

The Journal of Obstetrics and Gynaecology of the British Commonwealth

VOL. LXVIII, No. 1

NEW SERIES

FEBRUARY 1961

DYSPAREUNIA FOLLOWING VAGINAL OPERATIONS*

BY

WINIFRED J. A. FRANCIS, M.D., M.R.C.O.G.

AND

T. N. A. JEFFCOATE, M.D., F.R.C.S.E., F.R.C.O.G.

From the Department of Obstetrics and Gynaecology, The University of Liverpool

APAREUNIA and dyspareunia are well accepted complications of operations which involve incision and suture of the vagina, and are variously explained. Some authorities emphasize the part played by tenderness of scars in the vaginal walls, others consider that shortening of the vagina, especially following vaginal hysterectomy, is an important factor. But the most obvious cause for post-operative dyspareunia is narrowing of the introitus and the vagina which results from removal of tissue as part of the cure of prolapse. Although these matters are often discussed, statements and opinions tend to be based on impressions so a factual examination of the incidence and causes of apareunia and dyspareunia following various vaginal operations may be of some interest.

MATERIAL

Since the occurrence of post-operative complications depends to some extent on differences in technique, skill and experience of individual operators, it was decided to confine the study to the results of operations carried out by one surgeon (T.N.A.J.). The operations were all performed not less than 2 years before the

assessment of the result. Moreover, the assessment was made by personal interview and pelvic examination in every case. These examinations were conducted by one of us personally, with the assistance of Mr. Henry Roberts in the earlier part of the study. The series includes the sample of cases reported previously (Jeffcoate, 1959).

The case records of 385 consecutive women submitted to certain vaginal operations were examined and an attempt made to persuade each patient to attend for interview. One hundred and forty-two of the patients failed to attend, but 19 of these replied saying that they were well and completely satisfied with the result of the operation. These comments, however, are not included in our findings. The reasons for the non-attendance of the 142 women are shown in Table I.

TABLE I

Patients followed up	243
Patients not followed up	142
Died from incidental disease	4
Poor general health prevented travelling	5
Distance and inconvenience prevented attendance	118
Not traced	15
Total	385

* A paper presented by T. N. A. Jeffcoate to the South Western Obstetrical and Gynaecological Society, at Salisbury, 29th October, 1960.

TABLE II

Anterior and posterior colpo-perineorrhaphy	177
With amputation of cervix	139
With vaginal hysterectomy	36
With previous hysterectomy	2
Anterior colporrhaphy	44
With amputation of cervix	8
With vaginal hysterectomy	19
Vaginal hysterectomy alone	22
Total operations	243

The follow-up assessment is therefore limited to 243 women. These had been subjected, two or more years previously, to the types of operation shown in Table II.

ANTERIOR AND POSTERIOR COLPO-PERINEORRHAPHY

The established operative treatment for genital prolapse is anterior and posterior colpo-perineorrhaphy. Except in the young woman this double procedure is generally combined either with amputation of the cervix or with vaginal hysterectomy in order to secure access to the transverse cervical ligaments which are then tightened. One hundred and seventy-seven women in our series were treated by anterior and posterior colpo-perineorrhaphy. This was part of the Manchester operation in 139 cases, was combined with vaginal hysterectomy in 36 cases, and was carried out in patients previously subjected to abdominal total hysterectomy in 2 cases.

Thirty-seven of the patients could not be assessed symptomatically for subsequent coital function because 2 were single and 35 widowed. On examination, however, only one of these women had a vagina wide enough to permit coitus had they chosen to marry. Out of the 140 women with opportunities for coitus following operation, exactly half, namely 70, reported that coitus was being practised regularly and without discomfort; 8 of them had had pregnancies subsequent to the operation. There was, however good reason to believe that at least 4 of these women made misleading statements because, on examination, their vaginas were found to be so narrow that penetration during coitus would have been quite impossible.

