

This Week's Citation Classic

Favaloro R G. Saphenous vein autograft replacement of severe segmental coronary artery occlusion. Operative technique. *Ann. Thorac. Surg.* 5:334-9, 1968.
[Dept. Thoracic and Cardiovascular Surgery, Cleveland Clinic Foundation, Cleveland, OH]

This paper presents our early effort to reconstruct the coronary circulation impaired by arteriosclerosis. The operative technique of replacing a segment of the coronary artery tree is described in detail. Early, pre-, and postoperative cine coronary angiograms are shown, including the first patient, a 55-year-old woman operated upon in May 1967. [The **SCF**[®] indicates that this paper has been cited over 160 times since 1968.]

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"The utilization of the saphenous vein was the result of our previous work with pericardial patch graft repair in segmental localized obstructions mainly of the right coronary artery. The saphenous vein had been previously used on peripheral artery (femoropopliteal) bypasses and on renal artery reconstruction with excellent clinical results. It was logical to think that the same technique could be applied to the coronary circulation.

"At the beginning, long obstructed segments of the coronary arteries were replaced with portions of saphenous veins with two end-to-end anastomosis. Very early in our experience we realized the limitations of this technique, mainly among patients with proximal obstructions, and bypasses from the anterolateral wall of the aorta were performed (the first patient is mentioned on page 337).

"With more clinical application the bypass operation became the routine procedure.

Encouraged by the postoperative angiograms performed by F. Mason Sones, Jr., and his associates at the Cleveland Clinic, we followed a steady effort to develop a routine surgical technique for the right and left coronary artery.¹ In May 1968 we applied for the first time the same approach to patients with preinfarction angina and even with acute infarction.² At the beginning, it was difficult to convince our medical colleagues, and even some of our surgical colleagues, that we had a simple operative procedure which was able to immediately restore myocardial perfusion.

"The World Congress of Cardiology held in London in 1970 set a significant landmark in the acceptance of this surgical approach after my debate with Charles Friedberg. In 1970, I published a monograph³ which summarizes our work performed at the Cleveland Clinic under the leadership of Sones, Donald B. Effler, and William L. Proudfit. At present, this operation is applied all over the world and more than 2,000 papers have been published on the subject.

"We can conclude that the quality of life is enhanced and life expectancy improved in properly selected patients. I had the opportunity to summarize the first ten years of clinical experience when I gave the Bishop Lecture⁴ at the annual meeting of the American College of Cardiology in 1978.

"This paper has been highly cited because it deals with the number one epidemic of our time: coronary arteriosclerosis. Indeed, this publication started a new life for me. Since then, with my colleague and good friend Sones, I often toured different cardio-vascular centers in the United States and traveled abroad engaged in a teaching career which has been highly rewarding. Not only have we been able to help thousands of patients—the main reason of our daily practice—but more than that we have strengthened our friendship with cardiologists and cardiovascular surgeons with whom we have had discussions—learning and teaching at the same time—in an atmosphere of scientific freedom and respect."

1. **Favaloro R G, Effler D B, Groves L K, Sheldon W C, Shlrey E K & Sones F M, Jr.** Severe segmental obstruction of the left main coronary artery and its divisions. Surgical treatment by the saphenous vein graft technique. *J. Thome. Cardiovasc. Surg.* 60:469-82, 1970.
2. **Favaloro R G, Effler D B, Cheanvechal C, Qaint R A & Sonet F M, Jr.** Acute coronary insufficiency (impending myocardial infarction and myocardial infarction). Surgical treatment by the saphenous vein graft technique. *Amer. J. Cardiol.* 28:598-607, 1971.
3. **Favaloro R G.** *Surgical treatment of coronary arteriosclerosis.* Baltimore, MD: Williams and Wilkins. 1970. 132 p.
4. Direct myocardial revascularization: a ten year journey. Myths and realities. *Amer. J. Cardiol.* 43:109-30, 1979.