

Hip Fracture

Hip fracture — get surgery within 48 hours to fix the bone. Watch closely for confusion, blood clots in the legs, and pressure sores from lying still.

THE ONE-LINE TRUTH

A fall breaks the top of the thigh bone where it meets the hip, especially in older adults with thin bones.

The chain — how it unfolds

1. Thin bone snaps during a fall — why: Osteoporosis (loss of calcium and protein from bone over time) makes the femoral neck fragile. A fall from standing height—tripping on a rug, missing a step, or losing balance—applies more force than the weakened bone can handle, and it snaps. The break is usually at the narrow neck of the femur or just below it.
2. Broken bone cannot hold weight; leg shortens and rotates outward — why: Once the bone breaks, the two pieces are no longer connected. The strong muscles around the hip—especially the iliopsoas (hip flexor) and the short external rotators—pull on the lower piece of bone, shortening the leg by 1–2 inches and rotating it outward so the foot points away from the other leg. The patient feels sharp, severe pain in the hip or groin and cannot stand or bear weight.
3. Blood vessels tear; bleeding into the tissues causes swelling and a bruise — why: The fracture tears small arteries and veins running along the femoral neck. Blood leaks into the muscles and soft tissues around the hip, forming a pooled collection of blood (hematoma) (blood clot). The thigh and hip swell, and a bruise appears over the next day or two. This blood loss rarely causes shock, but it adds to pain and inflammation.
4. Patient lies still to avoid pain; blood pools in leg veins — why: Any movement of the broken bone causes severe pain, so the patient stays motionless in bed. Without muscle contraction in the calves, blood flow slows in the deep veins of the legs. This slow, pooled blood is prone to clotting (deep vein clot formation (thrombosis), DVT). A clot can break loose and travel to the lungs (pulmonary a traveling clot lodging in a vessel (embolism), PE), blocking oxygen and causing sudden shortness of breath, chest pain, or death.

5. Shallow breathing and lying flat collapse parts of the lungs — why: Pain and immobility make the patient breathe shallowly. The lower lobes of the lungs do not expand fully, so small air sacs (alveoli) collapse (atelectasis). Mucus accumulates, oxygen levels drop, and bacteria can grow, leading to pneumonia. Low oxygen (hypoxia) worsens confusion and makes the heart work harder.
6. Brain becomes confused (delirium) from pain, low oxygen, and medication — why: The combination of uncontrolled pain, opioid painkillers, dehydration, poor sleep, low oxygen, and the stress of hospitalization disrupts normal brain chemistry—especially acetylcholine (a neurotransmitter that supports memory and attention) and dopamine (a chemical that helps regulate mood and thought). The patient may not know where they are, become agitated, see things that are not there, or have trouble following conversation. Delirium is a medical emergency and predicts worse outcomes.
7. Pressure on skin over bony areas cuts off blood flow; skin dies and forms sores — why: Lying in one position presses the skin over the tailbone (sacrum), heels, and hips against the bed. This pressure squeezes shut the tiny capillaries that feed the skin with oxygen and nutrients. After a few hours, the skin cells die and an open wound (pressure ulcer) forms. These sores are painful, slow to heal, and can become infected, sometimes spreading bacteria into the bloodstream (sepsis).
8. Surgery fixes the bone within 48 hours; patient can move again and complications reverse — why: The surgeon inserts metal screws, a rod, or an artificial joint to hold the broken bone together so it can heal. Once the bone is stable and pain is controlled, the patient can sit up, stand, and take steps with help. Movement pumps blood out of the leg veins (preventing clots), expands the lungs (preventing pneumonia), clears the mind (reducing delirium), and protects the skin (preventing sores). Early surgery and mobilization are the key to survival and walking again.

Spot it — what you see, and why

- Sharp pain in the hip or groin that gets worse when you try to move your leg or put weight on it: The broken bone ends scrape against each other and pull on nearby tissue every time the leg tries to move, firing pain signals up to the brain.
- The injured leg looks shorter than the other leg: When the thigh bone (femur) breaks near the hip joint, the big thigh muscles pull the two bone pieces past each other, bunching the leg up and making it appear shorter.
- The injured leg is turned outward so the foot and knee point away from the body: The hip muscles that normally rotate the leg pull unevenly once the bone is broken, twisting the lower piece of bone and making the whole leg roll outward.
- Cannot lift the leg off the bed or stand on it at all: The broken bone cannot hold weight or anchor the muscles properly, so the hip loses its stable base and collapses under any load.