The remaining 70 women reported *apareunia* or *dyspareunia*. Fifty-two of them had ceased or virtually ceased to practise coitus while 18 suffered considerable discomfort when it was attempted. It is at first sight remarkable that not less than 50 per cent women with opportunity fail to practise coitus, or only do so infrequently and with difficulty and pain, following anterior and posterior colpo-perineorrhaphy. It must, nevertheless, be recognized that this type of operation is often carried out in relatively old women who have ceased to have, or who are losing, any interest in physical sex. Thus, not less than 13 of the patients had not had coitus for several years before the operation, and at least 6 more had experienced progressive weakening of libido before and after the plastic procedure. Vaginal surgery in these cases did not appear to interfere with a natural progress of events. Nevertheless, there were many women who, at the time of operation, were relatively young and still leading a normal married life. Thus, out of the 70 patients with *apareunia* and *dyspareunia*, 29 were less than 50 years of age and only 21 were more than 60 years of age.

On examination, 43 of these 70 women were found to have the vulval introitus and vagina so narrowed that not more than one finger was admitted. In 13 of these the excessive narrowing was deliberately planned at operation with the intention of making certain of a cure, and in the knowledge that the patient was old and had long ceased to practise coitus. In the remainder, however, the surgeon had intended to leave a vagina capable of coital function.

In the 27 cases where the vagina appeared wide enough to permit coitus, other anatomical causes for *dyspareunia* were found as follows:

A long perineum making access difficult	2 cases
Stenosis of the upper vagina	3 cases
Shortening of the vagina	2 cases

There were, therefore, only 20 women with a genital canal which was anatomically satisfactory from the standpoint of comfortable coitus.

The determination of the basic cause of *apareunia* and *dyspareunia* in each case is not

TABLE III

Primary Causes of Aparaunia and Dyspareunia Following Anterior and Posterior Colpo-perineorrhaphy

	Cases
Frigidity and impotence (male or female) ..	38
Stenosis of the vulva or vagina	19
Fear of injury	5
Vaginismus of uncertain aetiology	4
Shortening of the vagina	2
Tender cervical stump	1
Chronic urethritis	1

easy because more than one factor is often concerned. Thus atresia of the vagina and lack of libido frequently co-exist and one can be responsible for the other. Moreover, a complaint of pain may be made by the woman in order to cover lack of libido.

Our general conclusions in this respect, however, are shown in Table III. From this it will be seen that, in 38 out of the 70 cases, the fundamental cause for aparaunia was frigidity or impotence on the part of one or both of the marital partners. This condition was present before operation in the majority of cases but in some it was a gradual phenomenon occurring partly before and partly after operation. In at least 7 cases its cause was serious illness of either husband or wife.

There were 9 cases in which the anatomy of the vagina was satisfactory and in which aparaunia or dyspareunia was due to psychological factors. In 5 of these either the wife or the husband was afraid that coitus would cause injury and bring about a recurrence of prolapse; in 4 the nature of the fear or nervous tension which caused vaginismus in the wife was less certain. There was only one case in which dyspareunia was caused by scarring and tenderness around the cervical stump, and only two in which shortness of the vagina appeared to be the cause of the trouble. In one of these latter the uterus had been removed previously by the abdominal route, in the second the Manchester operation had been performed.

In not less than 19 of the cases the main source of the trouble was that the vulva and vagina were too narrow to admit penetration. It is not suggested that this narrowness was necessarily present at the conclusion of the

operation; the operation notes sometimes made a specific comment to the contrary. What so often happened in these cases was that the patient delayed resuming married life for some considerable time after operation and then, when attempts at coitus were made, dyspareunia was experienced and further attempts abandoned. The narrowness was therefore in large measure accounted for by disuse atrophy and senile change.

From these findings it would appear that, although 50 per cent women suffered failure of married life following anterior and posterior colpo-perineorrhaphy, many did not mind because they and their husbands no longer had any interest in sex. There were, however, not less than 30 out of the 70 women, some of them comparatively young, who regretted the loss of this function. This represents approximately 20 per cent of all women who, having been subjected to this type of operation, agreed to follow-up examination.

THE CAUSE OF VAGINAL STENOSIS

The main avoidable cause for aparaunia and dyspareunia following anterior and posterior colpo-perineorrhaphy is excessive narrowing of the vaginal lumen and closure of the vulval introitus. The factors concerned in this excessive narrowing are several.

