If this theory, that hæmorrhoids are caused by the unyielding pecten bands, is correct, the progress of hæmorrhoids should be halted by stretching the bands to the point of destroying them. This in fact happens – indeed it is better than that: after stretching these bands to destruction hæmorrhoids wither away and are rapidly cured. This procedure can be carried out on a day case basis as I have described elsewhere (Lord 1968). Acute and chronic fissure-in-ano are likewise seen only when fibrosis is present and these too can be treated successfully by anal dilatation (Romanis & Mitchiner 1927).

Anal fibrous polyps are presumably traumatic in origin. An anal papilla becomes enlarged as a result of trauma and subsequent acts of defæcation result in further trauma with œdema. This œdema may settle but leaves residual fibrosis and the process is repeated until a small skin-covered fibrous polyp is formed attached by a stalk to the linea dentata. These polyps can be conveniently removed by use of the hæmostatic clamp previously described (Lord 1968) and if this excision is accompanied by the anal dilatation procedure and regime the patient's symptoms are completely relieved. Here again the fibrous band is clearly palpable and is felt to give way when stretched.

Anal skin tags are, in my experience, always associated with perianal fibrosis and again are presumably traumatic in origin. The tags themselves may give rise to the symptoms of pain and irritation and these symptoms are temporarily cured by clamp removal of the tags, but this alone does not deal with the cause and, in the author's view, removal of skin tags should also be accompanied by dilatation.

Conclusion

As a result of experience with the dilatation procedure and regime for hæmorrhoids I believe that first, second and third degree hæmorrhoids, anal fibrous polyps, skin tags, and fissure-in-ano are all associated with, and probably caused by, the unyielding anal bands of fibrosis first described in 1919 by Miles.

It can be further pointed out that these conditions are never seen in the presence of a patulous anus. The exact nature of this fibrosis is yet to be determined. If a patient has anal symptoms due to any of these conditions it is the author's practice to include in management the dilatation procedure and regime as originally described for the treatment of hæmorrhoids.

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The Prevalence of Hæmorrhoids

A Preliminary Survey

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Acheson (1960) noted that although hæmorrhoids are widely agreed to be common, there is not much satisfactory evidence as to how common they are, nor is a great deal known of the causes. We report here a study on prevalence in a sample taken from a hospital and general practice population.

The amount of any disease in a community may be measured in terms of the incidence or attack rate, that is to say, the new cases of a disease appearing per unit of population within a defined time interval. Acheson (1960), reporting such an investigation by three authors, found the incidence to lie between 8 and 34 per thousand per year. Alternatively, it can be measured in terms of prevalence, which is defined as the total number of cases of a disease existing in a given population at a given time. In Acheson's article prevalence lay between 28 and 133 per thousand. The incidence of a chronic non-fatal condition such as hæmorrhoids in which each untreated case continues for years will be, as anticipated, lower than prevalence. Thus, if we are to obtain a measure of the amount of hæmorrhoids in the community we should try to estimate prevalence, but this is not easy.

In the first place there is a natural tendency for patients to seek unqualified advice or resort to self-medication before consulting a doctor – 46% of Acheson's patients admitted this – proving that any estimate of prevalence which depends upon doctors' records will be an underestimate. In two 10% samples taken from a single-handed practice run by one of us (W R) in January and May 1969, a prevalence of 300 per thousand was found in both sexes (Table 1). It may be argued that these figures are from a selected group of the population attending for some other condition and, from a statistical aspect, unsound. Secondly, the questions that were asked, as in previous

Table 1
Prevalence of hæmorrhoids in a general practice in SW London (list approximately 2,195 patients; two samples of approximately 10%)

	Total examined		*No. with history of hæmorrhoids*	
	Male	*Female*	*Male*	*Female*
January 1969	91	156	32 (35·1%)	55 (35·2%)
May 1969	110	214	38 (34·5%)	83 (38·7%)
Prevalence	201	370	70 (34·8%)	138 (37·2%)

Table 2
Prevalence of hæmorrhoids in a hospital practice (St George's Hospital: 73 general surgical admissions)

