments.

The hip joint is complicated so as to allow a wide range of motion while still supporting the weight of the body.

Symptoms of hip problems
Symptoms of a hip problem may include:
- pain in the hip joint (usually felt in the groin area)
- referred pain to the thigh and knee
- limping
- reduced range of motion
- muscle stiffness
- pain when trying to put weight through the leg on the affected side.

Causes of hip problems
There are many condition that may cause hip problems, such as.

- osteoarthritis
- rheumatoid arthritis
- ankylosing spondylitis
- bone fracture
- developmental dysplasia of the hip
- Perthes’ disease
- slipped capital femoral epiphysis
- irritable hip syndrome.

Osteoarthritis
Osteoarthritis is associated with degeneration of the joint cartilage and with changes in the bones underlying the joint. The cartilage becomes brittle and splits. Some pieces may break away and float around inside the synovial fluid within the joint. This can lead to inflammation.

Eventually, the cartilage can break down so much that it no longer cushions the two bones. Current theory
suggests that the cartilage loses its elasticity because of cellular changes. Commonly affected joints include those of the hip, spine, shoulder, fingers, knees, ankles, feet and toes.

**Rheumatoid arthritis**

Rheumatoid arthritis is an immune condition that causes inflammation in moving joints (synovial joints).

Although people who develop rheumatoid arthritis may have a predisposition to the condition, the ‘trigger’ for developing symptoms is unknown. Inflammation in joints results in an increase in synovial fluid (swelling of the joint), pain and morning joint stiffness. Joints that can be affected include those of the hands and wrists, elbows, shoulders, neck, jaw, hips, knees, ankles and feet.

**Ankylosing spondylitis**

This uncommon form of inflammatory arthritis can target the spine, knees and hips. Typical symptoms include pain and stiffness first thing in the morning. The cause is unknown, but genes are thought to play a significant role. Ankylosing spondylitis can occur by itself or in association with other disorders, including Crohn’s disease, ulcerative colitis and psoriasis. Caucasian men aged between 16 and 33 years are most susceptible.

**Bone fracture**

Older people are more prone to hip fractures because bones become less dense as we age. In some cases, a person develops osteoporosis – a disease characterised by the excessive loss of bone tissue. The bones become soft and brittle, and prone to fractures and deformities. More women than men experience osteoporosis.

**Developmental dysplasia of the hip**

Developmental dysplasia of the hip means that the hip joint of a newborn baby is dislocated or prone to dislocation. The socket is abnormally shallow, which prevents a stable fit. Slack ligaments may also allow the femoral head to slip out of joint.

Possible causes include a breech (feet first) delivery, family history and disorders such as spina bifida. Around 95 per cent of babies born with developmental dysplasia of the hip can be successfully treated.

**Perthes’ disease**

Perthes’ disease is a disease of the hip joint. It tends to affect children between the ages of three and 11 years. The ball of the femur is softened, and ultimately damaged, due to an inadequate blood supply to the bone cells. Most children with Perthes’ disease eventually recover, but it can take anywhere from two to five years for the femoral head to regenerate. The cause is unknown.

**Slipped capital femoral epiphysis**

During childhood, the femoral ball is attached to the femur with a growth plate of bone. In some teenagers, the ball can slide from its proper position, causing the leg on the affected side to turn out from the body.

Possible contributing factors include the shape and location of the femoral head in relation to the femur, increased sex hormones during puberty, and weight gain. Without treatment, slipped capital femoral epiphysis will worsen and the child may experience arthritis of the hip joint in later life.

**Irritable hip syndrome**

Irritable hip syndrome (sometimes called toxic synovitis) is a temporary form of arthritis, which tends to affect prepubescent children for unknown reasons. Boys with toxic synovitis outnumber girls four to one. Symptoms include hip pain (usually on one side only), inability to walk (or limping), knee pain and fever. Most cases of toxic synovitis resolve by themselves within one or two weeks.

**Soft tissue pain and referred pain**

Pain that can appear to be coming from the hip joint may, in fact, be related to soft tissue structures around the hip such as muscles, tendons and bursae, or may be referred from a back problem.
Pain experienced over the side of the hip may be due to trochanteric bursitis.

**Diagnosing hip problems**

Depending on the cause, diagnosis of a hip problem can involve a number of tests including:

- medical history
- physical examination
- x-rays
- ultrasound scans
- bone scans
- biopsy
- blood tests.

**Treatment options for hip problems**

There are various treatment options for hip problems, depending on the underlying cause:

- **for all forms of arthritis** there are non-pharmacological treatment options – treatments that do not involve medications – such as exercise programs, education and self-management programs. Specific treatments are available for different types of arthritis. For osteoarthritis, the most common type of arthritis, simple pain-relieving medication is often effective. Joint replacement surgery (hip or knee) may be the best option for people with severe osteoarthritis
- **rheumatoid arthritis and ankylosing spondylitis** usually require more complex medical treatment, such as anti-inflammatory medications and disease-modifying medicines. Some people may also require surgical procedures
- **fracture** treatment includes admission to hospital and surgery
- **for babies with developmental dysplasia of the hip** a special harness is worn for between six and 12 weeks to hold the joint in place while the baby’s skeleton grows and matures
- **Perthes’ disease** – options include bed rest, pain-relieving medication, a brace or splint (worn for between one and two years to encourage the regrowing femoral head to sit inside the socket) and surgery to treat deformities
- **slipped capital femoral epiphysis** – surgery can reposition the femoral head and screw it firmly into place
- **irritable hip syndrome** – options include bed rest, pain-relieving medications and non-steroidal anti-inflammatory medications (NSAIDs)
- **soft tissue pain** – local symptomatic measures such as an exercise program, anti-inflammatory creams and simple pain-relieving medications may help soft tissue pain.

**Where to get help**

- Your **GP (doctor)**
- **Rheumatologist**
- **Paediatrician**
- **Musculoskeletal Australia National Help Line** Tel. (03) 8531 8000 or 1800 263 265