(1) *Deliberate Narrowing of Vagina by the Surgeon*

When a woman is old and no longer practising coitus the calibre of the vagina is often purposefully reduced by the surgeon in order to obtain a good result. This may be necessary in those cases of genital prolapse in which the vagina is short, or in which the supports of all the pelvic organs are weak. Nulliparous prolapse, for example, may be difficult to cure without grossly reducing the size of the vagina.

(2) *Misjudgment by the Surgeon*

The narrowing sometimes occurs because the surgeon misjudges the amount of vaginal wall to be removed and over-tightens the underlying muscles and fascia. This can reflect surgical inexperience but more often happens because

no allowance is made for the subsequent spontaneous involution of over-stretched tissues, and for impending climacteric changes in the vagina. There are two especially important points in surgical technique. Firstly, the classical Hegar's triangular incision for posterior colpo-perineorrhaphy results in a constriction about one inch above the perineum; the posterior incision is better shaped like an inverted T. Secondly, extension of the incision on to the labia majora to close the introitus by vulvorrhaphy (Robinson, 1934) is to be avoided.

(3) *Senile Contracture*

The genital atrophy which follows the climacteric change normally results in gradual closure of the vagina and introitus. So the gaping vulva and patulous vagina of the multiparous woman aged 40 years can, by the time she is 70 years of age, become quite a narrow tube. This physiological change is only arrested or controlled by the regular practice of coitus. If any post-menopausal woman discontinues coitus for any length of time she finds its resumption difficult if not impossible.

(4) *Failure to Practise Coitus*

A vaginal plastic operation not only interrupts the practice of coitus; it often leaves the woman with a tender perineum and an introitus much smaller than she or her husband expected. Initial dyspareunia is therefore almost inevitable. The younger couple with strong sex urges generally overcome this difficulty and all is well. In the woman of menopausal or post-menopausal age, however, a less satisfactory outcome is common. If she avoids coitus until all tenderness subsides, senile contracture is given an opportunity to operate. If she attempts it too early, pain and vaginismus act as a deterrent for several weeks or months. Meanwhile the vagina continues to shrink so that later efforts, made perhaps rather fearfully lest pain or injury result, also fail. Sex desire is in any case weakening so the reaction of both husband and wife is not to try again. Thus apareunia persists and the introitus and vagina become more and more stenosed.

The prevention of apareunia and dyspareunia following operations for prolapse therefore

demands—(i) that the introitus and lower vagina are not constricted; (ii) that the introitus is not left so tender as to make the couple postpone unduly the resumption of coitus. Both these objects can be best achieved by omitting posterior colpo-perineorrhaphy wherever possible.

ANTERIOR COLPORRHAPHY WITHOUT POSTERIOR COLPO-PERINEORRHAPHY

To test the above conclusion, the results of operations for prolapse which did not include posterior colpo-perineorrhaphy were examined. The series of cases followed up was smaller and numbered only 44 (Table II). This is because, in conformity with general practice, posterior colpo-perineorrhaphy was not omitted from prolapse operations until comparatively recently and two years had to elapse before the assessment of the results. We now avoid this procedure much more frequently.

Four of the women examined were widowed or single so there were only 40 in whom coital function could be assessed. Twenty-three of these reported that coitus took place regularly and without discomfort and, when examined, were found to have a satisfactory anatomical result of the operation. Although all were less than 60, and the majority less than 50, years old at the time of operation, 6 patients reported complete apareunia and 3 practised coitus very infrequently. In 6 out of these 9 cases the trouble was frigidity and impotence affecting one or both partners and present before the operation. In the remaining three, coitus was avoided because it induced stress incontinence of urine (one case), because of fear of injury (one case), and because of pain arising from a tender cervical stump (one case). On examination, the vagina was found to admit two fingers in all 9 cases and there was no anatomical reason for dyspareunia except in the one in which there was tenderness and scarring around the cervical stump.

Eight women reported that coitus took place but caused discomfort. In all these, examination showed that the lumen of the vagina was adequate. In one, however, the upper vagina was constricted by adhesions around the cervix and in a second the vagina was unusually short.

