Table 1
End-results of reconstruction of anorectal sphincters

Grade	*No. of patients*
Satisfactory	14 (70%)
Fair	1 (5%)
Further operation required	2 (10%)
Not traced	3 (15%)
Total	20

patients over 70). Nine patients had a previous operation of another type (5 had 1 operation; 1 had 2 operations; 1 had 3 operations; 2 had 4 operations). One patient had colostomy performed four years previously.

Operation for Reconstruction of the Anorectal Sphincters

The usual pre-operative treatment for a rectal operation is given and a general anæsthetic is administered. The patient is placed in the lithotomy position and a curved transverse skin incision, convex anteriorly, is made halfway between the anus and vulva 6·5 cm long (Figs 1 and 2). The external and internal sphincters are identified; the posterior wall of the vagina is separated from the anterior wall of the rectum until the firm levatores ani muscles are identified (Fig 3). By blunt dissection they are exposed, passing upwards and inwards for 7·5 cm. These muscles are then approximated by interrupted thread sutures (Fig 4). The internal and external sphincters are then plicated with interrupted sutures of chromic catgut (No. 0) which tightens the anal orifice (Fig 5). The transverse skin incision has now become antero-posterior in direction and the edges are approximated with interrupted sutures of fine nylon (Fig 6).

Post-operative care: Routine wound treatment is carried out. A daily bowel action is achieved with senna tea and fæcal impaction is avoided. A course of faradic stimulation is given to the sphincters when the wound has healed.

End-results (Table 1): There was no operative mortality. The length of follow up was from three months to sixteen years; 14 patients (70%) were followed up for one or more years. Two patients with a satisfactory initial result underwent further operations; one had Thiersch's operation and another an Ivalon wrap operation. The patient who was followed up for sixteen years had incontinence before operation, but was normal afterwards. One patient aged 43 had colostomy performed elsewhere and was normal after the reconstruction operation and closure of the colostomy; an Ivalon wrap operation was required for prolapse three years later.

The result is considered satisfactory when the patient is continent and without prolapse, except perhaps for a small degree of mucosal prolapse which reduces spontaneously.

Conclusion

No single operation ensures success in curing anorectal prolapse and incontinence. Reconstruction of the anorectal sphincters by the perineal route has proved to be a satisfactory method of treatment in 14 (70%) of 20 patients with this condition. There has been no operative mortality in this series and the operation is suitable for elderly patients.

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A Study of 200 Patients with Pruritus Ani

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During the past four years we have investigated a total of 200 patients complaining of itching in the perianal region. This study was a co-operative effort between the Departments of Surgery and Dermatology at Guy's and St Mark's Hospitals. Patients were referred from both hospitals and the earlier patients seen had intractable symptoms. All patients were examined by the surgeon and the dermatologist at their first attendance. Routinely, the urine was tested, the entire skin surface was examined in natural and ultraviolet light, proctoscopy and sigmoidoscopy were carried out and, where indicated, cultures and scrapings for direct microscopy of micro-organisms were made. The total number of patients seen was 200, roughly 80% male, 20% female, and the age range was from 12 years to 76 years at the first attendance, the majority of patients presenting in their middle 40s.

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The majority of patients had symptoms for five years or less, but 40 % had symptoms for five years or longer.

Taking 'cure' as meaning complete relief of symptoms or substantial relief of symptoms for at least three months, our results showed that 165 were cured, 15 were lost to follow up, and 20 patients failed to show improvement. In all, 257 separate diagnoses were made on 200 patients. This implies that some patients had more than one cause for their itching. Some patients had three, a few patients had four and one or two patients had five separate causes of itching. This is of importance as, until all causes have been eliminated, patients are unlikely to experience cure or relief of symptoms. In 2 patients the question of an overriding psychosomatic background for itching was considered. We shall consider these diagnoses in turn:

Erythrasma: Diagnosis of erythrasma was established on the clinical appearance of the lesions, that is, well-demarcated, browny-red scaling areas in characteristic sites of involvement in the groins, axillæ and umbilicus. The diagnosis was confirmed by fluorescence of these areas. Thirty-two cases were seen, all male; average age at presentation was 50 years and the duration of symptoms had varied from 3 months to over 40 years, average 7½ years. These 32 cases comprised 16% of the entire series, but taking all patients with symptoms for 5 years or more, the incidence of erythrasma rises to 27%.

Thrush was observed in 28 patients. One was a known diabetic. Thrush occurred in 14 patients complicating local steroid therapy, and in 6 after a course of systemic antibiotics.

Intertrigo was seen in 55 patients. Intertrigo, an inflammation of two opposing skin surfaces, may occur in the axillæ, beneath the breasts, in the groins, between the buttocks and between the skin folds in the abdomen in the obese. It is a simple mixed bacterial infection associated with obesity, sweat and lack of hygiene. These were treated with a tyrothricin lotion 1 in 1,000 in 1% hydrocortisone. Most patients found substantial or complete relief from this preparation.

Contact dermatitis: A large number of preparations were responsible for the eruption, including TCP, neomycin, clioquinol, Germolene, Locan, Vulcan pile ointment (the formula of which is unobtainable), lignocaine, cinchocaine, Dettol, benzocaine and amethocaine. Forty patients were seen. Grouped:–antihistamines were responsible for one case, topical antibiotics for one case and topical antiseptics for 15 cases. The largest number were due to local anæsthetics and comprised 23 patients.

Psoriasis was observed in 11 patients. The appearance of the lesions in the perianal region may not resemble characteristic psoriasis elsewhere. It is essential to make a full external examination of the patient's skin.