Past history	*No. of cases*	*Hæmorrhoids present*	
Positive	19 males	17 (89%)	11% false positive
Negative	19 males	13 (68%)	68% false negative
Positive	15 females	8 (53%)	47% false positive
Negative	20 females	2 (10%)	10% false negative
Prevalence	38 males	78·9%	
	35 females	29·5%	

series, were: 'Have you ever suffered from hæmorrhoids or piles?' or: 'Have you ever had rectal bleeding?' An affirmative answer to either question did not necessarily indicate a proven diagnosis of hæmorrhoids in the past or exclude other causes of their symptoms. Therefore the only way of solving the problem is to question or examine a representative sample of the population, and even here the magnitude and accuracy of the final estimate will depend upon the method of verbal question or physical examination. To test the accuracy of verbal assessment, a similar survey was performed by one of us (J W S R) on a series of surgical inpatients admitted for non-rectal conditions. Each patient was examined proctoscopically for the presence of hæmorrhoids (Table 2). This shows that the prevalence or rates for past bleeding, hæmorrhoids or piles are surprisingly high. Of greater interest is the prevalence of hæmorrhoids found on examination in the selected group of patients. Thus, of the males with a positive past history, 89% had hæmorrhoids on examination, as had 53% of women in a similar group. But 68% of men gave a false negative history, whereas 47% of women gave a false positive history. Thus referring back to the general practice survey, a positive history of symptoms in men would seem to be a good indication for the present presence of hæmorrhoids, but the lack of such a history would give 68% false negatives. In women, however, a positive history is wildly out by 50%, and it is only in the negative histories that any accuracy is obtained, with only 10% false negatives. Part of the error is due to the presence in women of external hæmorrhoids alone (Table 3). The socio-economic groups (Table 4) do not, in this small survey, as in others, confirm a predisposition for piles in Classes I and II.

Table 3
Degree of hæmorrhoids present in 73 general surgical patients (St George's Hospital)

	No. with positive history		*No. with negative history*	
	Males	*Females*	*Males*	*Females*
Total cases	19	15	19	20
Internal hæmorrhoids:				
1st degree	7	5	5	2
2nd degree	6 (17)	1 (8)	6 (13)	0 (2)
3rd degree	4	2	2	0
4th degree	0	0	0	0
External hæmorrhoids:				
All cases	3	8	1	2
Present alone	0	4	0	2

Table 4
Social class of patients with hæmorrhoids (per cent) (general practice survey)

	Social class					
History	*I*	*II*	*III*	*IV*	*V*	*Unknown*
Females:						
Positive	16·6	12·8	35·8	6·4	1·2	26·9
Negative	14·5	20·6	41·2	3·1	7·6	12·9
Males:						
Positive	20	25·7	28·5	2·8	8·5	14·2
Negative	14	29·5	30·9	9·8	7·0	7·0

Table 5
Patients with hæmorrhoids (general practice survey): Duration of symptoms and treatment given (per cent)

	Males	*Females*
With children		65·3
Length of history:		
Less than 1 year	14	19
2–5 years	31	21
6 years or more	55	60
No treatment	31	44
Previous treatment	69	56
Type of treatment:		
Ointment	78	72
Suppositories	52	65
Injections	11	15
Operations	17	11

Most patients treated had multiple forms of therapy

The most important factor in any survey is the basis on which prevalence is determined, and thus any conclusions drawn are dependent on the method of selection. Even so, from this study certain facts can be noted. In women, as anticipated, pregnancy is an important factor; 65% had had one child or more (Table 5). They were long-suffering; 59% had had symptoms for five or more years, and less than half had had some form of simple treatment. Overall, men seemed to suffer less willingly and opted for treatment sooner. But this may be an illusion as the results are not statistically significant.

In clinical practice constipation has long been realized to be associated with hæmorrhoids and Acheson's study confirmed the existence of such an association. But because of the difficulties in actually assessing bowel activity only those 16 patients who had had hæmorrhoidectomy were investigated further. The number of bowel actions per 28 day period was assessed in the 7 males and 9 females. The range in women was 12–31 per month compared with 12–53 for men.

