

# Surgical Treatment of Erectile Dysfunction

Eduardo B. Bertero, MD and Dimas L. Antunes, MD

Department of Urology, Section of Sexual Medicine, Hospital do Servidor Publico Estadual, São Paulo, SP, Brazil

DOI: 10.1002/smrj.60

## ABSTRACT

**Introduction.** Currently, oral pharmacotherapy is the dominant treatment for erectile dysfunction.

**Aim.** The aim of this article is to give an up-to-date summary of the possibilities of surgical therapy.

**Methods.** A search of the literature over the last decade was performed. Relevant papers and guidelines on the topic were reviewed and included.

**Main Outcome Measure.** We evaluate therapy options, such as penile vein surgery, arterial revascularization, and penile prosthetics.

**Results.** Vein surgery has faded into total insignificance due to the efficiency of oral and intracavernous therapeutics, and because of the known pathophysiology of corporal veno-occlusive dysfunction and the disappointing long-term results published in the literature. Penile revascularization surgery is performed today only in very limited number of patients with strict selection criteria such as age and exclusion of vascular risk factors.

**Conclusions.** Penile prosthetics is the only surgical therapy option maintaining its significance as a cure for erectile dysfunction. There are convincing long-term results with a high degree of patient and partner satisfaction, high patient acceptance, and a good functional durability of the mostly three-piece inflatable devices. **Bertero EB and Antunes DL. Surgical treatment of erectile dysfunction. Sex Med Rev 2015;3:316–327.**

**Key Words.** Vasculogenic Erectile Dysfunction; Vascular Surgical Procedures; Penile Prosthesis; Impotence; Penile Implants; Erectile Dysfunction Treatment

## Introduction

The aim of this article is to collect data on surgical treatment of erectile dysfunction (ED) based on passed, recent state-of-the-art consensus reports, and published articles in peer-reviewed journals.

### Venous Ligation Surgery

The majority of venous procedures to treat ED was developed before our current understanding of the pathophysiology of corporal veno-occlusive dysfunction (CVOD) [1]. It is consensus today that CVOD is a result of endothelial dysfunction and damage to the penile smooth muscle rather than “excessive drainage from veins” as thought decades ago. Today we know that such alterations will not be affected by surgical ligation of extracorporeal veins [2]. For example, hypercholesterolemia and

arteriosclerotic-induced ischemia can be associated with alterations in the fibroelastic components of the trabeculae [3]. Table 1 lists all published venous ligation procedures described [4]. Based on the 3rd International Consultation on Sexual Medicine, “[p]enile venous reconstructive surgery performed with the intent to limit the venous outflow of the penis are not recommended” [5]. Regarding surgical outcome, too many unsolved controversies exist, and universal diagnostic criteria for patient selection as well as operative technique selection have not been unequivocally established [2].

### Penile Revascularization

In 1973, the Czech surgeon, Michal et al. described the first penile revascularization surgery, and this technique has been named the Michal I

**Table 1** Published venous ligation procedures described

CVOD surgery and procedures
Superficial dorsal vein ligation
Deep dorsal vein ligation/excision
Crural vein ligation
Crural plication/ligation
Deep dorsal vein arterialization
Cavernosal vein arterialization
Spongiolysis
Pericavernosoplasty
Therapeutic embolization
Combinations of the above
Extraperitoneal laparoscopic penile vein ligation

CVOD = corporal veno-occlusive dysfunction

procedure [6]. Years later, the direct anastomosis to the corpora was abandoned, and microsurgical techniques made possible the anastomosis from the inferior epigastric artery (IEA) to dorsal vessels (dorsal vein and artery). It is very difficult to make comparisons of results and to achieve consensus on the literature, especially because of the heterogeneity and complexity of the study population.

