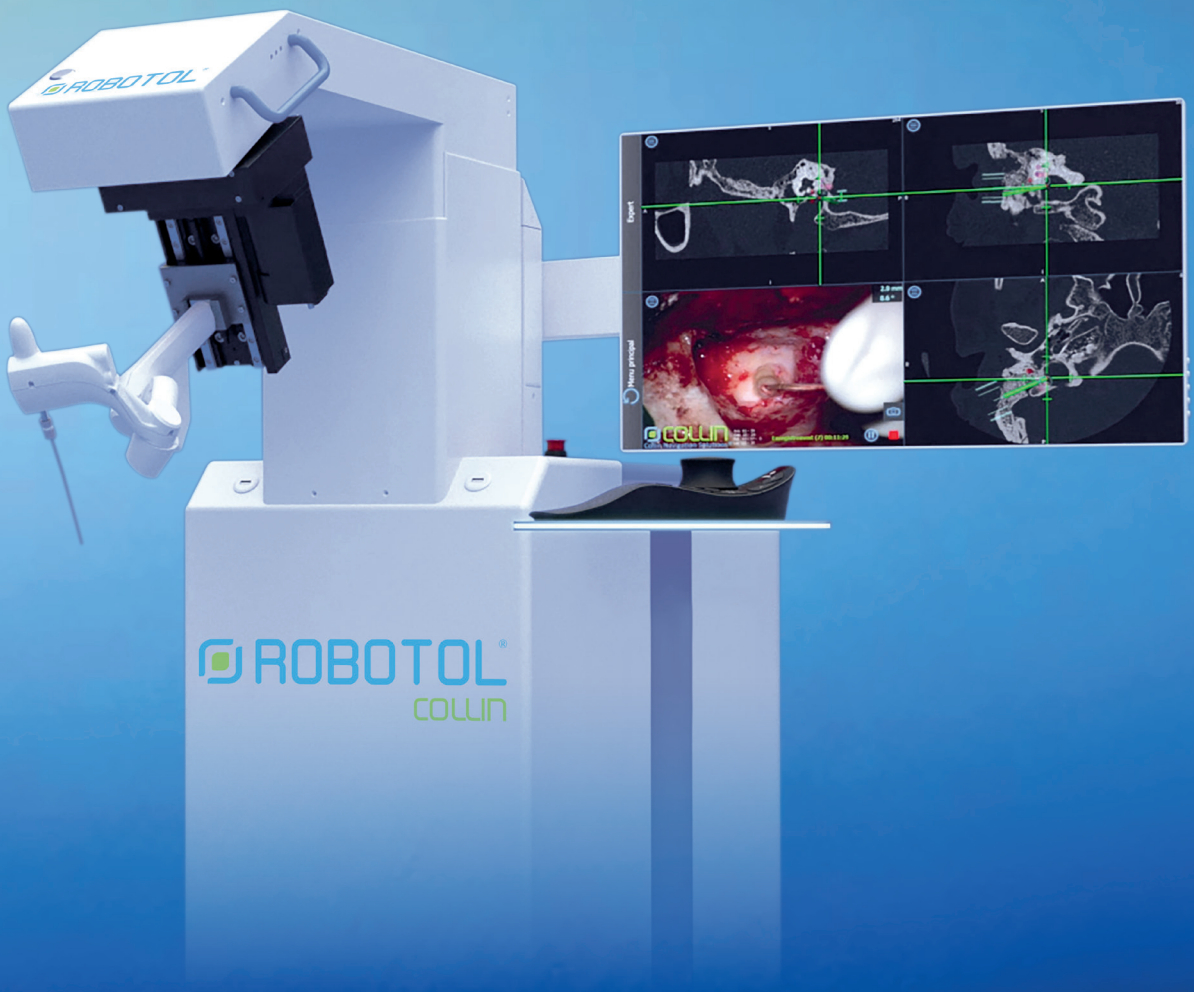
ROBOTOL®

The world's first robot dedicated to ear surgery



COLLIN
Dedicated to ENT

ROBOTOL®

The world's first robot dedicated to ear surgery

RobOtol® is the result of research work started in 2005 by Collin, in partnership with the team of Prof. Olivier Stekers and Prof. Yann Nguyen and the Inserm/UPMC UMR-S 1159 unit.

Technical concept

→ Mechanical architecture based on the concept of a pivot point.

→ 7 degrees of freedom.

→ Design for otological surgeries and ergonomics adapted to the constraints of the operating room.

