

Gexfix external fixation orthopaedics

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Indication

Unstable fracture-dislocations of the proximal interphalangeal (PIP) joint of the finger frequently lead to pain, stiffness, instability and degenerative arthritis. One treatment option is a dynamic external fixator.



Common shortcomings of current fixators include:

- > Obscuring the fracture side on true lateral x-rays
- > Lack of adjustability
- > Time-consuming assembly.

Description

The GEX-FINGER kit (REF:1060-1012) is composed of 2 rods, 2 nuts, 4 springs, 3 K-wires and 6 K-wire caps. The rods and nuts are made of Polyether Ether Ketone (PEEK), a radiolucent, robust thermoplastic biomaterial used in medical implants. The springs and K-wires are made of stainless steel.



Each rod is composed of a base and a stem extending from the base with a sliding groove extending along the longitudinal axis of the stem. The GEX-FINGER is attached to the center of rotation of the head of the proximal phalanx using a Kirschner (K) wire. The distal attachment is achieved by a second K-wire into the middle phalanx using the sliding hole of the stem of each rod. Spirals of the springs are integrated between the head of the rod and the nut. By turning the nut/spring will be adjusted the distraction force between the proximal and the distal attachment (second K-wire). An optional third K-wire (reduction pin) can be drilled through the sliding hole and the second phalanx.



Instrument: (REF: 5050-1000)



GEX-FINGER was developed by GEXFIX with significant cooperation of the University Hospital of Geneva (HUG). A prototype was used in a PIP fracture dislocation model created in cadaveric fingers. After application of the GEX-FINGER, fracture reduction and congruency of the PIP joint were monitored throughout full range of motion of the PIP joint under dynamic lateral fluoroscopy. GEX-FINGER established satisfactory reduction of the fracture and maintained congruency of the PIP joint surfaces through full range of motion. The fracture site was not obscured on lateral view. The distraction force could be easily changed by turning the springs on either side during the distraction period.

Subluxation of the PIP joint was created by osteotomy of the articular surface of the second phalanx and reduction achieved after application of GEX-FINGER.