Both figures are well within the range of three actions weekly to three actions daily reported by Connell *et al.* (1966) as being the normal range in 98% of the population. In each group one-third of all motions were hard and the incidence of bleeding was 2%.

In conclusion we would stress the difficulty of dealing with the first problem in the epidemiology of hæmorrhoids, namely incidence and prevalence. In this small survey we have examined measures of the prevalence in both a hospital and general practice population. The results have shown that the verbal or written question is not a satisfactory basis on which to draw anything but the most simple and obvious conclusions. Physical examination is essential if etiological factors are to be assessed.

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Post-hæmorrhoidectomy Pain

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This paper compares the pain suffered after (*a*) stretching the anal sphincters and (*b*) injecting local anæsthetic into the sphincters.

From the literature there is doubt about the relief of post-hæmorrhoidectomy pain after stretching. Hæmorrhoidectomy is the most feared minor operation, and an obscure French cartoon expresses the commonly held lay opinion of it.

A prospective study was made, using a standardized technique for hæmorrhoidectomy in 60 patients, divided into three groups by random selection:

Group 1: Anal sphincters injected with a solution of 0·5% lignocaine in 5% dextran (long-acting local anæsthetic) with adrenaline 1 : 100,000, prior to operation.
Group 2: Anal sphincters injected with a solution of 0·05% bupivacaine (Marcain) (long-acting local anæsthetic) with adrenaline 1 : 100,000.
Group 3: Anal sphincters stretched to 4 fingers for 4 minutes before hæmorrhoidectomy.

Standard Hæmorrhoidectomy with Preliminary Sigmoidoscopy
The three main hæmorrhoidal masses were stripped upward into the anal canal (Milligan & Morgan 1937). The hæmorrhoidal base was ligated with No. 60 thread so as to bring the cut edges of epithelial columns over the raw surfaces. In addition, 3 or 4 No. 60 thread sutures were inserted so as to approximate the cut edges of anal skin; no attempt was made to suture anal mucosa. Tannic jelly pack was inserted at the end of operation into the anus, to hold the anal sphincters open a little and to tan any raw surfaces which might be left.

Post-operative treatment was as follows: (1) Omnopon 20 mg given to male patients nocte and p.r.n. for forty-eight hours. (2) Omnopon 15 mg given to female patients nocte and p.r.n. for 48 hours. (3) Pack removed on first post-operative day. (4) Eusol dressings daily. (5) Liquid paraffin, 20 ml given daily to promote an easy bowel action.

Record of Post-operative Pain
This can be only an approximation because pain is completely subjective. Each patient was questioned by the house surgeon, ward sister and registrar of my unit. Agreement as to the degree of pain was nearly always obtained between the questioners. Pain was recorded on three occasions in each case: (1) 12–24 hours post-operatively, before the pack had been removed. (2) Immediately following removal of the pack. (3) Immediately following the first bowel action. The greatest pain after operation is nearly always within the first three days, and especially after the first bowel action. Pain was described as 'absent' or 'none', 'slight' or 'severe'.

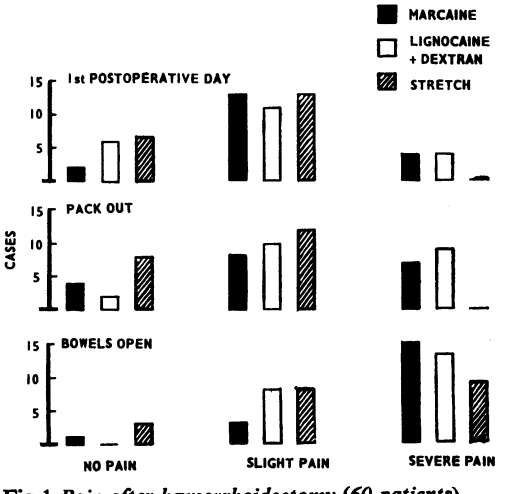

Fig 1 *Pain after hæmorrhoidectomy (60 patients)*