The latter may have been a developmental defect but another possible explanation is the fact that the patient has previously had a repair operation in another hospital and the anterior colporrhaphy was carried out for recurrent prolapse. In neither of these cases, however, did the anatomical defect appear to explain the dyspareunia. Indeed, in 7 out of the 8 cases the cause of dyspareunia was vaginismus; this pre-existed the operation in 2 cases, was associated with frigidity in 4 cases, and with fear that coitus would do damage to the operation field in one case. The eighth patient said that the discomfort appeared to be due to shortness of the vagina but there was no evidence of this on examination.

Our final assessment of the basic causes for apareunia and dyspareunia in this group is shown in Table IV.

It is remarkable that in this admittedly small series of married women there was none in whom the lumen of the vagina had been reduced too much by the operation. Apareunia and dyspareunia always had another explanation.

POSTERIOR COLPO-PERINEORRHAPHY WITHOUT OTHER PROCEDURES

During the years under review posterior colpo-perineorrhaphy alone was rarely performed. This is because deficiency of the perineum was never regarded by itself as an indication for operation, and also because rectocele is not often seen by itself. Even when repair of a complete perineal tear was included, the number of cases of posterior colpo-perineorrhaphy was too small to permit statistical evaluation.

TABLE IV

Primary Cause of Apareunia and Dyspareunia Following Anterior Colporrhaphy

	Cases
Frigidity and impotence (male and female) ..	10
Vaginismus pre-existing operation	2
Fear of injury	2
Stress incontinence of urine	1
Tender cervical stump	1
? Shortness of vagina	1
Total	17

The commonest time at which repair of posterior vaginal wall and perineum is carried out without any other procedure is, of course, immediately after childbirth. And it may be noted that dyspareunia, persisting for at least a few weeks or months, is by no means uncommon after obstetrical perineorrhaphy. There is a tendency to repair perincal tears and episiotomy incisions too tightly and to disturb the anatomy of the vagino-perineal junction. At this junction itself it is often best not to insert any sutures but, having stitched the vagina above and the perineum behind, to allow the tissues between to take up their own natural position for healing.

THE DISADVANTAGES OF POSTERIOR COLPO-PERINEORRHAPHY

Posterior colpo-perineorrhaphy not only has the disadvantage of narrowing the lower vagina and introitus. It accounts for most of the discomfort experienced by the patient after vaginal operations. Anterior colporrhaphy alone, and even vaginal hysterectomy, cause practically no post-operative pain. The perineal skin, however, is extremely sensitive while the stitching of the deep perineal muscles causes intense deep-seated discomfort for many days. Indeed the tenderness may persist for several weeks. A third disadvantage of posterior colpo-perineorrhaphy is its proneness to cause post-operative retention of urine with a train of complications such as incomplete emptying of the bladder and cystitis. Anterior colporrhaphy is much less likely to interfere with bladder function except when it is combined with urethroplasty aimed to cure stress incontinence. Perineorrhaphy causes retention of urine because the spasm of the levatores ani muscles induces a sympathetic spasm in the voluntary external urethral sphincter (Francis, 1960).

There are, therefore, good reasons for avoiding posterior colpo-perineorrhaphy whenever possible, and also for questioning why it has come to occupy such an important place in gynaecological surgery. This place is explained by the history of operations for prolapse and has been set out in detail elsewhere (Jeffcoate, 1959). In brief, repair of the perineum was first

carried out in the hope of curing complete perineal tears. From this it was extended in an attempt to cure uterine prolapse and cystocele. For this purpose it is as old if not older than anterior colporrhaphy. Although it was soon clear that perineorrhaphy, and subsequently posterior colpo-perineorrhaphy, did not cure any prolapse except rectocele, it continued to be carried out in the 19th century because it was the only operation which was technically possible. In order to justify its performance the surgeons therefore created the anatomical concept that the vaginal walls are supported by the perineum and that the uterus is in turn supported by the vagina. This theory, for which there is no favourable and much unfavourable evidence, is still passively accepted if not actively enunciated by many gynaecologists. Hence statements to the effect that a cystocele should never be repaired nor the uterus removed vaginally without the perineum being simultaneously reconstituted.