Lichen simplex chronicus: Diagnosis was made in 15 of our cases. This is very much a dermatological diagnosis, and it is also known as localized neurodermatitis. However, we dislike this term, as neurodermatitis implies some strong psychosomatic factor which in fact may not be operative at all. Lichen simplex chronicus in the perianal region shows marked local hypertrophy, maceration and depigmentation, particularly in long-standing cases.

This was associated in 4 patients with characteristic lichen simplex chronicus elsewhere on the body surface. It seems that whatever causes skin irritation, scratching induces changes in the skin causing more irritation. An itch-scratch-itch cycle is set up which is very difficult to break.

X-ray damage was observed in 4 patients. These all had long-standing pruritus ani and had received superficial X-ray therapy in the past. X-ray therapy may relieve symptoms for a while, but does not eradicate any original cause of the itching, and in patients who have had X-rays, permanent damage to the perianal skin may result; these changes themselves cause itching and are extremely difficult to treat. There appears to be no place for X-ray treatment.

Hæmorrhoids were found in 43 of the 200 patients. They were contributory in all cases and in 16 were the sole cause.

Fissure was found in 5 patients and required treatment by dilatation before full relief of symptoms was obtained.

Spasm was observed in 4 patients, and on dilatation under anæsthesia the spasm was relieved, as was the itching.

Skin tags were removed in 5 patients with relief of symptoms. They were observed in many more patients, but it was felt that in only 5 were they a significant contributory factor. It was not until after removal that the patient experienced complete relief of symptoms. One characteristic sign in these patients is that when asked to indicate the site of itching they accurately pinpoint the tag itself. It is possible that fæcal matter may be trapped by the tag and set up an irritant process.

Hypertrophied anal papillæ were observed in only 2 cases, and surgical removal resulted in cure of symptoms.
Worms were seen in 6 patients, all in the younger age group.
Pubic lice were seen in 2 patients.

In the remaining 4 patients the conditions found were fungal infection, fistulæ, warts and vaccinia respectively.

Summary
(1) A combined dermatological and surgical approach to the problem of pruritus ani is required.
(2) Pruritus ani should never be accepted as a diagnosis. It is well worth trying to make an etiological study as a rational basis for treatment.

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Irradiation Injury to the Bowel and Rectum

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Damage to the bowel or rectum as a secondary reaction to irradiation therapy to other organs is a well-defined clinical entity. Because the lesions are caused unintentionally, by artificial means, the term 'facticial' has been applied by Buie & Malmgren (1930) and other authors (Chanin & McElwain 1959, Randall & Buie 1943).

Despite the refinements and advances in the techniques used by radiotherapists, damage to the rectum and sigmoid colon continues to occur and produces problems in management (Aldridge 1942, Ashbaugh & Owens 1963, Colcock & Hume 1959, Lindgren 1963). There is sufficient individual variation in sensitivity to irradiation that dosage cannot be determined with as much accuracy as is desirable (Bennett & Carter 1963). Other factors which contribute to inadvertent irradiation damage to the rectum or bowel include: Anatomical variations which prevent accurate placement of radium, the misplacement of the sigmoid due to previous surgery or infection, the improper application of radium or irradiation source, and slipping of the uterine or vaginal applicator as well as inaccuracy or improper calibration of equipment used. Maas (1948) has estimated that up to 75% of all patients treated for cancer of the cervix or uterus by irradiation will develop some degree of rectal or sigmoid involvement.

No attempt is made in this study to draw any statistical conclusions; however, the 55 patients observed and treated for irradiation injuries to the bowel and rectum by the author provided a broad enough spectrum of clinical variations to permit pertinent observations as to the characteristics of the entity and to serve as a basis for treatment.

Diagnosis
The diagnosis of irradiation damage to the rectum or sigmoid is usually simple. The early presenting symptoms consist of the passage of small amounts of fresh blood per rectum; there is likely to be frequency of defæcation, and the presence of mucus in the stool is not uncommon. These symptoms usually develop 2–6 weeks after irradiation therapy in the pelvic area. If the involvement is low in the rectal ampulla, the patient may complain of a constant urge to defæcate due to a pressure sensation in the rectum. In these instances the patient will often claim to have diarrhœa because of numerous attempts to have a bowel movement. The degree of bleeding varies from a few flecks noted in the passage of mucus to amounts requiring blood replacement. Symptoms of obstruction will develop if there is sufficient progression to constrict the lumen of the sigmoid or rectum.

Direct visualization by proctoscope or sigmoidoscope not only helps to confirm the diagnosis but also provides a direct means of evaluating the degree of damage involved. In those instances where the sigmoid is involved beyond their reach, a barium enema X-ray will usually show the site of involvement as well as the degree of obstruction or ulceration present.

The most difficult problem in diagnosis arises when there is suspicion that the original cervical or uterine carcinoma might have recurred or that metastatic infiltration is presenting itself as a part of the rectal or sigmoidal post-irradiation pathology. Unfortunately, all too often it is impossible to obtain a positive biopsy, and if too much vigour is used in procuring a good specimen the possibility of causing a perforation must be realized and of course avoided. Such cases require the combined talents of the gynæcologist, surgeon and radiologist to evaluate the clinical findings.

The earliest post-irradiation changes noted in the rectum involve the mucosal surface, in which there is local œdema and hyperæmia, with telangiectasia often being present (Chanin & McElwain 1959). Subsequently, small punctate mucosal erosions may develop and the œdema