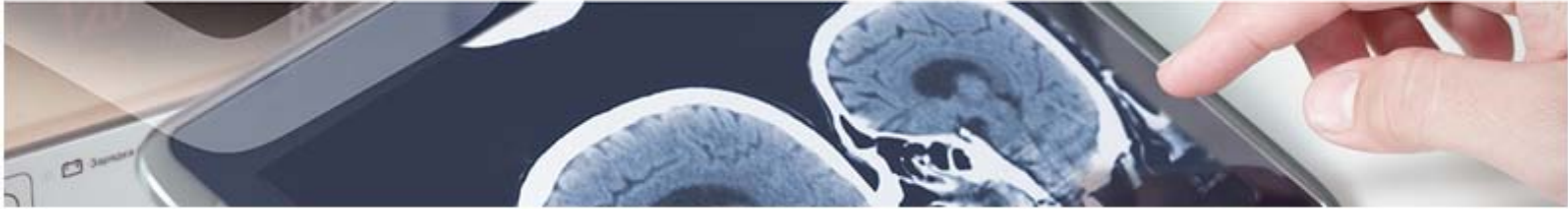




Medical Devices

Surgical clamp for the approximation and reduction of bone fragments

A multidisciplinary research group has developed a surgical clamp for use in the approximation and reduction of bone fragments.



Description

According to conventional surgical management of patellar fractures, open reduction and internal fixation are the current techniques of choice. There are two fundamental surgical techniques to perform the surgery:

- a) Osteosynthesis with pins and wire cerclage as tension bands. This approach involves making a longitudinal incision in the front of the knee, which determines functional recovery slower and torpid, greatly increasing morbidity.
- b) Percutaneous osteosynthesis with cannulated screws. This minimally invasive technique offers great advantages. However, it is practised in only a small percentage of cases, given the great difficulty of avoiding pin placement errors.

On the one hand, the soft tissue impacts on the correct entry and exit of the pins at the edges of the patella, often resulting in intra-articular exits, or, conversely, at the external face of the patella, which can result in less-stable fixation, as well as a higher risk of re-fracture or non-union.

On the other hand, the design of the clamps currently used in the approximation of bone fragments offers little precision. Also, this type of clamp does not enable their ends to be used for guiding drills, pins or screws, given the lack of certainty that the two ends would be aligned along the same axis.

The said research group has developed a novel surgical clamp with arms which adjust, not by rotating on an axis, but by moving along a straight axis. In addition, the ends are equipped with cannulae for introducing Kirschner wires that will act as guides for the final cannulated screws.



Advantages

- 1- Improved reduction of displaced fragments compared with conventional clamps, in terms of both accuracy and speed, thanks to the system for adjusting the arms of the clamps in parallel.
- 2- It simplifies into a single movement the steps involved in the reduction of the fracture with clamps and its stabilisation using Kirschner wires, thereby reducing surgery time and the risk of error, and also enables percutaneous intervention.
- 3- This clamp can be applied to fractures of the patella, olecranon, calcaneus, carpal and tarsal bones, phalanges, and any type of fracture that falls within the segment involving reduction and internal fixation with cannulated screws.



Intellectual Property

This technology is protected by patent.



Aims

We are looking for a partner interested in a license and/or a collaboration agreement to further develop and exploit this innovative technology.



Classification

Area: Medical device

Technology: Others

Pathology: Musculoskeletal Disorders