

DISTRACTION

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Pin / Wire Site Care

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(Mark Dahl's Patient Handout)

Pins and wires are necessary components of external fixation, limb lengthening and deformity correction. The purpose of pin/wire site care is to keep the interface of the pin (or wire) and skin free from bacteria and to prevent trauma to the skin. Keeping the skin clean helps prevent infection. Pin/wire site care is done weekly and increased to daily if there are signs of inflammation. Pin/wire site care should follow any showering, bathing, or swimming. (No showers, bathing or swimming until sutures are removed and you have been seen for your post-operative visit.)

Pin/wire site care will be done in the hospital on the first or second post-op day. You will review site care at this time and will be given supplies for home which will include:

~ sterile cotton-tipped applicators

~ sterile normal saline

~ hydrogen peroxide (used half-strength by mixing half hydrogen peroxide and

half normal saline during pin/wire site infections)

~ sterile specimen containers

~ sterile 2" x 2" split gauze squares (SOF-WICK* I.V. Sponges 2" x 2" - 6 ply)

~ foam squares with nylon backing (for Ilizarov fixator pin/wire sites)

~ custom cut felt squares (for Orthofix fixator pin sites)

1) Wash hands thoroughly with Dial (or other antibacterial soap) for at least one minute, using nail brush, prior to pin/wire site care.

2) Push red/white plastic clips up on pin/wire (red clips on pins and white clips on wires for Ilizarov fixators; Orthofix fixators do not have clips).

3) Remove foam sponges (felt pads with Orthofix) and gauze dressings. You may soak the difficult, encrusted ones with normal saline or run clear water over the site until they loosen. Slowly "teasing" the sponge off causes less pain and bleeding.

4) Inspect all sites for redness, tenderness, 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.

5) Put several cotton-tipped applicators in normal saline and allow to soak for several seconds.

6) Take one applicator and, using a "rolling motion," apply gentle pressure with cotton tip at junction of skin and pin/wire site. Do not use excessive force, dig, or try to remove scab around pin/wire site (healing necessary for seal between skin and pin/wire to help prevent foreign material or bacteria from entering site).

7) Once site is cleaned, you may clean up the side of pin or wire if needed. Do not use that applicator on the skin after cleaning a pin or wire.

8) Use a new applicator at each site.

9) Cover site with split 2" x 2" gauze, followed by foam sponge and plastic clip (for Ilizarov fixators), and felt pad over gauze (for Orthofix fixators).

10) Compress clip, sponge and gauze gently. (Excessive pressure may cause indentation of skin, especially if swelling is present.)

If there are signs of redness or tenderness or drainage: increase pin/wire care at that site to daily with half-strength hydrogen peroxide.

The pin/wire site classification and treatment outlines the procedure to follow; please remember that communication with the clinic is essential.

Shower/Bath Protocol

If you take a shower/bath more often than once a week, pin/wire care should be done after each shower or bath or whenever you have been swimming (chlorinated pools only or the ocean if on vacation, no fresh water lakes or rivers).

- ~ shower at least once per week with Dial or antibacterial soap and rinse well**
- ~ dry fixator frame first with separate towel**
- ~ use a clean, separate towel to dry around pin/wire sites**
- ~ Follow directions for routine pin/wire site care**

If you have questions regarding your fixator or pin/wire sites please feel free to call the clinic.

Pin/Wire Site Classification

Pin/wire site infections are common with the use of external fixators. Nearly all patients will experience several pin/wire site infections throughout their course, with the severity of infection determining the treatment. The following guidelines outline the grading and appearance of sites and the appropriate action to take. Communication with the clinic is extremely important if you have signs or symptoms of infection or any questions.

GRADE	APPEARANCE	TREATMENT

<p>1</p>	<p>Pin/wire sites are clear of any redness, drainage or pain</p>	<p>Clean pin/wire sites once a week with normal saline</p>
<p>2</p>	<p>Slight redness/inflammation at sites</p>	<p>Inspect that site(s) daily and clean with normal saline</p>
<p>3</p>	<p>Area around site is red/tender with a colorless, watery or clear yellow drainage.</p>	<p>Start antibiotics and call clinic that day or next morning.. Clean that site(s) daily with half strength hydrogen peroxide.-If no improvement after 2-3 days of antibiotics, call clinic again.</p>
<p>4</p>	<p>Area around site is painful, red and swollen with a purulent (thick, colored) drainage.</p>	<p>Start antibiotics and follow plan as for Grade 2 infection.- The Doctor may consider removing or exchanging the pin/wire-Pain medications may help temporarily.</p>
<p>5</p>	<p>Deep redness/severe discomfort at sites indicating a serious infection (an x-ray shows early signs of bone infection). Fever and purulent drainage may be present.</p>	<p>Start antibiotics and follow plan as for Grade 3 infection-The pin/wire must be removed.</p>

When you call the clinic to report infection symptoms or concerns regarding your fixator, it is helpful to describe the pin and wire sites as follows:

Orthofix Fixator - The Orthofix is a unilateral fixator with a telescopic body using pins for fixation. It is used for certain fractures, the correction of mild angular deformities, and in our clinic, it is most commonly used for lengthening the femur. Please describe the pin site by its location (with the uppermost pin as #1, the next pin down as pin #2) and the clamp it is attached to.

The Ilizarov (Circular) Fixator - The Ilizarov fixator is composed of circular rings, pins, wires, and multiple other adaptable parts to obtain optimal results in complex limb lengthening and deformity correction procedures and certain fractures. The fixator rings are reported by number with the uppermost ring being #1, the next ring below as ring #2, and so on.

Wires are smaller in diameter than pins and pass all the way through the extremity, connecting to a fixator ring on both sides of the limb. Wire sites should be described according to the face of a clock from your point of view, and by the number of the ring they are connected to.

For example: The wire sites shown are at 2 o'clock, 4 o'clock, 8 o'clock and 10 o'clock.

Pins are larger diameter than wires and enter the extremity on only one side (the pin goes through the bone but does not extend through the skin on the opposite side). Their position should be described by the face of a clock from your point of view and by the ring number they are attached to.

The description you are able to give when calling the clinic is very helpful in determining necessary treatment and follow-up.



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