

## GRECO carries on establishing tomorrow's surgery

Once more worldwide premiere for GRECO !



Members of the Federated Institute driven by University of Picardie Jules Verne achieved with success childrens cruciate ligaments operations under robotic assisted surgery.

Building upon this early momentum and a few weeks after the world premiere cochlear implantation under total robotic assisted surgery, the Federative research unit in robotic surgery GRECO achieved a child anterior cruciate ligament operation under robotic assisted surgery.

Orthopedic surgeon for pediatric and GRECO member François Deroussen explains : "the ligamentoplasty of a anterior cruciate ligament in children is a complex surgery, which as to be perfectly performed. Robotic assisted surgery makes very precise medical acts possible. It also enables to endorse a research protocol which benefits of all settlements of National drug safety agency and of its ethics committee."

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### PICAR process in motion

The ligamentoplasty of anterior cruciate ligament requires proven surgical and technical expertise. The torn knee ligament (through falling or running) is replaced by a transplant. During traditional surgery, the surgeon uses a camera inserted into the knee (arthroscopy) in order to build bone tunnels compatible with knee anatomy. « The main pitfall to avoid by children, is an improper position of this tunnel, which could have a negative impact over the growth area and thereby over the physical development of the patient» explains doctor of medicine François Deroussen. « The building of bone tunnels in the femur and tibia remains the most complex part of ligamentoplasty. That is exactly where GRECO's expertise occurs : first charted on the patient's can, the bone tunnel is then built with high precision by the surgeon, guided by the robot. »

To enhance this surgical act, GRECO members followed the PICAR process which was introduced to President Macron on November 23th 2019 while inaugurating the Citadelle's new campus. Initial tests were first achieved in [SimuSanté®](#)'s active pedagogy center. The purpose was to simulate the entire medical operation in conditions very close to reality and to configure the processor. Once the medical act several time tested, it was applied in University Hospital with the expected success.

### Reliable, safe, reproducible

3 children had benefit from this innovation realised by GRECO so far. "Profits, in terms of surgical precision are tangible ; technical hazard is wiped out" so François Deroussen. "The robotic assisted surgery ran perfectly, as planned".

"The collective tasks driven by GRECO involve several actors of university research. They allow improvement of healthcare" adds Prof. Michel Lefranc, neurosurgeon and chairman of GRECO. " Robotic assisted surgery has threefold values: safety of surgical gesture, which can as a consequence be reproducible and spread as a profit for the greatest number of patients. The robotic assisted ligamentoplasty of anterior cruciate ligament invented by GRECO has good days ahead and will surely be exported beyond our region « Hauts-de-France » ...

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