The idea that the perineum is important in supporting the female genitalia became so deeply ingrained that even Fothergill did not have the courage to abandon posterior colpo-perineorrhaphy. Thus, in his description of his operation, and knowing that the uterus is supported by the transverse cervical ligaments, he wrote, "To complete the operation the vaginal outlet is narrowed by repairing the perineum. The upper part of the posterior part of the vaginal wall is not touched" (Fothergill, 1913).

If present-day views regarding the anatomical supports of the vagina and uterus are correct, posterior colpo-perineorrhaphy has no place in the treatment of cystocele and uterine prolapse—except it be used to hide from onlookers the prolapse which still persists after inadequate surgery around the vaginal vault and upper anterior vaginal wall. That the omission of the posterior repair does not prejudice the result of vaginal plastic operations is shown by a study of the prolapse recurrence rate in our cases.

RECURRENCE OF PROLAPSE

Amongst the 44 patients who were treated for genital prolapse by anterior colporrhaphy with amputation of the cervix or vaginal hyster-

ectomy, the findings on follow-up examination were as follows:

Slight symptomless cystocele ..	2 cases
Slight cystocele with symptoms	2 cases
Slight symptomless rectocele ..	1 case
No prolapse of any kind ..	39 cases

Of the 2 women with cystocele and symptoms, one suffered from chronic bronchitis, and the other had undertaken heavy manual labour commencing 6 weeks after operation and continuing until the time of examination. Neither patient has required further surgery as yet.

Among the 177 women treated by posterior colpo-perineorrhaphy as well as anterior colporrhaphy, prolapse recurred as follows:

Slight symptomless cystocele ..	6 cases
Slight cystocele with symptoms	3 cases
Uterine prolapse and cystocele with symptoms	1 case
Slight symptomless enterocele	1 case
No prolapse of any kind ..	166 cases

From these findings it would appear that there is not a significant difference in the recurrence rate in the two groups.

It might next be asked what happens in those cases where the uterus is removed vaginally for conditions other than prolapse, and where the residual vagina is not protected by simultaneous posterior colpo-perineorrhaphy. A series of 22 patients subjected to this type of operation more than 2 years previously were examined. Two were noted to have a slight rectocele but this was symptomless and the women were well pleased with the result of the operation. One patient, however, gave a history of having had some sort of plastic procedure carried out in another hospital. The reason for this is unknown but what is known is that the subsequent repair resulted in a very narrow vagina causing *apareunia*. In none of the remaining 19 cases was there any sign of prolapse. Here again, the findings suggest that vaginal hysterectomy, if carried out with proper attention to the tissues at the vaginal vault, carries no special risk of subsequent vaginal prolapse even if posterior colpo-perineorrhaphy is omitted.

For comparison with the other series of cases, coital function following vaginal hysterectomy

without colporrhaphy was also studied. Of the 22 women, one was single and 6 were widowed. One of the widows, however, had had normal coitus post-operatively for several years prior to her husband's death. On examination of these widows it was noted that the vaginal lumen varied with age and the degree of senile atrophy. In 2 the length was shortened because the operation had been carried out for carcinoma of the body of the uterus and a liberal cuff of vagina had been removed.

There were 15 patients who had opportunities for coitus following vaginal hysterectomy and 8 of these reported regular and comfortable intercourse. One, already mentioned, had subsequently had a repair operation elsewhere and then suffered *apareunia*. It is remarkable, however, that of the 15 patients with opportunities, 6 never practised coitus at all and half of these were less than 50 years of age at the time of operation. All these 7 had a normal vagina anatomically except for one elderly woman who showed some senile contracture. The cause for the *apareunia* in all cases was impotence of the husband or absence of libido in husband and wife; these represented progressive developments throughout many years and were not directly related to the operation. The last patient in the series suffered from *dyspareunia* which appeared to be due to *vaginismus* present both before and after vaginal hysterectomy.

