

OSTEOCHONDRAL FRACTURE

DESCRIPTION

A localized injury affecting a surface of the joint that involves breaking, with or without separation, a segment of cartilage and the underlying bone. This can occur in any joint, though it occurs most commonly in the knee (especially the knee cap), followed by the ankle, elbow, and shoulder. It occurs more frequently in adolescent males. This is a difficult problem to treat because cartilage has a limited ability to heal.

FREQUENT SIGNS AND SYMPTOMS

- Swelling and pain (both starting very quickly after the injury).
- There may be aching, giving way and “locking” or catching of joints as well as feeling a piece of bone floating in the joint.
- Crepitation (a crackling sound) within the joint with motion
- Often there are injuries to other structures within the knee with osteochondral fractures due to the great force necessary to cause this injury. Associated injuries include tears of ligaments and meniscus.

CAUSES

Impaction, avulsion, shearing and rotational forces due to direct trauma or injury to the joint. In growing children, cartilage is well adhered to the underlying bone and the forces are usually imparted to the bone causing the separation of the bone and cartilage together from underlying bone.

RISK INCREASES WITH

- Contact and collision sports and sports where playing on possibly falling on hard surfaces may occur.
- Adolescents
- Other knee injury, such as ACL or meniscus tear

EXPECTED OUTCOME

Small fractures may heal and not cause problems. Large and deep osteochondral fractures are a more difficult problem since injuries to articular cartilage do not heal and it is suggested that these may go on to develop arthritis (not proven in humans). Usually the symptoms resolve with appropriate treatment, including removal or fixing loose pieces of bone/cartilage.

POSSIBLE COMPLICATIONS

- Frequent recurrence of symptoms resulting in a chronic, repetitive pain and swelling.
- Arthritis of the affected joint
- Loose bodies with locking of affected joint.

GENERAL TREATMENT CONSIDERATIONS

Initial treatment consists of medications and ice to relieve pain and reduce the swelling of the affected joint. For the knee or ankle, walking with crutches until you walk without a limp is often recommended (you may put full weight on the injured leg). Range of motion, stretching and strengthening exercises may be carried out at home, though referral to a physical therapist or athletic trainer may be recommended. Occasionally, your physician may recommend a brace, cast, and/or crutches (for the knee or ankle) to protect or immobilize the joint. For those with persistent pain after conservative treatment or loose fragments within the joint, surgery is usually recommended. Surgery may include arthroscopy to remove the loose fragments, procedures to stimulate healing into the space left empty by the loose fragment, and when possible, procedures to reattach the fragment (if large enough and not deformed). After immobilization and/or surgery, strengthening and stretching of the injured, stiff and weakened joint and surrounding muscles (due to the injury, surgery and/or immobilization) is necessary. This may be done with or without the assistance of a physical therapist or trainer.

MEDICATION

- Non-steroidal anti-inflammatory medications, such as aspirin and ibuprofen (do not take if surgery planned in 7 days or less), or other minor pain relievers, such as acetaminophen, are often recommended. Take these as directed by your physician. Contact him/her immediately if any bleeding, stomach upset or an allergic reaction occurs.
- Strong pain relievers may be prescribed as necessary. Use only as directed and only as much as you need.

HEAT AND COLD:

- Cold is used to relieve pain and reduce inflammation. Cold should be applied for 10 - 15 minutes every 2-3 hours for inflammation and pain, and immediately after any activity which aggravates your symptoms. Use ice packs or an ice massage.
- Heat may be used prior to performing stretching and strengthening activities prescribed by your physician, physical therapist or athletic trainer. Use heat pack or a warm soak.

NOTIFY OUR OFFICE IF:

- Symptoms get worse or do not improve in 2 weeks despite treatment.
- Any of the following occur after surgery:
 - Signs of infection: fever, increased pain, swelling, redness, drainage or bleeding in the surgical area.
 - You experience pain, numbness, or coldness in the foot.
 - Blue, gray or dusky color appears in the toenails
- New, unexplained symptoms develop. Drugs used in treatment may produce side effects.