Cannulated Bone Tamp for Revision ACL Reconstruction Surgery
ACL Injury and Reconstruction Surgery

- Over 200,000 anterior cruciate ligament (ACL) injuries occur in the US annually and up to 150,000 of these undergo reconstruction.¹

- Median total societal cost of $32,276 per ACL reconstruction surgery.²

- 10%-25% of ACL reconstruction surgeries will require some sort of revision surgery.¹³⁴


(Buyukdogan K, 2017)
Revision ACL reconstruction is substantially more challenging than primary surgery

- Previously malpositioned or widened tunnels require innovative approaches for managing boney defects.
- Two-stage procedures are commonly utilized when boney defects are present, but the two-stage procedure can be costly.
- Allograft bone dowels can be used to fill the previous tunnel and provide adequate surface area and support for the new tibial tunnel allowing the revision surgery to be completed in a single stage.\(^5\)
- Clinical Problem: Placing the bone dowel requires a bone tamp and excessive stress may cause the dowel to crack which can destabilize the graft.

(Buyukdogan, 2017)

A UVA Orthopedic Surgeon has developed a novel bone tamp for placement of allograft bone dowels during revision ACL surgery with the following benefits:

- **Reduced operating time**
  - The tamp is cannulated so that it can easily travel along the guide wire
  - Revision surgeries can be completed in one stage rather than two

- **Improved graft stabilization**
  - Greater control over the tamp minimizes risk of dowel cracking or fragmenting its edge
  - After the guide wire is removed final adjustment can be made with the bone tamp so that the dowel is flush with the bone wall
Intellectual Property

UVA TechID: MILLERM-TAMP (2015-124)
Title: Cannulated bone tamp device and related method thereof
US patent application no. 15/141,385 filed April 28, 2016

Scientific Publications

Single stage ACL revision reconstruction: Indications and technique
Hamann J and Miller MD

Two-stage revision anterior cruciate ligament reconstruction using allograft bone dowels
Buyukdogan K, Laidlaw M, and Miller MD