THE SURGICAL TREATMENT OF PROLAPSE

The above considerations lead to certain conclusions in regard to the surgical treatment of genital prolapse. For *cystocele* anterior *colporrhaphy* is clearly necessary. For uterine prolapse the essential is to define and shorten the transverse cervical ligaments, combining this with upper anterior *colporrhaphy*. Whether the transverse cervical ligaments are exposed by way of amputating the cervix or by vaginal hysterectomy is a more controversial matter. We recognize a place for both procedures although vaginal hysterectomy is reserved for special circumstances. Whichever is chosen, however, any redundant peritoneum of the pouch of Douglas should be excised and the underlying fascial tissues strengthened. This

means that the pouch of Douglas should be opened in every operation of any type which is carried out for uterine prolapse. It is this procedure, however, which can cause narrowing of the upper vagina unless care is taken. Indeed, in certain cases of large *enterocele*, it may be impossible to avoid a certain degree of contracture at the vault. This, however, should not matter materially providing the calibre of the lower vagina remains adequate.

Once the suturing in and around the cervix, the vaginal vault and the upper half of the anterior vaginal wall is complete, the operation for uterine prolapse is complete. Posterior *colpo-perineorrhaphy* can in no way improve the result. Indeed, the only clear indication for this procedure is the presence of a significant degree of *rectocele*. *Enterocele* requires not repair of the perineum and the lower vaginal wall but strengthening of the upper vaginal wall and vault; this is best done at the time the cervix is amputated or the uterus removed.

Those who carry out posterior *colpo-perineorrhaphy* frequently and routinely tend to justify the procedure by the finding of what is generally called a deficient or defective perineum. The deficiency may represent the failure of a perineal tear to heal by first intention, or it may consist of nothing more than atonicity of the perineal muscles beneath an intact skin. In fact, a defective perineum by itself rarely causes any symptoms. *Colpo-perineorrhaphy* may be necessary when gross laxity of the *introitus* interferes with orgasm, or when it causes vaginal flatus, but these are quite exceptional complaints. The perineal deficiency which the surgeon usually demonstrates at the conclusion of anterior *colporrhaphy* is generally an artefact. It is mostly the result of relaxation of the perineal muscles induced by general anaesthesia and, now-a-days, by the administration of relaxant drugs. It is, therefore, important that the state of the perineum and the presence or absence of *rectocele* be assessed before the patient is anaesthetized and prepared for operation. We have for several years made it a rule to say, at the time an operation is being planned, whether or not posterior repair is required. And, having made the decision, the opinion is not changed at the time of operation itself.

In making the pre-operative assessment, it is to be recognized that some gaping of the vulva is probably normal in the multiparous woman in her thirties and forties. Reproduction under natural conditions, that is, without skilled attendants, probably causes some degree of perineal weakening or tearing during all first labours. The resulting perineal deficiency then permits easy exit of subsequent babies but is ultimately corrected by climacteric atrophy which restores the introitus to its nulliparous dimensions. So, whenever the surgeon decides that posterior colpo-perineorrhaphy is necessary it is important to allow for this subsequent atrophy, to limit the removal of the lower vaginal wall and to avoid lengthening the perineum to close the introitus. In those women who have ceased to practise coitus, narrowing of the vagina is of no account. In women still living a normal married life, and in widows who may re-marry, caution is required. It thus becomes necessary to enquire about coital function before operation in every case. Failure to do this can be disconcerting for the surgeon. In one of our cases a woman aged 62 years was subjected to the Manchester operation. In the knowledge that her husband was a decrepit retired business man aged 73 years, and because the vagina was comparatively short, the genital tract was deliberately narrowed at operation. It was her husband who subsequently complained most bitterly.

COITAL FUNCTION BEFORE OPERATION

The practice of coitus both before and after vaginal operations is to a considerable extent governed by the ages and health of the partners in marriage. In this connexion Turnbull (1955) found that the sex urge is waning in 60 per cent of women before the menopause and, in half of these, shows a further weakening soon after the menopause. Only 30 per cent women in his series retained strong or moderately strong libido after the climacteric. This is only one side of the problem and the husband, too, has to be considered. Indeed, Kinsey *et al.* (1953) found that it is decline in the husband's sex interest which often accounts for the change in female libido with age.

