

## Surgical Technique

# Gluteoplasty for Rectal Incontinence

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## Abstract

We present a new technique for correction of rectal incontinence by using the inner third of the gluteus maximus (carefully preserving its neuro-vascular pedicle), de doubled at its lower end, and then encircling the lower rectus, followed by suturing it to the external sphincter. In other “minor” cases, a very simple cutaneous approach, with small VY perianal plasties, can solve the problem.

**Keywords:** Imperforate anus; Bowel incontinence; Rectal incontinence; Active muscle training

## Introduction

After surgery of some pelvic tumors requiring an extensive para-rectal dissection, or after correction of ano-rectal malformations (as imperforate anus), lesion of the muscular complex described by DeVries and Pena leads frequently to post-operative rectal incontinence [1-4]. We present a new method for prevention or repair of that rectal incontinence, by using the inner third of the gluteus maximus as the new complementary sphincter, applied to a patient with a para-rectal rhabdomyosarcoma and to another having had imperforate anus repair after birth [4,5]. For simpler situations straightening the anal orifice can be achieved through short VY perianal incisions [6,7].

## Surgical Technique

Under endotracheal general anesthesia, with the patient in the prone position, a sagittal posterior approach is used, individualizing the third medial portions of the gluteus maximus, that are freed from their inferior insertions at the level of the fascia lata, being particularly careful so as to preserve the neurovascular pedicle (using the electric stimulator) (Figure 1) [8-12].

The two gluteal flaps so obtained are then rotated internally, their lower ends are split and sutured to each other, involving the rectum as a sleeve [13-18], the internal segment being sutured anteriorly and the posterior segment sutured posteriorly, in such a way that the extremities of each flap be kept together after over passing the rectum (Figure 2) [19-21].

The more distal portion of the produced sleeve is then sutured as low as possible aiming to join it to the external sphincter. The surgical wound is closed in layers in the usual way, without drainage (Figures 3-5) [22,23].

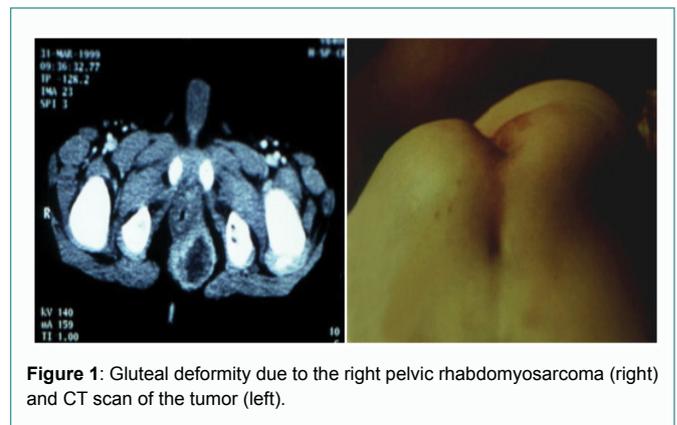
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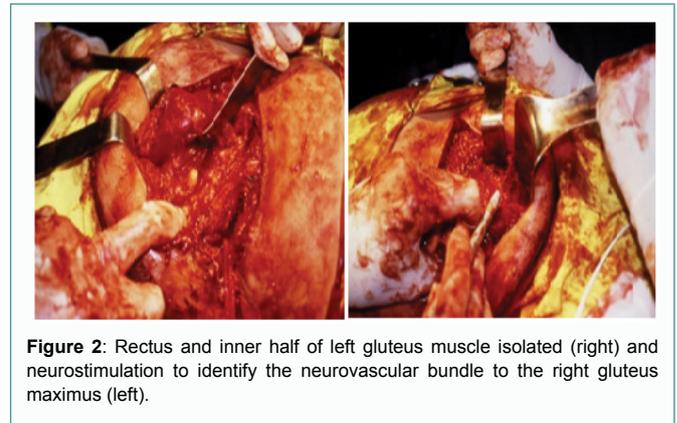
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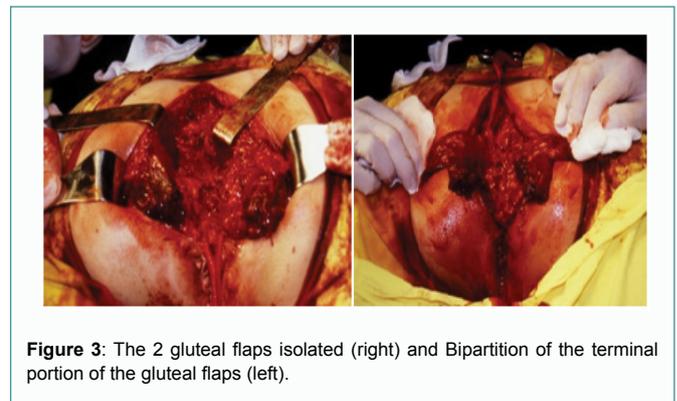
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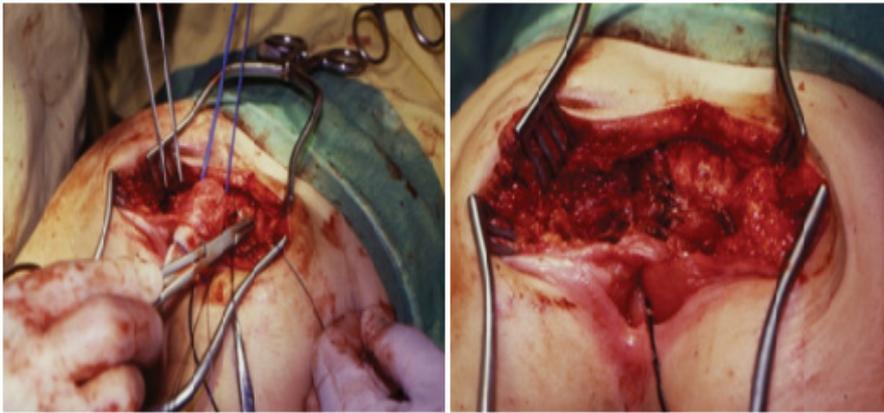
**Figure 1:** Gluteal deformity due to the right pelvic rhabdomyosarcoma (right) and CT scan of the tumor (left).



