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THE EXTERNAL FIXATOR: Frequently Asked Questions

What is an external fixator?

An external fixator is often utilized when a bony deformity or fracture needs to be stabilized. It is a device that is attached to the bone via anchors, such as wires and screws that pass through the skin. Two or more of these bony anchors are placed on either side of the broken bone to hold the bone in place and provide stability while the bone heals.

Are there different types of external fixators?

- **Monolateral Frame:** consists of a series of pins, which are used to hold fracture fragments in place. It will often be used for unstable fractures or if there has been skin or muscle damage, which excludes the use of a cast as a treatment option.
- **Circular Frame:** consists of two or more rings. These are attached to the bone by screws and/or wires, which pass through the bone. The circular frame can be used for straightening bones, trauma, limb lengthening and severe infections.



QuickTime™ and a TIFF (Uncompressed) decompressor are needed to see this picture.

- **Why do we use an external fixation device?**

- Use of an external fixator allows for more fine tuning of the fracture or osteotomy site, when being used to straighten or lengthen limbs.
- Unlike internal fixation with plates, screws or rods, an external fixator is not permanent and can be removed easily under general anesthesia once the fracture site has healed.
- Typically, there are smaller incisions and less blood loss with use of an external fixator as compared to using internal fixation devices.

What are the disadvantages of using an external fixation device?

- It is not uncommon to have some pin site drainage with the use of an external fixator. This risk can be minimized with proper pin site care. If an infection does occur, it is treated with a 7 to 10 course of oral antibiotics.
- Although the external fixator is very effective, it can be a bulky device. Clothing may have to be modified and it is recommended that running pants which snap up the side be worn. Girls may also wear full fitting skirts. There are other clothing options listed at the following websites: www.ilizarov.uk/clothing.htm and www.ilizarov.org.uk/dressing.htm
- To varying degrees, pin sites will be visible following removal of the external fixator.
- In order to remove the fixator once the fracture site has healed, there usually is a second trip to the operating room for a same day procedure. This involves removing the fixator and placing a cast or a brace for a few days to protect the underlying bone from breaking again.

PIN SITE CARE FOR THE EXTERNAL FIXATOR

Why is the pin site important?

The area where the pin meets the skin is called the pin site. This opening, like any cut or nick in the skin, must be kept clean or there will be a risk of infection. Infection could cause the pin to loosen, require its removal or infection could spread to the bone. It is essential that you care for your pin sites correctly to help prevent infection and to allow for more comfortable healing.

How do I care for my pin sites?

Clean wire and pin sites once per day.

1. The first step is to wash your hands thoroughly with antibacterial soap for one minute, using nailbrush.
2. Remove any dressings. You may soak the difficult, encrusted ones with normal saline or run clear water over the site until they loosen. Slowly "teasing" the gauze off causes less pain and bleeding.
3. Inspect all sites for redness, tenderness, and drainage. If sites are clear, normal saline will be used for cleaning; if signs of infection are present, half strength hydrogen peroxide will be used. (Mix 1 part hydrogen peroxide with 1 part saline).
4. Put several cotton-tipped applicators in normal saline and allow to soak for several seconds.
5. Take one applicator and, using a "rolling motion," apply gentle pressure with the cotton tip at the junction of the skin and the pin or wire site. Do not use excessive force, dig, or try to remove scab around the pin or wire site.
6. Once the site is cleaned, you may clean up the side of the pin or wire if needed. Do not use the applicator on the skin after cleaning a pin or wire.
7. Use a new applicator at each site.
8. If instructed cover the site with a split 2x2.
9. You may be asked to wrap Kerlix gauze around 2 or more half-pins which are close together to create slight compression at the pin insertion site.

DO NOT USE ANTIBIOTIC OINTMENT ON THE PIN SITES. This will only plug the pin site holes. In addition, you should not put any creams or powders near the pin sites.

Can I take a shower with my external fixator?

After you have worn your fixator for 7 to 10 days, and after instructed by the doctor, you may shower while wearing your fixator. While in the shower, gently clean your fixator with soap and water. A liquid antibacterial soap such as Dial or Soft-soap should be used. Be sure to rinse the fixator well. Afterwards, dry the fixator thoroughly with a clean towel. Continue to clean your pin sites in the manner described above.

How will I know if I get an infection?

Even with proper pin site care, your pin sites may still become infected. Signs of infection include:

- ❖ Excessive redness or swelling at the pin sites.
- ❖ Any yellow, green, thick or foul smelling drainage around the pins.
- ❖ Fever of 101 degrees F or higher
- ❖ Chills
- ❖ Numbness, tingling or loss of feeling that does not go away when you raise the affected arm or leg above heart level.
- ❖ Increased pain that is not relieved by pain medicine.

IMPORTANT: If you experience any of these conditions, you should **CONTACT YOUR DOCTOR'S OFFICE IMMEDIATELY** (973-972-0246).

IMPORTANT: If you experience thick colored discharge, redness and/or swelling around the pin sites or fever/chills, you should start the antibiotics prescribed by the doctor. Make sure you take **ALL** of the pills prescribed (usually a 7 or 10 day course). It is important that you **ALWAYS HAVE A FULL COURSE OF ANTIBIOTICS AT HOME** (kept in the refrigerator) so that if you experience signs of infection, you can begin to take the antibiotics immediately.