

# Liposuction in the treatment of juxta-articular adiposis dolorosa

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## Abstract

**Two patients are presented who had symptomatic relief of juxta-articular adiposis dolorosa of the knees after liposuction. Liposuction is recommended for the treatment of this condition.**

'Painful fat knees in short fat women' is a well established descriptive phrase. Not all women with this condition are short, however, and the cause and types of 'fatness' are many. A large proportion of patients have adiposis dolorosa (Dercum's disease) or multiple symmetrical lipomatosis. Some are simply obese.

Patients with adiposis dolorosa and multiple symmetrical lipomatosis are festooned with large accumulations of fat in the form of rolls or layers, distributed over their trunks, limbs, and buttocks (fig 1). The face and hands are rarely involved. These abnormal accumulations of fat are often painful and tender. The overlying skin is usually normal but may become red and shiny with dilatation of small superficial veins. The fat pads on the medial aspects of the knees are particularly vulnerable. Repeated minor trauma from friction between the fat pads when walking probably plays a major part in the predilection

for this site and the perpetuation of symptoms. These tender painful fat pads contribute to the 'pericapsulitis' seen in such patients—a condition sometimes described as juxta-articular adiposis dolorosa.

These pathological accumulations of fat are not generally influenced by weight reduction. Treatment with analgesics, non-steroidal anti-inflammatory agents, local ice, corticosteroids, and local anaesthetic injections provides, at best, only temporary relief. Surgical excision may be technically difficult and result in considerable morbidity. Most patients are elderly women who are reluctant to have an operation, and some are unfit for general anaesthesia.

We describe our technique and illustrate our results of the use of liposuction in the treatment of juxta-articular adiposis dolorosa of the knees.

## Patients and methods

### METHODS OF FAT REMOVAL

Historically, removal of fat by surgical excision was popularised in 1899 by H A Kelly.<sup>1</sup> Schruddle described a 20 year experience of 'lipexeresis' (removal of fat) mainly in the thigh area using curettage followed by irrigation and suction.<sup>2</sup> This slow evolution from excision to suction continued in the 1970s until several large series of patients treated were presented by Illouz,<sup>3</sup> Kesselring,<sup>4</sup> and Fournier and Otteni,<sup>5</sup> confirming the useful place of 'liposuction' or 'suction assisted lipectomy'. Vilain, however, introduced a note of caution, drawing attention to the possible complication of seroma, haematoma, and irregularities in the skin surface after this procedure.<sup>6</sup> These complications have now been minimised by refinements in the techniques used.

### TECHNIQUE

The patient, having been carefully selected, is marked before the operation as in a contour map (fig 2). A small incision is placed in a nearby skin crease and the blunt cannula (fig 3) is introduced with its openings facing away from the skin surface. The cannula is then moved to and fro in a fan-shaped direction throughout the area to be removed (fig 2). This ensures that septae are left connecting the skin to deeper fascial layers, thereby allowing adequate blood supply and lymphatic drainage. These septae also support the skin, allowing it to redrape slowly, assisted by pressure garments and elasticated stockings, which are used after the operation. These have a dual role of providing support and minimising seroma formation, and are recommended for three to six months.



Figure 1: Anterior view of patient No 1 before the operation.

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Figure 2: The cannula being inserted towards the areas requiring reduction (note contour markings made before the operation).

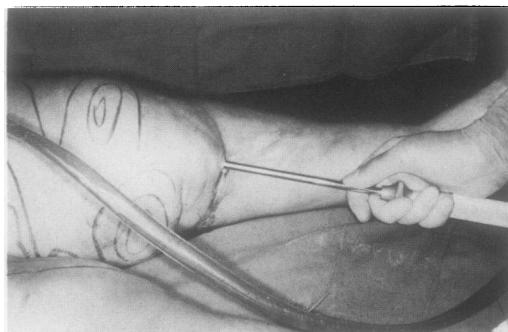
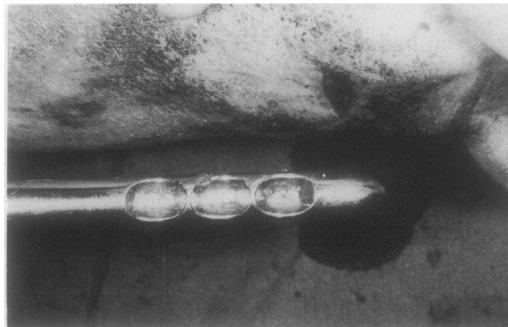


Figure 3: The cannula tip used with the 1 cm incision seen on the skin surface (the cannula itself is 1 cm in diameter).



The vacuum used must provide 0.75 atmosphere of vacuum and ordinary operating theatre wall suction is insufficient. Ten to 15% of the aspirate is blood, which becomes significant if more than 1500 g of fat is aspirated, when fluid replacement as blood or colloid is indicated. All experts advise against aspiration of more than 3000 g.

The equipment used was the Mayou SL980 suction lipectomy pump (Surgitek) and the suction lipectomy kit (Zimmer), which consisted of a selection of straight and angled cannulae varying in length from 14 cm to 32 cm and from 4 mm to 10 mm in diameter.

#### PATIENT NO 1

A 71 year old woman had lost over 32 kg but was unable to lose the painful fatty deposits around her knees (fig 1). Under epidural anaesthesia 1500 g fat was aspirated from medial knee and thigh areas bilaterally and from the right lateral thigh. An ellipse of redundant skin was removed from the left medial thigh. Mobilisation began the following day, and customised pressure stockings were fitted.

Induration persisted on the right side after the operation but resolved after three to four months. There were no other complications.

#### PATIENT NO 2

This 84 year old woman had great difficulty walking due to large tender fatty deposits in both lower medial thigh and knee areas. Under epidural anaesthesia 500 g fat was aspirated from the right knee and 600 g from the left. She was mobilised the following day, and support stockings applied.

Both patients have been reviewed a year after surgery. Although both had x ray changes of moderate osteoarthritis in their knees, they had lost practically all their symptoms and were delighted with their mobility. These patients, like several others who have been similarly treated, illustrate the point that their disabling



Figure 4: Anterior view of patient No 1 after the operation.

symptoms and immobility were almost entirely due to the tender, painful fat pads.

#### Discussion

An inability to walk without painful friction from opposing fatty knee pads, not cosmesis, was the reason for operating upon our two patients. In both symptomatic relief was marked and operative morbidity was minimal, consisting only of extensive bruising. In our first patient the excision of left thigh skin was probably unnecessary as no such excision was carried out on the right, which still achieved a similar result (fig 4). No skin excision was required in the second patient. This was at variance with findings by Teimourian and Fisher, who stated that the skin in older patients often required trimming after fat aspiration.<sup>7</sup>

We recommend the above method of treatment as effective for juxta-articular adiposis dolorosa, such as those affecting the knees. It has a low morbidity and is well tolerated by the elderly, being possible under epidural anaesthesia.

We would like to acknowledge the assistance of the department of medical illustration at St Lawrence Hospital and that of Mrs A Dymock for the typescript.

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