Linear Compression Technique for Internal Fixation of Fractures

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Technology description

A minimally invasive method to anatomically reduce simple non-comminuted fractures.
This minimally invasive approach uses opposing implants that are fixed in a unique way with screws in order to linearly urge the ends of a fracture together. The implant and method allows for easy, small exposures and anatomic alignment for internal fixation, treating fractured bones in a less time consuming and minimally invasive way.

Background

When a person’ s bone is broken (or fractured) and the pieces are significantly out of alignment, an orthopedic surgeon will need to re-set or move the fragments back into position and stabilize the bones. Current bone fracture treatments include plate fixation in which the fracture site is opened and fixed. The goal is to achieve direct bone union. This process is called open reduction and internal fixation and it involves the use of implants such as screws, plates, rods, and wires made of surgical grade stainless steel and titanium to bring the bones together and stabilize the fracture(s). Internal fixation allows for shorter hospital stays, enables patients to heal sooner, and reduces the incidence of malunion (healing in improper position) of broken bones. While these current procedures can be effective, they are unfortunately invasive to the patient and time-consuming to execute. As a result, both patients and healthcare providers would benefit from a less invasive and less time consuming approach towards bone fracture treatment.

Technology Description

Researchers from the University of New Mexico have developed a minimally invasive method to anatomically reduce simple non-comminuted fractures. This minimally invasive approach uses opposing implants that are fixed in a unique way with screws in order to linearly urge the ends of a fracture together. The implant and method allows for easy, small exposures and anatomic alignment for internal fixation, treating fractured bones in a less time consuming and minimally invasive way.

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Application area

Minimally invasive
Uniform circumferential compression
Saves time compared to traditional fixation methods
Reduces simple non-comminuted fractures
Used as an augmentation method for standard plate fixation for comminuted fractures

Institution

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