**Figure 2:** Rectus and inner half of left gluteus muscle isolated (right) and neurostimulation to identify the neurovascular bundle to the right gluteus maximus (left).



**Figure 3:** The 2 gluteal flaps isolated (right) and Bipartition of the terminal portion of the gluteal flaps (left).



**Figure 4:** The isolated rectum referenced by a loop and beginning the suture of the gluteus muscles (right) and suture of the muscular sleeve at the lower rectum (left).



**Figure 5:** Initial appearance of the perineum in the adolescent having had the Neo-Natal repair of an imperforate anus (right) and Post-operative appearance (left).

## Discussion and Results

Pre-operatively it is essential to evaluate as fully as possible the cause of the fecal incontinence, in order to evaluate eventual neurological reasons (like Meningocele, spina bifida occulta, etc.).

Multiple techniques have been devised trying to solve the problem of rectal continence in Children (free autogenous muscle transplantation) [7,18] and modified by Hartl 1972, plication of the levator ani by Puri and Nixon [19], myoplasty of the pelvic floor by Holle and Freilinger [5], etc., proving that none was good enough. Some of them, like the one of Pickrell, had fair initial results but tended, with time, to become ineffective as the muscle atrophied due to the lack of stimulus.

The obtained continence will obviously depend on the severity of the existing lesions in the muscular complex and its innervation, either from previous surgery or from a congenital malformation. In any case, fully functional integrity of the gluteus muscles is imperative. Following the present technique, we do not believe it will be ever required to utilize the so called incontinence tampons, popularized by Willital et al [23]. Also we do not use the implantable ano-rectal electro-my stimulator but only advise external stimulation.

Two patients presented with troublesome rectal incontinence. The 1<sup>st</sup> patient, a two years old boy with a right para-rectal rhabdomyosarcoma, was operated after radiotherapy and chemotherapy. Fortunately, five years later, he is free from disease and leading a normal life.

Satisfactory social continence was obtained in both patients as they only have occasional minor losses of flatus or minor soiling with diarrheal stools (but not with stools of normal consistency). They are advice about their diet and also to consider periodic stool washouts to maintain the stools normal consistency. It may be also useful to promote periodic local electric stimulation of the perianal region to maintain the best possible tonicity of the mobilized gluteus.

In any case, we believe that the mental development of the patient, with his capacity for adaptation, is important so that he is able to use de defective mechanism to the maximum of its capacity. When there exists only an over open rectal orifice, or even a short prolapse, the VY plasty leads to a satisfactory solution.

## Conclusion

The technique is relatively simple. It is essential to preserve the integrity of the neurovascular plexus corresponding to the inner third

of the gluteus maximus. This way we can avoid the use of a permanent colostomy (with all its drawbacks), reaching an obviously better corporal image and improved satisfaction and quality of life.

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