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AN IDEAL RETRACTOR SYSTEM FOR RECONSTRUCTIVE SURGERY OF THE ABDOMINAL WALL: TAKING THE WEIGHT OFF YOUR ASSISTANT

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Following bariatric surgery, body-contouring surgery is often combined with reconstruction of the musculofascial layers of the abdominal wall. Large amounts of tissue have to be retracted from the start to assist in lymph and venous drainage, and to facilitate a lower abdominal incision. During the procedure a good retractor is indispensable. The Rultract® retractor system was originally developed for thoracic surgery. We have found this system, which is readily available in most centres, to be a suitable retractor in difficult post-bariatric surgery, where the patient requires abdominal wall reconstruction in combination with a dermolipectomy. It can be easily adjusted to a wide variety of desired positions without obstructing the surgeon's range of action and replaces the need for one or more assistants in the operating team.

KEYWORDS: RETRACTOR, ABDOMINOPLASTY, BARIATRIC SURGERY, DERMOLIPECTOMY, PANNICULECTOMY, POST-BARIATRIC SURGERY
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INTRODUCTION

Obesity is on the increase, particularly in the Western world. In 2002 it was reported that around 200 bariatric operations were performed annually in the UK.¹ Post-bariatric surgery patients often suffer from redundant skin and subcutaneous tissue, especially of the abdominal wall.² Approximately 20% of patients present with an incisional hernia following open gastric bypass surgery, with the risk increasing with increasing body mass index.³ Virtually all these patients require strengthening (plication) and some need repair of the abdominal wall, apart from dermolipectomy. Combining abdominal wall reconstruction with an abdominal dermolipectomy is now accepted as safe and cost-effective.^{3,4} However, regardless of whether these procedures are combined or not, they place a heavy burden on the surgical team.² Apart from the surgeon, more than one assistant is usually necessary. To facilitate elevation and retraction of the skin and subcutaneous layer of the abdominal wall, we have found a commercially available cable pulley retractor system, known as the Rultract®, to be especially useful.



Figure 1. The Rultract® retractor device consisting of a retractor post, an extender bar, a winch, a rake plate and a pair of rakes

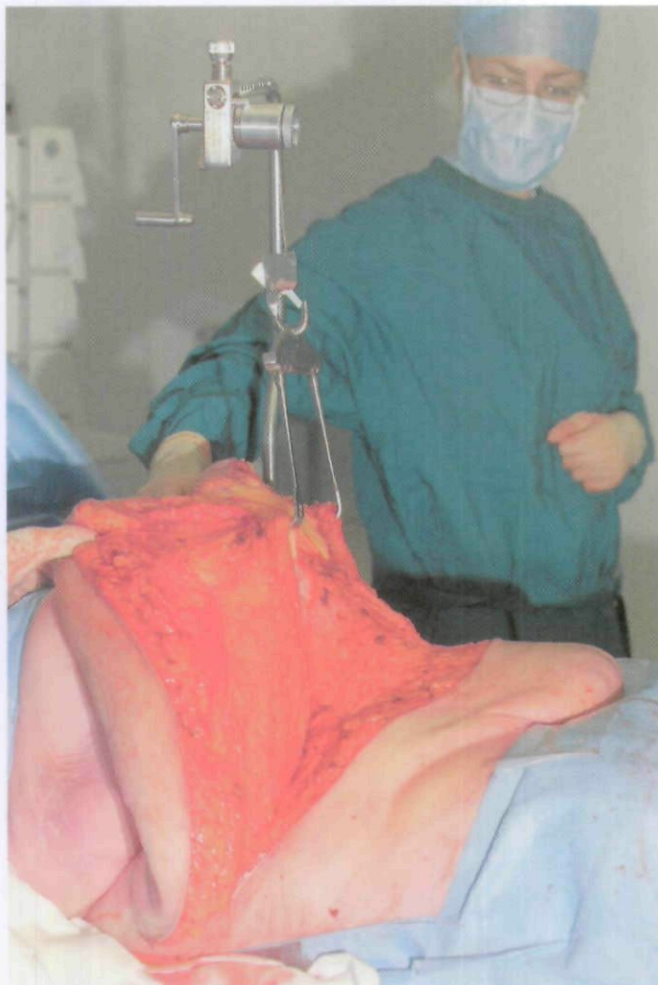


Figure 2. Intraoperative application of the Rultract® retractor system in a patient in whom a dermolipectomy of 18 lb was performed

