

## THE IN-SITU MARTIUS FLAP, DESCRIPTION OF A NEW TECHNIQUE

### Hypothesis / aims of study

The Martius flap was initially described in 1928 and is widely used for complex fistula repair and as an interposition graft with vaginal reconstructive surgery. A recent review noted 62% of patients perceived permanent decrease in sensation at the harvest site, while 12% believed there was a significant cosmetic change compared to the contralateral labium majus. We describe a new technique in the creation of the Martius flap that eliminates the need of a separate labial incision.

### Study design, materials and methods

The vaginal incision through which the surgical repair has been performed is extended to the labia. A tunnel is developed subcutaneously toward the adductor muscles laterally. This initial dissection saves the later step of having to create an access tunnel for the flap to reach the prevaginal space. A generous flap is then dissected by extension superiorly to the anterior symphysis of the pubic bone, while leaving a wide base of pedicle inferiorly. The upper segment is transected and tied with suture ligature. The flap is transferred to the prevaginal space and sutured in place over the repair. The vaginal incision is reapproximated. There is no additional labial incision and no drain is left. By avoiding a labial incision, there is no transection of the superficial branches of the pudendal nerve, and the risk of injury to the posterior labial branches of the internal pudendal artery is minimized.

We have performed 9 in-situ Martius flaps since May of 2003. Of these 9 patients, 3 had urethral injuries requiring complete reconstruction, 1 required a suprameatal urethrolisis after multiple attempts at relieving urinary obstruction, 2 patients had complex urethrovaginal fistulae, 1 had a vesicovaginal fistula, and 2 patients had rectovaginal fistulae. Because of the severity of injury and extensive repair, all patients required tissue interposition prior to vaginal closure.

### Results

The technique allowed easy and fast harvest of the Martius flap with an average operative time of 15-20 minutes. All flaps were viable and adequate for the vaginal reconstruction. No additional vaginal tunneling was necessary to interpose the tissue. There were no perioperative or post-operative complications and no surgical failures to date. All patients were discharged home after the procedure and reported minimal discomfort. No patient reported labial numbness.

### Interpretation of results

This new technique of harvest provides an excellent labial fat pad for reconstructive purposes, decreases operative time, and does not increase patient morbidity.

### Concluding message

We describe a new technique for harvesting of a labial fat pad for vaginal reconstruction. The technique is simple, fast, and decreases the potential morbidity of the traditional harvesting of a Martius flap.