



Rotoscope

Self-Cleaning Endoscope
(WU Ref. No. 16245)

Background: During endoscopic surgery, fog, blood, and other debris can obscure the operative field requiring a surgeon to remove the scope and wipe the lens multiple times increasing procedure times, cost and patient risk.

Technology: The Rotoscope uses centrifugal force and saline delivery to remove debris from the camera lens without removing the device.

Value Proposition:

- **Faster surgery times:** This device eliminates the need to remove and clean the endoscope, therefore saving the surgeon time in the operating room.
- **Improve patient safety:** Potentially reduces the risk of complications by lowering the amount of time spent under anesthesia.

Stage of development: Prototype

Patent: [US application 15/647,700](#)

Inventor: [Eric Leuthardt](#), MD, PhD
Department of Neurosurgery

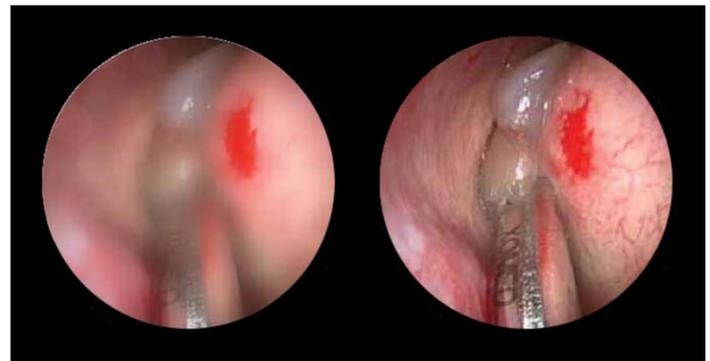
Prototype Rotoscope



Device Cross Section



Before and After Rotoscope Use



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Eric Leuthardt, MD

Department of Neurosurgery

Inventor Profile: Dr. Eric Leuthardt is one of the most prolific inventors at Washington University in St. Louis and the world with 628 Issued US patents and thousands of pending applications. He is the co-founder of 4 startup companies and is the director of the Center for Innovation in Neuroscience and Technology (CINT), which is sponsored by Stryker Corporation.



Medical School: University of Pennsylvania School of Medicine

Residency: Washington University in St. Louis

Technologies:

- SIMPEL - Implantable, Bone-Anchored Sympathetic Nerve Stimulator
- Rotoscope – Self-cleaning Endoscope
- SPARTA - Stent that Prevents Endoleaks for Fusiform Aneurysms
- Revolution Reservoir - Non-clogging Shunt Catheter

CINT Center: The center's programs include quarterly invention sessions that bring faculty together from several medical, engineering and scientific departments to consider challenges and problems in four areas: tumor/vascular, pediatric, spine/orthopedics and functional neurosurgery. The sessions result in a few technologies that teams of fellows design, build and test a prototype.

Surgeon-scientist who specializes in neuroprosthetics – devices linked to the brain that may lead to cures for paralysis, allow patients to move artificial limbs, or restore other neurological functions.