



Editorial – referring to the article published on pp. 235–248 of this issue

The Surgical Treatment of Peyronie's Disease

David J. Ralph

St Peter's Hospital and the Institute of Urology, 252 Euston Road, London W1, United Kingdom

Peyronie's disease is a relatively common condition, of unknown aetiology, that can cause severe functional and emotional difficulties. In the advanced cases surgical treatment is often needed and the excellent review by Kadioglu describes in detail the indications and options available [1].

1. Indications and assessment for surgery

In my view the most important aspect in the management of these patients is the initial assessment and counselling before surgery. It is imperative that the patient understands the prognosis and possible complications so that real expectations can be met with subsequent greater patient satisfaction. Patients often say "I just want my old penis back." The response to this, and perhaps to all patients, should be that the penis will never be the same despite all our surgical efforts. The severe emotional distress is, in part, due to the deformity, but mainly due to the penile shortening that occurs in all patients. It is imperative therefore that the penile length is measured preoperatively so that the patients realise that the length loss postoperatively is mainly due to the disease itself and not to the surgery.

Not all patients need surgery in the long term, particularly those with dorsal deformities of $<45^\circ$ who may be able to manage. Younger patients, or those with ventral or lateral curvatures where penetration would be more difficult, tend to have lesser degrees of curvature corrected.

Surgery should be performed only when the disease is stable to ensure good long-term results. In general, disease duration for 1 yr and stable for a minimum of 3 mo is a good guide [2].

The choice of procedure to correct the deformity rests between a Nesbit-type operation or a grafting technique and patients should be offered a choice. In general, a Nesbit-type operation is a simple technique that gives excellent results but will result in a variable degree of penile shortening directly proportional to the severity of the original deformity but without impairment of erectile function [3]. A grafting technique is a more complex procedure but also gives excellent results with less penile shortening although with a higher risk of post-operative erectile dysfunction [1]. Clearly patients with minor deformities or already on treatment for erectile dysfunction would be better suited to a Nesbit operation. Patients who have severe or complex wasting deformities but otherwise normal erectile function would be best suited to a grafting technique.

It must be remembered that patients with Peyronie's disease are at a risk of developing erectile dysfunction *de novo* because they commonly have arterial disease elsewhere in their body and up to 67% will have arterial risk factors [4]. Clearly then, one would expect erectile function to deteriorate over time irrespective of surgery and this must be considered when choosing the type of operation. Patients with extensive disease, erectile dysfunction risk factors, and, in particular, those with a distal flaccidity may be better suited to a penile prosthesis insertion to maintain length and function. [Table 1](#)

Table 1 – Suggested surgical options in Peyronie's disease

Erection	Deformity	Suggested operation
Normal	<60°	Nesbit
	>60°	Graft
	Complex	Graft with/without plication
Impaired	<60°	Nesbit + medication
	>60°	Penile prosthesis
	Complex	Penile prosthesis

summarises the surgical options that I prefer. It is similar to the internationally accepted algorithm [5] except in my view any patient who has organic erectile dysfunction or significant arterial risk factors should not have a grafting procedure, which is known to make any erectile dysfunction worse.

2. Management

2.1. The Nesbit operation

This operation was first performed for Peyronie's disease in 1977 and reported by Pryor 2 yr later [6]. The very fact that the operation and its modifications are still performed almost 30 yr later is a tribute to its simplicity and excellent results. Penile straightening should be achieved in 79–100% of patients with satisfaction rates of 67–100% [1].

One of the reasons for failure is postoperative erectile dysfunction and this is more likely in patients with a poor quality erection preoperatively. This was shown in two studies where satisfaction rates increased from 74% to 90% [3] and 77% to 94% [7] in selected patients who had normal erectile function.

Penile shortening is inevitable with a Nesbit operation but only rarely is it significant enough to prevent sexual intercourse. Shortening of the penis of >2 cm was reported in 4.7% of 359 men in one series [3] and >1.5 cm in 14% of men in another series [8], but despite this, penetration is usually possible. Severe shortening is more likely in patients who have a very severe curvature or those that have a significant complication of haematoma and infection. In an attempt to minimise shortening, patients are often given oral, injection, or vacuum therapy immediately postoperatively to encourage erections although no scientific data have proven its benefit. Early recurrence of deformity after the Nesbit procedure is due to the sutures cutting out, whereas poor results stemming from the use of absorbable sutures occurs after 3 mo. Recurrent deformity due to progression of the disease is not

usually apparent for 9–15 mo [9]. Success rates with plication procedures of 57–91% are lower than with a standard Nesbit operation because of high rates of recurrent deformity [1]. In my opinion this is because the whole operation depends on the strength of the suture and not on wound healing. This was also found in the new 16-dot plication technique where multiple small rows of parallel sutures are placed with the penis erect. The recurrent deformity in this series was 15% and suture failure would be the expected cause [10].

2.2. Grafting procedures

2.2.1. Plaque excision and dermal grafting

Plaque excision and grafting is considered to be an obsolete operation. This has been confirmed in a large series of 418 men treated by plaque excision and a dermal graft. It was found that 17% of patients required further surgery for curvature and that 20% of patients had significant impairment of erection [11].

