Researchers at the University of South Florida have developed an innovative device for treating hypertrophic cardiomyopathy (HCM) that eliminates the need for invasive septal myectomy surgery.

HCM is a genetic disorder characterized by the thickening of the left ventricle causing blood flow abnormalities. This disease carries annual rates of heart failure, death or transplantation of 0.55% and stroke-related deaths of 0.07%. Currently, there are two established methods for treating this disease. The first approach, septal myectomy surgery, is an open heart procedure that entails the removal of 3 to 15 grams of septal muscle. However, excessive cardiac muscle removal may lead to several complications including ventricular septal damage, damage to the aortic valve, left bundle branch block (LBBB) or complete heart block (CHB). The second treatment option is a non-surgical ethanol septal ablation which involves infarction and thinning of the proximal interventricular septum through the infusion of ethanol into the coronary artery. Adverse effects may result in LBBB, CHB, ventricular tachyarrhythmia or arrhythmic death.

Researchers at USF have created a device that is both minimally invasive and user-friendly. The device comprises a catheter, a cutting device, and a tubular blade configured to receive excessive tissue. The device is designed to prevent blood loss through returning blood without tissue debris to the patient. The non-surgical device requires only mild, local anesthetics and uses a simple mechanism to operate.

**ADVANTAGES:**
- Eliminates the need for open heart surgery
- Requires only mild local anesthetics
- Helps prevent damage to bundle fibers in the heart’s myocardium
- Can be used for the removal of tumors, circulatory plaque and thrombosis

**Improved Non-Surgical Treatment for Hypertrophic Cardiomyopathy**

**Tech ID # 09A005**  **Patent #: 8,906,052 / 9,629,651**