- Swelling and bruising spreading over the hip, thigh, or groin: Blood leaks from torn vessels around the fracture site and spreads into surrounding tissue, causing swelling and dark purple or blue marks on the skin.
- Tenderness when you press on the hip or groin area: Even gentle pressure pushes on the broken bone ends and inflamed tissue, triggering pain nerves clustered around the injury.

Red flags — act now

- Leg is cold, pale, or has no pulse below the hip (artery may be torn or pinched by the broken bone)
- Cannot feel or move the foot or toes (nerve damage from the fracture)
- Sudden chest pain or trouble breathing after the injury (fat or a clot from the fracture site may have traveled to the lungs)
- Signs of shock: fast heart rate, sweaty skin, confusion, or very low blood pressure (hidden bleeding inside the hip can be large and life-threatening)
- Fever, chills, or a wound over the hip (open fracture with bone poking through the skin risks serious infection)

Treat it — in this order

1. Surgery within 48 hours (internal fixation with screws or a sliding hip screw for younger patients and stable fractures; partial or total hip replacement for displaced femoral neck fractures in older adults) → Realigns the broken bone pieces or replaces the damaged joint so the leg can bear weight again. Early surgery (ideally within 24–48 hours) cuts the risk of death, blood clots, pneumonia, and pressure sores by letting the person move and stand sooner.
2. Blood clot prevention with pharmacologic anticoagulation (low-molecular-weight heparin such as enoxaparin 40 mg subcutaneous daily, or fondaparinux 2.5 mg subcutaneous daily) AND/OR mechanical prevention (prophylaxis) (intermittent pneumatic compression devices) → Stops blood from pooling and clotting in the deep leg veins (deep vein clot formation (thrombosis), DVT) while the person is immobilized. Preventing DVT prevents pulmonary embolism (a clot lodging in a lung artery) (a clot that travels to the lungs and can be fatal). Prevention (Prophylaxis) should start within 24 hours of admission and continue for at least 10–14 days, often up to 35 days.

3. Multimodal pain control (regional nerve block such as fascia iliaca block or femoral nerve block; scheduled acetaminophen up to 3 g/day; NSAIDs if kidneys allow; short-acting opioids only for breakthrough pain) → Reduces pain enough for the person to breathe deeply, cough, think clearly, and participate in physical therapy. Good pain control prevents delirium, pneumonia, and immobility complications. Nerve blocks work faster and cause less confusion than opioids alone.
4. Early mobilization and physical therapy starting within 24 hours after surgery → Gets the person sitting, standing, and walking with assistance as soon as safely possible. Movement prevents blood clots, pneumonia (by expanding the lungs), muscle wasting, and pressure sores. Early rehab also rebuilds balance and confidence, lowering the risk of future falls.
5. Delirium prevention bundle (reorient frequently to time and place; restore normal sleep-wake cycle; avoid sedating drugs like benzodiazepines and diphenhydramine; correct low oxygen, dehydration, constipation, and electrolyte imbalances; ensure glasses and hearing aids are in place) → Keeps the brain working clearly so the person can cooperate with care, eat, drink, and move instead of becoming agitated, pulling out IVs, or refusing therapy. Preventing delirium shortens hospital stay and improves survival.

Your top priorities at the bedside

1. Keep the broken leg still and supported with pillows in neutral position, avoiding rotation or pulling on the leg. — why: Movement of broken bone ends causes severe pain, damages surrounding blood vessels and nerves, and can push a non-displaced fracture out of place, making surgery harder and recovery worse.
2. Give multimodal pain control using scheduled acetaminophen, nerve blocks (regional anesthesia), and ice, saving opioids only for breakthrough pain. — why: Uncontrolled pain raises blood pressure and heart rate (increasing heart attack risk), prevents deep breathing (causing pneumonia), and triggers delirium in older adults; using multiple non-opioid methods reduces dangerous sedation and confusion.
3. Start blood clot prevention within 24 hours using compression stockings (sequential compression devices) on both legs and injectable blood thinner like enoxaparin unless bleeding risk is high. — why: Hip fractures cause blood to clot too easily (hypercoagulable state) from immobility and vessel injury; clots in leg veins (deep vein clot formation (thrombosis)) can travel to lungs (pulmonary a traveling clot lodging in a vessel (embolism)) and cause death in 1 to 7 days without prevention.