#### Patient Selection and Workup

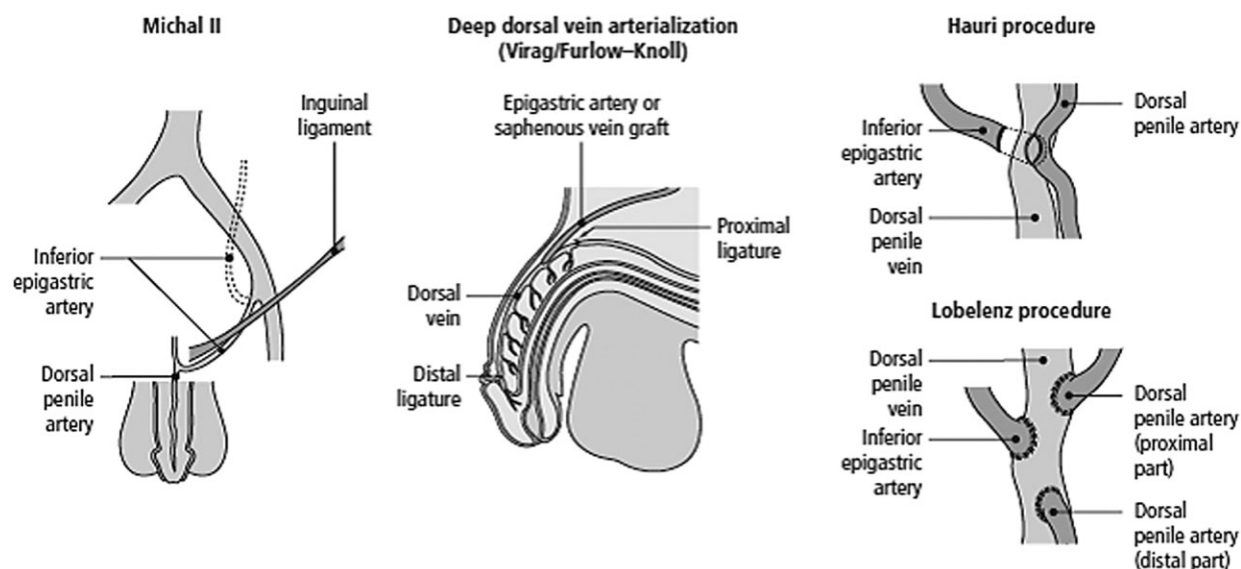
The ideal patient for penile revascularization using microsurgical technique is a young man with a history of focal endothelial dysfunction and an absence of systemic endothelial dysfunction. The typical case is a man less than 50 years of age, with a past of pelvic blunt trauma with injury to the pudendal artery. The distal internal pudendal

artery, common penile artery, and proximal cavernosal artery are particularly susceptible to injury given the fixed anatomic relationship to the ischiopubic ramus as it passes through Alcock's canal [7]. The extent and types of workup vary in different centers. However, the mainstay of the workup includes full examination, psychological evaluation, laboratory tests, color Doppler ultrasonography, dynamic infusion pharmacologic cavernosometry and cavernosography, and selective internal pudendal arteriography or digital subtraction angiography [8]. Some discrepancies between Doppler and arteriography have been shown and could diminish the number of real candidates for revascularization [9]. Men with known vascular risk factors, such as diabetes, hypertension, tobacco use, hypercholesterolemia, and evidence of neurological ED, psychiatric disorders, Peyronie's disease, premature ejaculation, and evidence of corpora-occlusive dysfunction, should be excluded.

#### Types of Interventions and Rationale

Various techniques have been described, and the IEA is used to establish new arterial flow for most penile revascularization surgeries [10,11]. Currently, three surgical approaches are still in use, as depicted on Figure 1 [4]. These are the following:

1. Anastomosis of the IEA to the dorsal penile arteries (end-to-end or end-to-side).
2. Anastomosis of the IEA to the deep dorsal vein and deep dorsal artery (arterious-venous shunt).



**Figure 1** Three principal surgical approaches for penile revascularization in clinical use [4]

Download English Version:

<https://daneshyari.com/en/article/4274698>

Download Persian Version:

<https://daneshyari.com/article/4274698>

[Daneshyari.com](https://daneshyari.com)