

**Jessica Saganowich, Class 2025****Campus:** Round Rock Clinical Campus, Round Rock TX**Research Area:** Interventional Cardiology, PCI, CABG, IVUS**Mentor:** Robert Widmer, MD PhD

Jessica Saganowich is a member of the Class of 2025 at Texas A&M School of Medicine. She is conducting research under the guidance of [Dr. Robert Widmer](#), who is an Interventional Cardiologist and the Medical Director of the Baylor Scott and White Cath/EP Labs as well as Research Institute in Temple, Texas. They plan to conduct a meta-analysis of published clinical trials investigating groups of patients with multivessel coronary artery disease (CAD) who received percutaneous versus surgical revascularization. CAD occurs when atherosclerotic plaque formation creates variable degrees of stenosis in the coronary arteries. When this occlusion occurs to a significant degree (usually past 70%), adequate blood flow/oxygenation will decrease to the heart muscle, eliciting symptoms of chest pain and shortness of breath. If the stenosis is severe or sudden, myocardial injury or infarction could result. The primary goal of interventional treatment is to restore adequate blood flow to myocardial tissue. Two invasive methods are currently available, percutaneous coronary intervention (PCI) and coronary artery bypass (CABG)¹. PCI can now be accompanied by intravascular ultrasound (IVUS), which aims to increase physicians' understanding of vessel characteristics to optimize stent implantation.² It is currently unknown if PCI with IVUS technology will improve long term outcomes for patients receiving PCI compared to patients who underwent CABG. To attempt to bridge this knowledge gap, they plan to complete a meta-analysis of published clinical trials investigating patients with multivessel CAD who received PCI, PCI with IVUS, and CABG. Through this analysis, their goal is to better understand how additional imaging will improve long term results for patients. They hypothesize that PCI with IVUS will lead to superior outcomes for this patient population compared to CABG. Through this data, they aim to provide support for further investigation of PCI with IVUS and the creation of more specific protocols.

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2. Neleman, T., van Zandvoort, L., Tovar Forero, M. N., Masdjedi, K., Ligthart, J., Witberg, K. T., Groenland, F., Cummins, P., Lenzen, M. J., Boersma, E., Nuis, R. J., den Dekker, W. K., Diletti, R., Wilschut, J., Zijlstra, F., Van Mieghem, N. M., & Daemen, J. (2022). FFR-Guided PCI Optimization Directed by High-Definition IVUS Versus Standard of Care: The FFR REACT Trial. *JACC. Cardiovascular interventions*, 15(16), 1595–1607.

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