2.2.2. Plaque incision and grafting

With the knowledge that excision of plaques results in an impaired erection, Lue devised the operation of plaque incision only, with the insertion of a venous patch to lengthen the diseased side and thereby minimise any penile shortening [12].

The results have been encouraging with the penis straightened in 75–96% of cases with few complications [1]. However, postoperative erectile dysfunction may occur in up to 15% of patients and penile shortening may still occur, 40% in one series, although to a lesser degree than with a Nesbit operation [1]. However, at 5 yr the results decrease to satisfaction rates of 60% and this is likely to be due to worsening erectile dysfunction in patients who are inherently at risk of this preoperatively [1]. It is my view, therefore, that a grafting procedure, which can cause erectile dysfunction, should only be offered to patients with normal erections and no arterial risk factors. I also feel that the erectile dysfunction is dependent on the number of grafts used and so I restrict the number usually to one, or occasionally two in the younger man, and add plication sutures to ensure complete straightness, albeit at the expense of a little penile shortening.

The operation does involve more dissection than a Nesbit operation and a second incision to harvest the vein graft with consequently longer operative time and greater patient morbidity. These factors can be reduced by using commercially available allografts. Early results using bovine pericardium or porcine jejunal submucosa have been encouraging but longer follow-up and larger numbers are needed [1].

I do not think it is wise to compare grafting procedures with the Nesbit operations because the patient populations are often different. The grafting operations are performed in patients with severe or complex deformities who obviously have more severe disease and with patients who are very concerned with penile length. The results that have been reported are therefore even more impressive in these difficult-to-treat patients and I feel that grafting and Nesbit operations should be complementary to each other.

2.3. Penile prostheses

The review by Kadioglu on prostheses in Peyronie's disease shows that satisfaction rates of 79–100% can be achieved [1]. If patients are counselled properly then I feel the number of implantations should increase in those who already have erectile dysfunction and vascular disease. The results of the Nesbit/grafting operations would then be even more impressive with the patients with erectile dysfunction being channelled to a prosthesis insertion. An inflatable prosthesis should be used in all cases and the penis is usually straightened by the cylinders alone. My impression is that minor residual curvatures often straighten with time and use and I reserve modelling for curvatures of $\geq 20^\circ$. The modelling procedure is an excellent way to straighten the penis and only rarely is a plaque incision needed.

3. Conclusion

Peyronie's disease is a common condition associated with penile vascular disease. Patients should be counselled so that they understand the pitfalls of surgery to enable them to provide truly informed consent. The Nesbit operation is the procedure of choice for most patients, but plaque incision and grafting will give good results in those with more advanced disease. More patients should be offered a

penile prosthesis insertion to optimise results but cost limitations will continue to prevent this from happening.

References

- [1] Kadioglu A, Akman T, Sanli O, Gurkan L, Cakan M, Celtik M. Surgical treatment of Peyronie's Disease: a critical analysis. *Eur Urol* 2006;50:235–48.
- [2] Pryor J, Akkus E, Alter G, et al. Priapism, Peyronie's disease and penile reconstructive surgery. In: Lue TF, Basson R, Rosen R, Giuliano F, Khoury S, Montorsi F, editors. *Sexual medicine and sexual dysfunctions in men and women*. Plymouth, United Kingdom: Health Publications; 2004. p. 383–409.
- [3] Ralph DJ, Al-Akraa M, Pryor JP. The Nesbit operation for Peyronie's disease: 16-year experience. *J Urol* 1995;154:1362–3.
- [4] Kadioglu A, Tefekli A, Erol B, Oktar T, Tunc M, Tellaloglu S. A retrospective review of 307 men with Peyronie's disease. *J Urol* 2002;68:1075–9.
- [5] Levine LA, Lenting EL. A surgical algorithm for the treatment of Peyronie's disease. *J Urol* 1997;158:2149–52.
- [6] Pryor JP, Fitzpatrick JM. A new approach to the correction of the penile deformity in Peyronie's disease. *J Urol* 1979;122:622–3.
- [7] Porst H. Congenital and acquired penile deviations and penile fractures. In: Porst H, editor. *Penile disorders*. Springer-Verlag: Berlin-Heidelberg; 1997. p. 37–56.
- [8] Savocca G, Trombetta C, Campalini S, De Stefani S, Buttazi L, Belgrano E. Long term results with Nesbit's procedure as treatment of Peyronie's disease. *Int J Impot Res* 2000;12:289–94.
- [9] Andrews HO, Al-Akraa M, Pryor JP, Ralph DJ. The Nesbit operation for Peyronie's disease: an analysis of failures. *BJU Int* 2001;87:658–60.
- [10] Gholami SS, Lue TF. Correction of penile curvature using 16 dot plication technique: a review of 132 patients. *J Urol* 2002;167:2066–9.
- [11] Austoni E, Colombo F, Mantovani F, Patelli E, Fenice O. Chirurgia radicale e conservazione dell'erezione nella malattia di La Peyronie. *Arch It Urol* 1995;67:359–64.
- [12] Lue TF, El-Sakka AI. Venous patch graft for Peyronie's disease. Part I: technique. *J Urol* 1998;160:2047–9.