Intramedullary Rib Fixation Device (2019-048)

Minimally invasive intramedullary implantable rib fracture splint.

Market Overview

This rib fracture fixation device is implanted to provide internal fixation, improving surgical outcoming and fracturing healing. 10% of all trauma patients and 30% of chest trauma patients will experience a rib fracture. The global market for fracture fixation is expected to reach $10.8 billion by 2023, with internal fixation for small-bone fractures to see the largest growth. Traditional surgical intervention utilized external fixation or no fixation at all. More recently advacements in internal fixation plates have dramatically improved fracture healing.

Technical Summary

This intrameduallary rib fracture fixation device with both proximal and distal fixation mechanism is able to maintain stability of a rib fracture thus expediting the healing process. The device is composed of three parts: the intramedullary splint, an I-beam wedge, and a biocortical locking screw. Proximal support it provided by the biocortical screw, and distal fixation is provided by a barbed tip on the intramedullary split. Deployment of the device is achieved via three accessory parts: suture, suture plug and pull handle. When the suture is pulled it drives the wegde into the barbed tip causing it to open. Once deployed, accessory parts are removed.

Application

Minimally invasive, intramedullary rib fixation device with both proximal and distal fixation

Development Stage

Prototype available for further validation and testing

Advantages

- Able to maintain proximal and distal fixation of rib fracture, reducing healing time
- Less required visualization for surgery, allowing greater access to posterior rib fractures
- Features intramedullary split, reducing amount of soft tissue trauma

App Type	Country	Serial No.	Patent No.	CURF Ref. No.
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