



## Medical Devices

# New knee implants or replacement with adjustable

A Research Group from the Andalusian Public Health System (SSPA *as per its Spanish acronyms*) has developed a new knee replacement implants which allows varying its mobility angle depending on the needs of the patient.



## Description

The knee replacement implants is the sole alternative for those patients suffering articular diseases when different therapeutic measures have failed. Despite in most cases the prosthesis improves considerably the quality of life, some patients keep suffering disorders prior to surgery or they develop new problems which often require the implant removal and substitution (arthroplasty). In these cases, it is usual that the new implant:

- is intended to fix completely and permanently the articulation (arthrodesis) with the aim of achieving a stable and painless knee.
- requires the temporary immobilization of the knee.

The prosthesis revision surgery and the replacement arthroplasties are considered nowadays the main problem in the orthopaedic surgery services not just in terms of frequency, technical complexity or costs, but also due to the high rates of morbimortality registered in patients who underwent these procedures. Despite this, currently there is no knee prosthesis model available enabling varying the articulation angle position without need of substituting it once the prosthesis has been implanted, whether for the first time or due to a revision, as there is neither a model which might allow its fixation. The prosthesis developed by our research group allows regulating completely the turning angle once the prosthesis has been implanted as well as its complete blockade of extension (equivalent to arthrodesis). This procedure requires a maximum of two small incisions in the knee of the patient.



## Advantages

1. It allows a permanent and complete fixation of the knee joint (arthrodesis) when the medical situation of the patient carrier of this prosthesis may require it, without need of the prior extraction of the prosthesis components.

2. It enables the knee joint temporary fixation after reconstructive surgical procedures (failure of the extensor system, osteoarticular defects, etc.), thus, avoiding the inconveniences caused by the external immobilization device.
3. It allows the performance of a progressive and controlled mobilization after the reconstructive surgical procedures which may request so.
4. It allows the quick, easy and safe performance of the turning angle regulation procedure, by means of one or two small incisions in the knee which involves a significant reduction of the surgical risk for the patient.
5. It offers the possibility of adapting this regulating mechanism of the turning angle without varying the characteristics or requirements (those general or specific) currently required in a newly knee replacement arthroplasty.



## Intellectual Property

This technology is protected by patent.



## Aims

The researcher group is looking for a license and/or a collaboration agreement.



## Classification

Area: Medical device

Pathology: Musculoskeletal Disorders.