

# Orthopaedic Connection

## External Fixator: What Is It?

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### *Transforming patient information into patient understanding.*

I decided to write about an External Fixator because it has been around for many years and yet most of my patients have never heard of it.

When one is needed they are clueless about the device or the concept. First of all, its primary use has to do with fractures.

### **Definition**

An external fixator is an orthopaedic device which is used by myself and many Orthopaedic Surgeons to treat complex, unstable fractures of the upper and lower extremities and the pelvis.

### **Why I use it?**

Well, I mentioned complex and unstable. If the wrist is shattered for example in a fall and I do not think a cast will hold it, I will probably apply an external fixator.

If there are several fracture pieces it can be next to impossible to hold them together in a cast alone after the fracture has been set.

### **How does it work?**

External fixators require an operation and a general anesthetic. Stainless steel pins approximately 1/8 inch in diameter are drilled into the bone a short distance above and below the fracture. Two parallel pins above and two pins below.

The pins are inserted into the bone through small incisions in the skin. A metal frame is then attached to the pins. When I have reduced (set) the fracture with x-ray control to my satisfaction, the joints of the frame are tightened. The external fixator frame holds the fracture rigidly.

### **Major Attraction**

The major attraction of this kind of fixator is that the soft tissues around the fracture site are not disturbed by its application. The speed

and ease of application and ease of removal are distinct advantages to its use.

## **Many Designs**

There are many different designs of external fixators made by several companies. They are all designed to hold the bone fragments rigidly while healing occurs. In other words there is not just one kind of fixator. There are many different ones that are used depending on the type of fracture and part of the body being treated.

## **Types of Fractures**

I most commonly use an external fixator for complicated wrist fractures. However, they are also used for fractures of the arms, legs and pelvis. They are even used on occasion in the hands and feet. For our discussion I don't want to get too technical. This is an overview of an important type of fracture treatment.

In a wrist fracture I typically leave the fixator in place for about six weeks.

## **What Else?**

I routinely help support the fracture with a padded fiberglass splint, which protects the pins and the skin and helps prevent infection around the pins.

The patient is periodically seen in the office for x-rays and for inspection of the pin sites. Infection around the pins is a serious complication and can lead to deep bone infection (osteomyelitis).

The pins and frame are removed in the operating room with a light anesthetic.

## **Phase Two**

Don't think when I remove an external fixator that the patient (you perhaps!) is home free. There may be a period of removable splinting. There is always a period of several weeks in which the joint and surrounding tissues need to be rehabilitated to restore motion and strength.

## **Happy Ending**

An important part of my work as an Orthopaedic Surgeon is treating difficult fractures. The external fixator has been an invaluable tool for getting fractures to heal properly that could not possibly heal in a cast alone.

There are many other ways I treat fractures surgically, but that is way beyond the present discussion.

It is nice to know there is a type of fracture treatment that is very effective and avoids major open surgery. Hopefully you won't ever need it. Don't break anything and you won't need to worry about it!

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Be well.

Dr. Haverbush