- **First and only surgical robot in the world** dedicated to otology
- **2019 - First worldwide cochlear implantation** (*Pitié-Salpêtrière Hospital*)
- **2021 -** First bilateral implantation in children (*CHRU Brest*)
- **100% of ENT surgeries** can benefit from the use of **RobOtol®**
- **Over 1000** Cochlear Implant surgeries operated since 2019
- **Over twenty** equipped centers Worldwide
- **Over 70 surgeons** regular users of **RobOtol®** (*mid-2023*)

Dedicated to ENT

Applications and performance for RobOtol®

Use of the instrument holder arm:

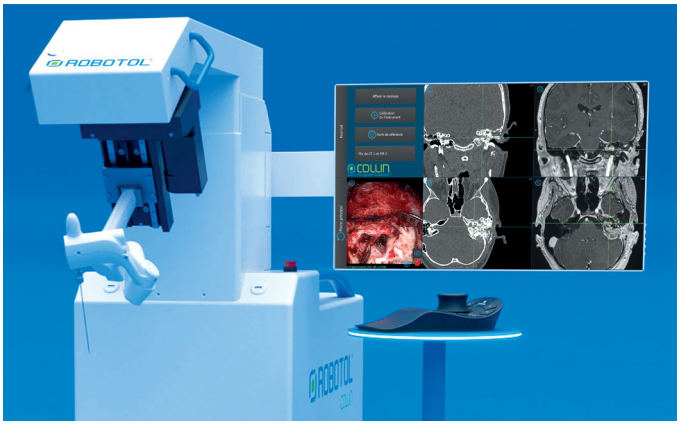
→ Allows access and view to all anatomical parts of the **middle and inner** ear with **perfect stability** and **micrometric precision** of movements for all kind of surgeries.

→ No swerves, drifts and involuntary movements of the human hand.

→ Atraumatic insertion of cochlear electrodes array in both children and adults.

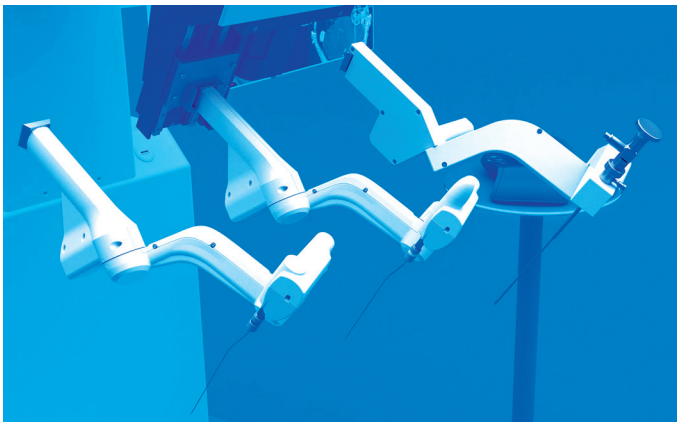
→ Perfect axis for cochlear array insertion.

Other applications planned and under development.



Use of the endoscope holder arm:

→ Allows surgeons to operate **with two hands** while enjoying the undeniable **advantages of otendoscopy**, with an **extremely short learning curve**.



