

## A THREE-DIGIT DERMOFASCIECTOMY FOR DUPUYTREN'S DISEASE

Matthew K. T. Seah, Lorraine Harry and Dominique Davidson

Department of Plastic Surgery

St. John's Hospital

West Lothian, EH54 6PP, UK

Received 16 May 2011; Revised 16 September 2011; Accepted 22 September 2011

### ABSTRACT

In patients presenting to our unit with recurrent or aggressive Dupuytren's disease (DD), we favour the technique of radical excision and resurfacing popularised by Logan, who has described its use for the ulnar two digits of the hand at the same operation.<sup>1</sup> In patients in whom dermofasciectomy may be indicated in three or more digits, we have previously advised patients that the quality of the surgical attention and the post-operative physiotherapy might be better delivered by a staged approach. However, we demonstrate here with a case report that the technique can have excellent outcome when used for three digits at the same time. We are unaware of similar previous reports.

Mr. G, a retired 71-year-old right hand dominant keen swimmer and gardener, developed functional problems as a result of recurrent DD in the left hand. Previous surgery consisted of a fasciectomy in the left middle and little fingers 20 years ago, followed by a limited dermofasciectomy for recurrence in the little finger. A fasciectomy and subsequently a dermofasciectomy had previously been performed on his right little finger with good long-term effect. At presentation, gradually increasing flexion contractures in the lateral three digits were interfering with his hobbies and activities of daily living. He had no family history of DD, and no sites of ectopic disease. He was a non-smoker, with no significant past medical history. Examination of the left hand revealed the anticipated surgical scarring, severe flexion contractures (see Table 1) in all three affected digits (Tubiana stage III or IV, according to the classification of Tubiana *et al.*<sup>2</sup>), as well as diffuse skin involvement in the ring finger. There was no restriction to composite active flexion of the fingertips to palm.

It was discussed with the patient that his contractures could be addressed by two separate dermofasciectomy procedures. However, the patient was adamant that all three affected digits should be addressed at one operative sitting. Hence, after appropriate consent, dermofasciectomy of the three digits was carried out under general anaesthetic with full thickness skin grafts from the left groin and left medial forearm. The extent of skin resected corresponds to the grafted areas in Fig. 1A. Pretendinous disease was removed in all three digits, with a radial spiral cord in the ring finger. No joint releases were required, and passive extension of metacarpophalangeal joints and proximal interphalangeal joints to neutral was achieved in all digits, albeit with considerable resistance.

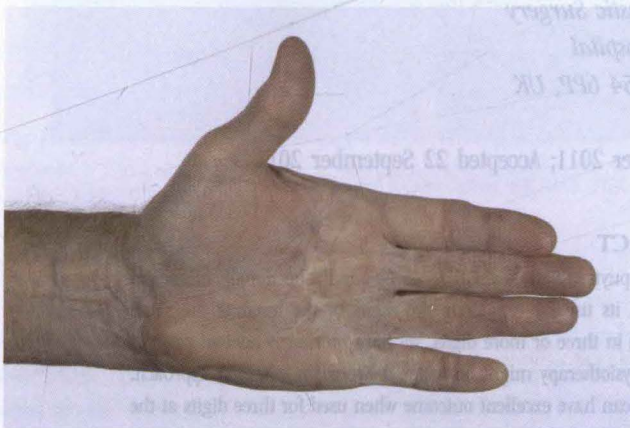
Mr. G followed our usual post-operative rehabilitation regime. He left theatre in a full volar plaster, and strict elevation was maintained overnight. On the following day, the plaster was replaced by a thermoplastic splint maintaining

Correspondence to: Dr. Matthew K. T. Seah, Department of General Medicine, St. John's Hospital, Howden Road West, Livingston, West Lothian, EH54 6PP, UK.  
E-mail: matt.seah@doctors.org.uk

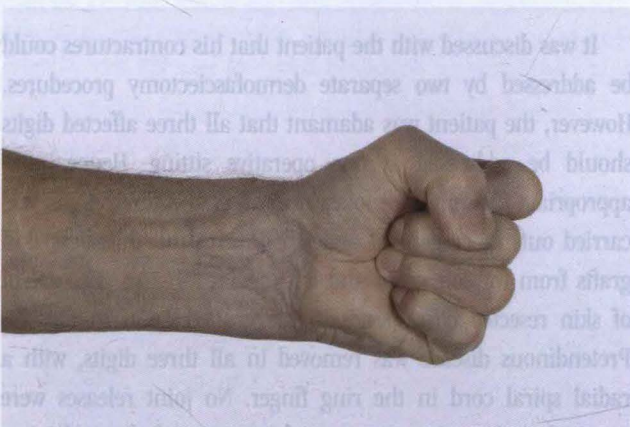


**Table 1** Pre- and Post-operative Fixed Flexion Deformity in the Affected Digits of the Left Hand (Values in Degrees).

Flexion Deformity		Middle Finger	Ring Finger	Little Finger
MCPJ	Pre-op	30	40	40
	Post-op	10	10	0
PIPJ	Pre-op	80	50	100
	Post-op	10	5	5



(A)



(B)

**Fig. 1** Post-operative views of the left hand at one year. (A) Palmar view to show extent of grafted areas and excellent release of flexion contractures. (B) Clenched fist view to demonstrate good composite flexion.

extension at the MCPJ's and PIPJ's in the three affected digits, but leaving the index finger and thumb free. Immobilisation was maintained for ten days post-operatively, at which time grafts' take was found to be excellent, and intermittent active mobilisation was commenced. Night-time splintage was continued for three months post-operatively and he was discharged from physiotherapy three months post-operatively with no complications from surgery.

At the one-year follow-up, Mr. G was delighted with the improvement in function and cosmetic appearance of his hand (Fig. 1), having maintained an excellent correction of flexion contractures and had regained full active composite flexion (Fig. 1B). We propose that in patients with recurrent DD, a very satisfactory medium-term outcome may be achieved by performing dermofasciectomy in multiple digits at the same time in a dedicated hand surgical unit with staff who are experienced with post-operative rehabilitation of hand patients. Disruption to work and social activities by multiple periods of rehabilitation can be minimised.

**References**

1. Hall PN, Fitzgerald A, Sterne GD *et al.*, Skin replacement in Dupuytren's disease, *J Hand Surg Br* 22(2):193-7, 1997.
2. Tubiana R, Michon J, Thomine JM, Scheme for the assessment of deformities in Dupuytren's disease, *Surg Clin North Am* 48(5):979-984, 1986.