The retrospective study of cases reported here shows that not less than 25 per cent married women had completely ceased to practise coitus by the time they were submitted to repair operations or to vaginal hysterectomy. This is because they were often more than 40 years of age and the sex urge of either husband or wife had failed. Sometimes the presence of prolapse acted as a pre-operative deterrent, sometimes disinterest in sex was associated with hard work, pre-occupation with domestic responsibilities and a lack of desire for further children. Not infrequently, general ill health of one or other partner played a part. The study also shows, however, that it is impossible to generalize and to assume that old age necessarily means cessation of married life. Each case has to be treated individually.

During the last year an attempt was made to assess coital function pre-operatively in all women admitted to our unit for vaginal hysterectomy or repair of prolapse. There were 109 cases. Information was not obtained from 16, in one case because the patient refused to give it, in the others because the person conducting the enquiry (W.J.A.F.) was not available when the patient was admitted. Of the remaining 93 women, 20 were widowed or separated so the findings shown in Table V concern only 73 married couples.

This prospective study confirms the retrospective analysis in that it shows that approximately 25 per cent women cease to practise coitus before the operations under consideration. And it also indicates that coitus is continued regularly until old age in certain cases. Thus

TABLE V
Coital Function Before Vaginal Operations

Age	21-30 Years	31-40 Years	41-50 Years	51-60 Years	61-70 Years	Total
Coitus dis-continued	-	-	4	6	8	18
Infrequent coitus	..	1	7	9	1	18
Regular coitus	..	4	10	15	7	37
Totals	..	4	11	26	22	73

TABLE VI
Pre-operative Failure to Practise Coitus Regularly

Causes				
Decreased libido	..	..	..	13
Ill-health of wife	..	..	..	8*
Ill-health of husband	..	..	..	4
Presence of prolapse	..	..	..	6*
Functional dyspareunia	..	..	..	3
Defective perineum—male dissatisfaction	..	..	..	1
Uterine haemorrhage	..	..	..	1

* Failing libido also a factor in 5 of these cases.

one-third of women aged 51 to 60 years were living a normal married life and another one-third practised coitus occasionally. The causes for the absence or infrequency of coitus in this series are of some interest and are shown in Table VI. In this the decreased libido is credited to the wife although it has to be recognized that it often reflects a failure in the sex interest of the husband. It is also noticeable that in certain cases the indication for the operation was the cause of failure to practise coitus so there was hope that treatment would improve married life. In a few cases we already know that this has happened.

POST-OPERATIVE CARE

Analysis of the cases of apareunia and dyspareunia following vaginal operations suggests that the trouble is sometimes avoidable by post-operative care and education of the patient. The formation of adhesions between the anterior and posterior vaginal walls, even when the incision is limited to the anterior wall, is not uncommon. These are revealed by routine vaginal examination 2 to 3 weeks after operation; they are easily separated at that time and do not generally re-form. Nevertheless, a further examination 6 weeks after operation should be a regular practice. Meticulous care over these two post-operative examinations explains why vaginal adhesions do not appear as a cause for dyspareunia in our series. There were only two cases in which adhesions below the level of the cervix were found later than 3 weeks after operation. In one the woman was very old and no longer practising coitus so the finding was of little account. In the other an

adhesion did cause initial dyspareunia but this was soon cured by division of the band under general anaesthesia.

Education of the patient is concerned with sex. She should be advised not to practise coitus until the examination at 6 weeks shows that the wounds are healed and free from tenderness. Whereupon, she should be specifically told to resume married life. Both husband and wife also require reassurance that coitus, even if at first a little difficult, will not impair the result of the operation and that its undue deferment may result in apareunia from climacteric contracture.

