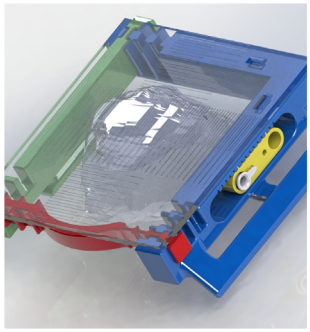

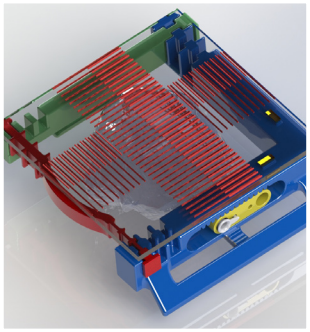

Patellofixator Rig - Drill guide to aid knee surgery

This invention is a surgical tool to help an orthopaedic or sports surgeon drill tunnels in the patella of a patient's knee during medial patella femoral ligament (MPFL) reconstruction surgery.

During MPFL replacement surgery, the insertion of the replacement ligament must be very precise, and drilled tunnels must be at the correct angles for the reconstructed ligament to function optimally. For double bundle MPFL replacement surgery (the best practice surgical technique), the tunnels must be absolutely parallel, otherwise the ligament could rip off the patella, or break the ligament off. This is very difficult, as the surgeon will need to estimate the correct angle of drill entry into the patella with his eye. This often requires a number of intra-operative X-ray scans to ensure that drilling is correct.

The "Patellofixator Rig" is designed to reduce a surgeon's apprehension to drilling tunnels, and also minimise their exposure to intra-operative radiation. In use, the device is placed on top of the knee, to form a tight grip on the patella. Holes in the side of the device guide the drill accurately.

Benefits

- The guide is non-invasive and grips the patient's patella over the skin
- The guide minimises the need for intra-operative X-ray scans and thus reduces the exposure of surgeons and patients to radiation
- The guide is made to be disposable and therefore does not require repeat sterilisation

Market

- Manufacturers of orthopaedic soft tissue repair and arthroscopy surgical tools and kits
- Medical doctors or hospitals

Technical Description

The device consists of a number of elongate limbs that form a rectangular aperture. In use, the device can be secured to the top of either one of the knees, above the skin, to form a tight grip around the patella. A pair of parallel holes in the sides of the device allows the drill to be guided accurately towards a side edge of the patella to enable holes or tunnels to be formed at required positions for attachment of the reconstructed ligament. The device also has a radiopaque scale that enables monitoring and measuring drill progress during X-ray scans.

Keywords:
MRI, patient tracking, MRI orientation, image correction

Intellectual Property Rights:
PCT: PCT/IB2016/053967

Technology Readiness Level:
5 - Early Prototype

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