

## Postanal repair for faecal incontinence<sup>1</sup>

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**Summary:** Between 1977 and 1983, 105 patients had a postanal repair for the treatment of faecal incontinence. All except 8 patients were women. The principal reasons for operation were: persistent incontinence after rectopexy ( $n = 25$ ), obstetric trauma ( $n = 18$ ), anal dilatation ( $n = 12$ ) and pelvic floor neuropathy ( $n = 41$ ). One patient died after operation. Of 89 patients followed up for at least six months after operation, 56 (63%) have complete control of faeces and flatus, but 19 have control of solid faeces only and 14 are no better. The poor results were associated with wound sepsis and previous operations particularly in men.

### Introduction

Faecal incontinence is a socially-distressing condition which is not confined to elderly patients (Corman 1983). The principal causes of faecal incontinence include malignancy of the rectum, villous adenoma, inflammatory bowel diseases, high fistula in ano, rectovaginal fistula, neurological causes and rectal prolapse (Keighley 1981, Wheatley *et al.* 1977, Keighley & Matheson 1981). Increasingly recognized are a group of patients with incontinence due to a neuropathy of the pelvic floor (Henry *et al.* 1982). Many of these patients have a history of obstetric difficulties, chronic straining at stool and a rectal prolapse (Neill *et al.* 1981). Perineal descent is a common feature in these patients and one that may explain the incontinence observed after inappropriate selection of patients for anal dilatation (Read *et al.* 1983). The pelvic floor neuropathy is thought to be due to damage to the terminal fibres of the pudendal nerve (Kiff & Swash 1984). The syndrome is characterized by low anal canal pressures, abnormalities on electromyography and a wide anorectal angle at rest (Parkes *et al.* 1966, Bartolo *et al.* 1983). The aim of postanal repair is to elongate the anal canal and to reconstruct the anorectal angle (Browning & Parkes, 1983).

### Patients and methods

Between January 1977 and December 1983, 241 patients were referred for investigation and treatment of faecal incontinence. Ninety-three patients had a full-thickness rectal prolapse and were treated by abdominal rectopexy (Keighley *et al.* 1983). In addition, 36 patients had a damaged external anal sphincter and were treated by external sphincter reconstruction (Keighley & Fielding 1983). The remaining 112 patients were either treated conservatively or had a postanal repair.

Postanal repair was performed under general anaesthetic with the patient in a steep lithotomy Trendelenburg position using antibiotic prophylaxis. The principal operative details are as follows: the patient must be positioned so that the buttocks and tip of the coccyx lie beyond the end of the table, and the patient should be catheterized. A transverse incision is used 8 cm behind the anal verge after prior infiltration with 1/300 000 adrenaline solution, the anterior skin flap is raised and the intersphincteric plane is opened. Waldayer's fascia must be completely divided so that the rectum can be swept forwards from the sacrum; the repair is performed with interrupted 0 dexion sutures to oppose the puborectalis and inner fibres of the ischio coccygeus and pubo coccygeus in the midline behind the rectum.

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*Table 1. Indications for postanal repair (105 patients)*

	No. of patients	Descending perineal syndrome
Persistent incontinence after rectopexy	25	15
Obstetric difficulties	18	10
Anal dilatation	12	7
Anal fistula deroofed	3	3
Neurological causes (3 diabetes, 2 multiple sclerosis, 1 von Recklinghausen's disease)	6	1
Pelvic floor neuropathy	41	26

The indications for postanal repair are shown in Table 1. Twenty-five patients had a postanal repair because of persistent incontinence despite a successful rectopexy. The remaining patients either had a history of obstetric difficulties, previous anal dilatation, neurological disorders or evidence of a pelvic floor neuropathy on electromyography, manometry, or balloon proctography. With the exception of 8 men, all other patients were women. The median age of the patients was 61 years but the ages ranged from 22–84 years. It is interesting to note that 10 of the 18 patients with obstetric injuries had evidence of the descending perineal syndrome, as did 7 of 12 patients who became incontinent after anal dilatation. All patients who became incontinent after treatment of low-lying fistula in ano had evidence of the descending perineal syndrome. The 6 patients with neurological disease are also interesting: 3 had diabetes mellitus, 2 had multiple sclerosis and one had von Recklinghausen's disease with neurological involvement of the cauda equina. Of the 41 patients with pelvic floor neuropathy, 26 had evidence of perineal descent. A variety of coexisting colorectal disorders were present in 27 of these patients, with some patients having more than one: mucosal prolapse (6), diverticular disease (15), pruritus ani (6), Crohn's disease (2), solitary rectal ulcer (5).

