



## FEMORAL NECK (HIP) STRESS FRACTURE

### ■ ■ ■ Description

A femoral neck (hip) stress fracture is a complete or incomplete break in the hip (femoral neck) caused by intense exercise or repetitive pressure on the extremity. The wear and injury in the bone exceeds the bone's ability to heal and repair the injury, resulting in a breakdown of the bone, causing a stress or fatigue fracture. It may occur in both hips, although when even only one hip is affected there are significant symptoms.

### ■ ■ ■ Common Signs and Symptoms

- Vague, diffuse pain or ache in the groin, thigh or knee
- Pain that is worse when standing on the affected extremity and with exercise
- Limping and limited motion of the hip
- Occasional tenderness around the hip and groin

### ■ ■ ■ Causes

This stress fracture is caused by repetitive forces greater than the bone can withstand. It usually occurs when there is an imbalance between bone injury and bone remodeling (healing) and usually follows a change in training or performance schedule, equipment, or intensity of activity. It is also associated with a bone's ability to heal, which may be impaired when there is a loss of menstrual period in women.

### ■ ■ ■ Risk Increases With

- Previous stress fracture
- Military recruits, distance runners, and triathletes
- Bony abnormalities (including osteoporosis and tumors)
- Metabolic disorders, hormone problems, and nutritional deficiencies and disorders (anorexia and/or bulimia)
- Loss of or irregular menstrual periods in women
- Poor physical conditioning (strength and flexibility)
- Sudden increase in the duration, intensity, or frequency of physical activity
- Running on hard surfaces
- Poor extremity alignment, including flat feet
- Inadequate footwear with poor shock-absorbing capacity
- Poor technique

### ■ ■ ■ Preventive Measures

- Appropriately warm up and stretch before practice or competition.
- Maintain appropriate conditioning:
  - Muscle strength
  - Endurance and flexibility
  - Cardiovascular fitness
- Wear proper footwear; change shoes after 300 to 500 miles of running.

- Use proper technique with training and activity.
- Gradually increase activity and training.
- For women with menstrual period irregularity, treat hormonal disorder treatment, such as with birth control pills.
- Correct metabolic and nutritional disorders.
- For runners with flat feet, wear cushioned arch supports.

### ■ ■ ■ Expected Outcome

This condition is usually curable within 3 to 6 months with appropriate treatment.

### ■ ■ ■ Possible Complications

- Displacement of the stress fracture (becomes a complete hip fracture that loses proper alignment of the bones)
- Bone death due to interrupted blood supply to the ball of the hip
- Failure to heal (nonunion)
- Healing in a poor position (malunion)
- Recurrence of stress fracture
- Risks of surgery, including infection, bleeding, injury to nerves (numbness, weakness, paralysis), and need for further surgery
- Another stress fracture, not necessarily at the same site (occurs in 1 of every 10 patients)

### ■ ■ ■ General Treatment Considerations

Initial treatment consists of medications and ice to relieve pain and relative rest from the activity that caused the fracture. Because the risk of this stress fracture displacing and becoming a true fracture, with many possible complications that may result in disability, crutches and staying off the affected extremity for at least 4 to 8 weeks are often recommended to protect the bone while it heals. Menstrual, nutritional, and metabolic abnormalities need to be identified and treated appropriately to help healing and prevent recurrence. After rest, gradual return to activity is recommended. Uncommonly, bone stimulators, which provide electrical currents to the bone, may be recommended. Physical therapy may be helpful in gradually increasing strength of the muscles and bones after stress fracture and in maintaining cardiovascular fitness while waiting for the bone to heal. Surgery is necessary for certain types of stress fractures of the femoral neck to help prevent or treat the complications.

### ■ ■ ■ Medication

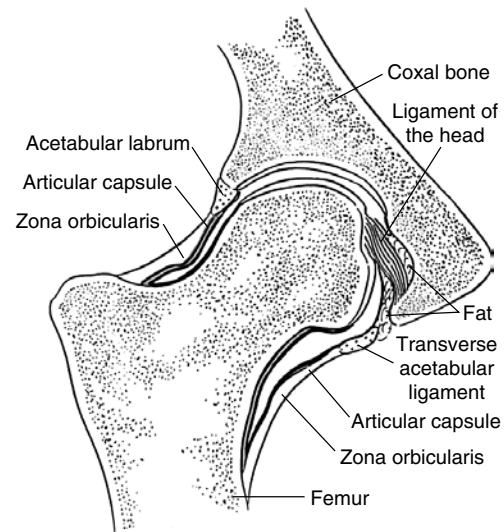
- Nonsteroidal anti-inflammatory medications, such as aspirin and ibuprofen (do not take within 7 days before surgery), or other minor pain relievers, such as acetaminophen, are often recommended. Take these as directed by your physician.

Contact your physician immediately if any bleeding, stomach upset, or signs of an allergic reaction occur.

- Narcotic pain relievers may be prescribed by your physician for severe pain. Use only as directed.

### ■ ■ ■ Notify Our Office If

- Symptoms get worse or do not improve in 2 weeks despite treatment
- The following occur after immobilization or surgery (report any of these signs immediately):
  - Swelling above or below the fracture site
  - Severe, persistent pain
  - Blue or gray skin below the fracture site, especially under the nails, or numbness or loss of feeling below the fracture site
- New, unexplained symptoms develop (drugs used in treatment may produce side effects)



**Figure 1**

From Jenkins DB: Hollinshead's Functional Anatomy of the Limbs and Back, 6th ed. Philadelphia, WB Saunders, 1991, p. 230.

Notes:

(Up to 4400 characters only)

Notes and suggestions