→ Arm for MIDDLE EAR SURGERIES

→ Arm for INNER EAR SURGERIES

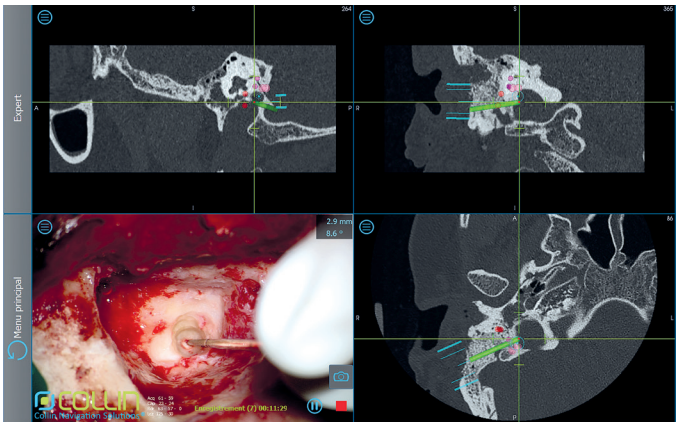
→ ENDOSCOPE Arm

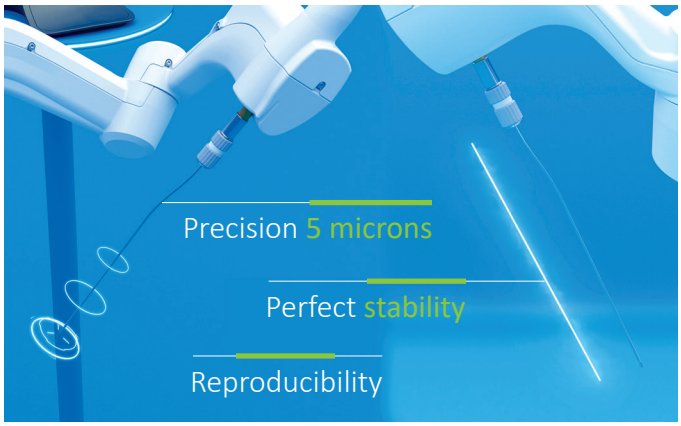
The future directions

→ Development of pediatric endoscopic ear surgery

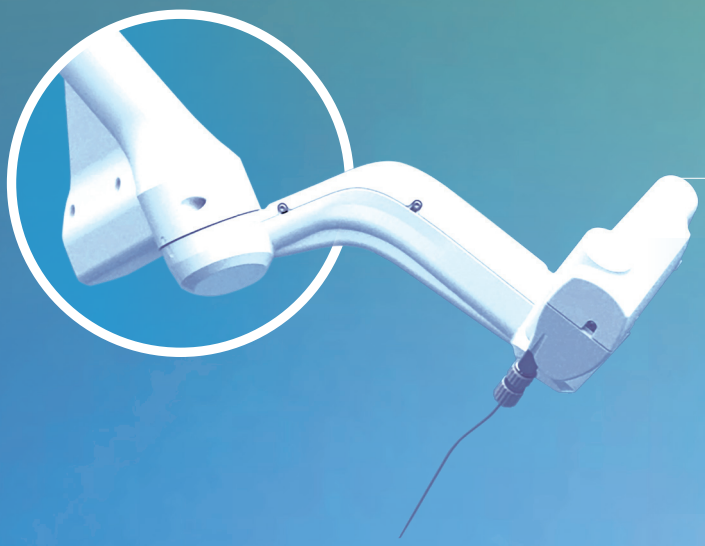
→ Intraoperative monitoring of cochlear function (EcochG)

→ Expansion to other pediatric ENT surgeries



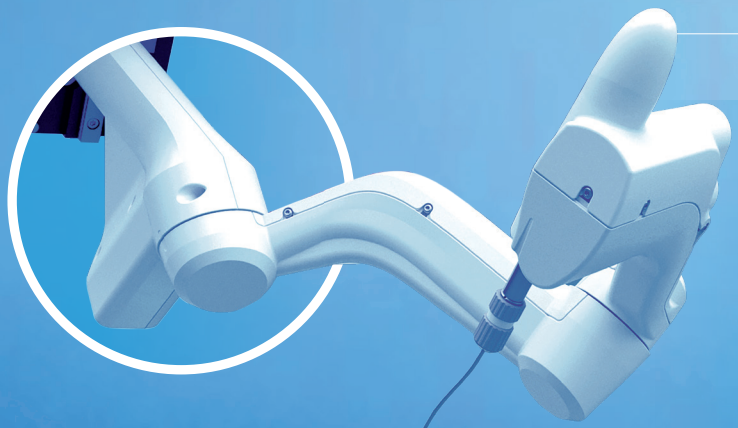


Arms Features



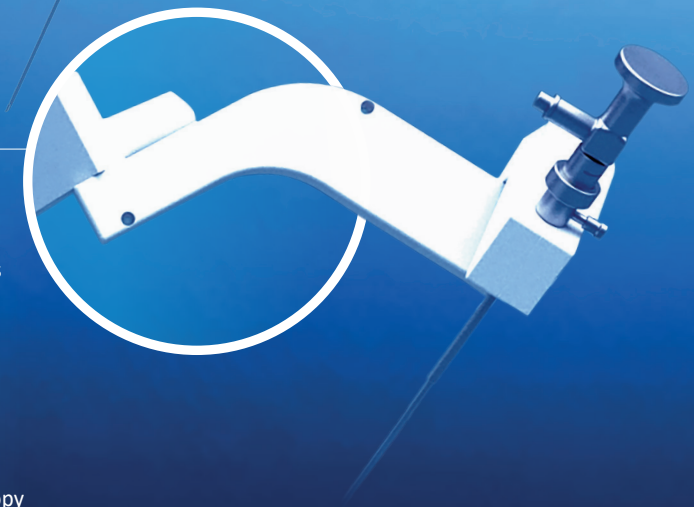
Arm for MIDDLE EAR surgeries

- Dedicated Instrument
- Micrometer precision beyond human capabilities
- Reproducibility
- Safety (Atraumatic)
- Steady
- Perfect control
- Small footprint



Arm for INNER EAR surgeries

- Decrease surgical variability by controlling the speed and acceleration of electrode insertion
- Decrease the risk of additional hearing loss or vestibular symptoms
- Micrometer precision beyond human capabilities
- Reproducibility
- Safety (Atraumatic)
- Steady
- Perfect control
- Small footprint



ENDOSCOPE Arm

- Vision and ergonomics
- Reduction of complications and recurrences
- Treatment of complex pathologies
- Safety, Precision, Stability, Reproducibility
- Two hands free
- Minimal invasive surgeries
- Rapid recovery after surgeries
- Decrease time hospitalisation
- Reduction of the learning curve for endoscopy

CE 0459

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