All patients have been carefully followed up by the author after operation. The results in 89 patients who have been followed up for at least 6 months are presented here. Clinical results have been classified as 'completely continent' if there has been control of flatus and faeces; 'improved' if there has been continence of solid stool but occasional incontinence during episodes of diarrhoea; and 'no better' if there has been no improvement.

## Results

Of the 89 patients followed up for more than six months after operation, 63% were rendered completely continent by this procedure (Table 2). A further 21% were improved, leaving only 16% who were no better following their operations.

The possible reasons for the poor results in these 14 patients are listed in Table 3. One patient who had received radiotherapy for a carcinoma of the cervix 21 years earlier

*Table 2. Results of postanal repair in 89 patients followed up for more than 6 months*

	No. of patients
Completely continent	56 (63%)
Improved	19 (21%)
No better	14 (16%)

*Table 3. Reasons for poor results*

	No. of patients
Wound sepsis	8
Previous radiotherapy	1
Male patient	4
Unknown (technical)	1

developed a rectoperineal fistula six months after operation and required a proctectomy three years later. Four of the 8 male patients did badly: 2 were inpatients who had had a fistula operation many years earlier, and the other 2 had developed faecal leakage after an anal dilatation. Eight of the remaining 9 poor results were in patients over 60 years of age who developed local wound sepsis after operation.

One patient of 84 years died from congestive heart failure following a myocardial infarction after postanal repair. A total of 9 patients (11%) developed wound infection after operation. In 22 patients (25%) a small area of skin necrosis was observed in the centre of the anterior skin flap, leaving an area of granulation tissue which usually healed in 4–6 weeks. Marked bruising was observed in 19 patients (21%), one of whom had to have a large perineal haematoma evacuated. Forty-two patients have been followed up for at least 2 years. The functional results of operation has deteriorated in 3 patients, but improved (from 'improved' to 'completely continent') in 6. It would appear that improvement may still be observed in some patients after the first six months following operation.

### **Discussion**

The poor results of postanal repair have occurred in men and in those with sepsis at the operation site. For this reason antibiotic prophylaxis is always advised during this procedure, using metronidazole and either a cephalosporin or an aminoglycoside as a single bolus injection just before the skin incision (Keighley 1982).

In some patients the operation may be technically difficult, particularly if the surgeon strays from the midline and when Waldayer's fascia is not completely divided. Although the rectum was not opened during operation in any of these patients, rectal injury is much more likely to occur if Waldayer's fascia is not completely divided. There may also be considerable technical difficulty in defining the retrorectal plane if the patient has had a previous rectopexy.

From these results it would appear that age is not a contraindication to operation. Furthermore, in the small group of patients with neurological disorders, postanal repair was associated with good results. Although there were 2 patients with quiescent ileal Crohn's disease, both obtained a satisfactory long-term result following postanal repair. There was a dramatic improvement in pruritus ani in 4 of 6 patients who had complained bitterly of symptoms before their operations.

In view of the bruising that has been observed in many of these patients, use of subcutaneous heparin for prophylaxis against deep venous thrombosis has now been discontinued. Unfortunately it is too early to assess whether this policy has reduced the incidence of bruising following operation. It is quite conceivable that the use of 1/300 000 adrenaline solution might contribute to postoperative bleeding problems. However, many surgeons with experience of this operation would not be prepared to discontinue the use of adrenaline infusions. The area of ischaemia in the anterior skin flap has been minimized by the use of skin hooks rather than tissue forceps and avoidance of a self-retaining retractor.

It is interesting to note the high incidence of perineal descent in patients who have become incontinent after anal dilatation and obstetric damage (Sullivan *et al.* 1982). Even more fascinating are the 3 patients rendered incontinent after laying open a low fistula in ano, all of whom had features of the descending perineal syndrome. It is essential, therefore, that all patients being considered for anal dilatation or fistula operations should be carefully examined so as to exclude clinical evidence of perineal descent before their operation (Read *et al.* 1979).

Postanal repair appears to have improved 84% of patients with faecal incontinence. The operation would not be advised if there has been complete division of the external sphincter, especially in men. Postanal repair would also not be advised as primary treatment of rectal prolapse. All other patients with faecal incontinence in whom there has not been a substantial improvement by pelvic floor exercises and faradism (MacLeod 1979) should be offered a postanal repair.

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