

## LOOSE BODIES

### **Overview**

The ends of bones that make out the different joints in the body is covered with firm smooth tissue called cartilage. The humerus head and the glenoid join to form the shoulder joint and the distal end of the humerus and the proximal ulna and radius form the elbow joint. Articular cartilage absorbs shock, allows for smooth movement and protects the underlying bone. When joint cartilage is damaged due to arthritis or small pieces break off due to trauma, these pieces move freely around the joint and receive its nutrition through joint fluid. Small pieces of bone can come loose with the cartilage and especially during mechanical injury of the joint. These loose pieces that float around in the joint are called loose bodies.

### **Causes**

Injury to, or gradual degeneration of cartilage from arthritis causes small pieces to break off from the cartilage surface. Another source of loose bodies can be osteophytes that break loose and drift around in the joint. Osteophytes is bony outgrowth on the edges of the joint that occurs as a result of osteo arthritis. Cells which become active during osteo arthritis and are responsible for imflammatory reaction in the bone causes new bone to be deposited on the edges of the joint that eventually becomes osteophytes.

Bone and cartilage fragments can also break loose where there is weak blood supply to the subcondral bone (osteo condritis desicants). Connective tissue structures that developed during bleeding in the joint or damage to soft tissue in the joint can also cause loose bodies.

### **Symptoms**

Most loose bodies do not cause symptoms. When they do it is usually acute sharp pain that is experienced during episodes of locking or clicking of the joint and there is also a feeling of instability of the joint. Swelling of the joint can occur due to the irritating nature of these loose bodies. A grating feeling called crepitis may be felt or heard during joint movement.

### **Classification**

Loose bodies are classified by what they consist of, whether they are free in the joint or whether they are partially attached to the surrounding soft tissue. There are cartliginous loose bodies from cartilage, fibrous loose bodies from connective tissue origin and osteocondral loose bodies that contains bone and cartilage. Some cartilage loose bodies can calcify and like osteochondral loose bodies be visible on x-rays. Stable loose bodies are usually attached to the synovial membrane.

### **Treatment**

Loose bodies that cause symptoms must usually be removed. Smaller loose bodies can be removed by arthroscopic techniques through grabbing instruments or suction where with larger loose bodies a small incision will be necessary. Loose bodies can also be removed by burring or breaking it up in smaller pieces. In some cases where large enough pieces break loose from previously normal joint surfaces these loose bodies can be re-attached in their original position through surgery.