OTHER TENDER SCARS AND SHORTENING OF THE VAGINA

It is sometimes stated that a common cause of dyspareunia following vaginal operations is that the scars remain painful and tender. In our experience this is extremely rare. Indeed, there was not one case in which tenderness of the vaginal scars was the cause of pain or difficulty. Moreover, there were only 2 patients in whom dyspareunia was attributable to tenderness and fixation of the cervical stump after amputation; in these vaginal hysterectomy might have avoided the trouble although this operation is alleged to have the disadvantage of shortening the vagina. But even this statement is not supported by our observations. Functional shortening of the vagina was found in 4 cases and was due to narrowing of the upper vagina in the course of amputation of the cervix, cure of enterocele and upper anterior colporrhaphy. Actual shortening was noted in 6 cases, once after the Manchester operation, once after anterior and posterior colporrhaphy following previous abdominal hysterectomy, once after anterior colporrhaphy following a failed Manchester repair and thrice after vaginal hysterectomy. In 2 of these last cases the shortening of the vagina was explained by the removal of a large vaginal cuff as part of a radical approach to the treatment of carcinoma of the body of the uterus. And here it may be noted that, in all, there were 77 women subjected to vaginal hysterectomy with or without colporrhaphy.

Only 2 of the 10 women with absolute or functional shortening of the vagina complained of dyspareunia. There was one other case in which pain was alleged to be due to a short vagina but on examination the length appeared adequate.

The conclusion is that, given reasonable attention to technique, unintentional shortening of the vagina rarely results from either vaginal hysterectomy or colporrhaphy and, when it does, the question always arises as to whether the shortness preceded the operation. The vagina varies in length, and developmental shortness is probably a predisposing factor in causing uterine prolapse. One of the objects of any operation should therefore be to lengthen the vagina. This can usually but not always be achieved.

SUMMARY AND CONCLUSIONS

Apareunia and dyspareunia are commonly found after operations for prolapse. Approximately 50 per cent women do not practise coitus at all or do so infrequently and with discomfort following operations of this type. In half of these, however, the explanation is loss of libido on the part of husband or wife and sometimes definite impotence. These symptoms are generally a manifestation of advancing years or deterioration in health and are often present before the operation. Indeed, 25 per cent of married women subjected to repair operations or vaginal hysterectomy have, for various reasons, ceased to have coitus before operation.

A certain number of patients avoid coitus following these operations because they are afraid that harm will result.

Approximately 20 per cent of women who have repair operations for prolapse subsequently suffer apareunia or dyspareunia because the vagina is too narrow. This narrowing is partly due to senile atrophy, a normal physiological process, and partly because posterior colpo-

perineorrhaphy is combined with anterior colporrhaphy. Posterior colpo-perineorrhaphy should therefore be avoided in all cases except where there is a clear indication such as the presence of a demonstrable and symptom-causing rectocele. Even then the amount of tissue removed should be judged in relation to the fact that the patient is at an age when senile atrophy will supervene in the ensuing few years.

Shortening of the vagina and tender scars, resulting from repair operations and from vaginal hysterectomy, are not significant causes of post-operative dyspareunia. If care is taken, shortening of the vagina can be generally avoided but difficulty can arise because women with uterine prolapse sometimes have congenitally short vaginas.

Vaginal adhesions should be broken down 2 to 3 weeks after operation and, 6 weeks after operation, the patient should be re-examined and then given specific instructions about the resumption of coitus.

Attention to these points offers a prospect of reducing the incidence of post-operative dyspareunia by approximately 50 per cent.

The series reported here extends over several years. The incidence of apareunia and dyspareunia was higher in the earlier than in the later cases because it is only with increasing experience that the considerations here put forward were appreciated.

REFERENCES

- Fothergill, W. E. (1913): *J. Obstet. Gynaec. Brit. Emp.*, **24**, 19.
 Francis, W. J. A. (1960): *J. Obstet. Gynaec. Brit. Emp.*, **67**, 353.
 Jeffcoate, T. N. A. (1959): *Amer. J. Obstet. Gynec.*, **77**, 490.
 Kinsey, A. C., Pomeroy, W. B., Martin, C. E., and Gibbard, P. H. (1953): *Sexual Behaviour in the Human Female*. Saunders, Philadelphia.
 Robinson, A. L. (1934): *J. Obstet. Gynaec. Brit. Emp.*, **41**, 1.
 Turnbull, A. C. (1955): *J. Obstet. Gynaec. Brit. Emp.*, **62**, 176.