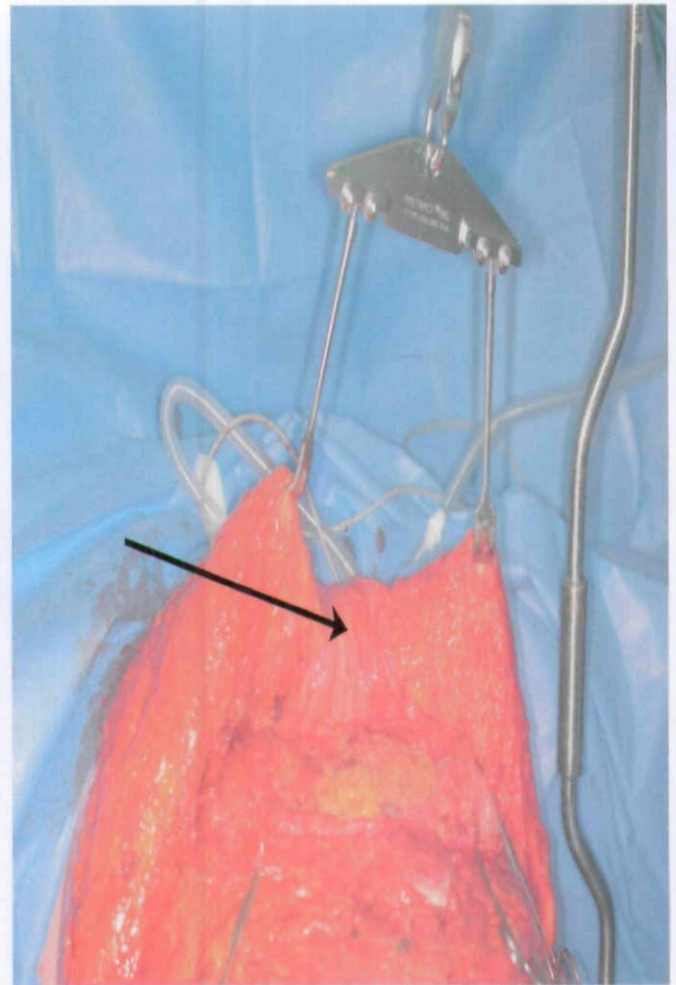


Figure 3. A huge hernial sac lies in between the rakes of the Rultract® retractor system immediately prior to a large abdominal wall repair and a 7,7 lb dermolipectomy

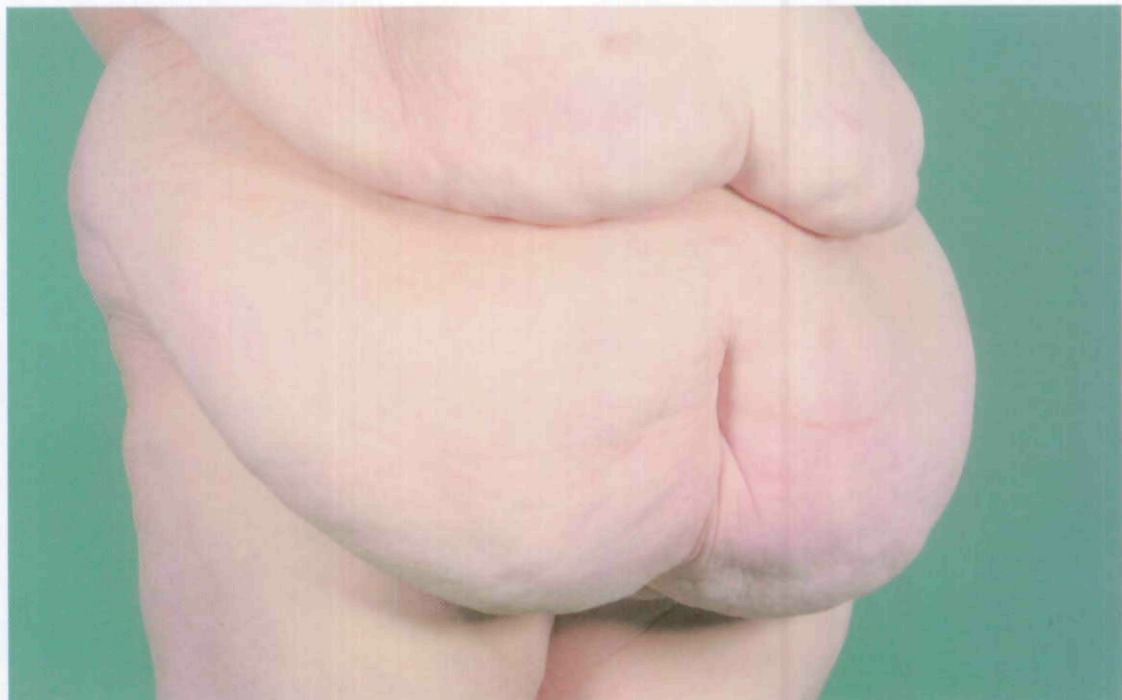


Figure 4. Pre-operative view of the patient in Figure 2 (BMI of 42.7 with a height of 63 inches and a weight of 238 lb)

MATERIALS AND METHOD

The Rultract® (Rultract Inc., Ohio) is a surgical retraction apparatus consisting of a retractor post which is attached to the operating table opposite the surgeon. A ratchet with a dual-arm retractor and rakes is attached to a rotating extender bar (Figure 1). The patient is centred on the operating table in a supine position. The rakes of the Rultract® are centred and set into the heavy abdominal apron, which is then lifted. The surgeon and his assistant can now concentrate on the lower abdominal incision, which extends through the dermofat down to the musculofascial layers of the abdominal wall. Further cranial dissection follows and an abdominal flap is developed. The heavy abdominal flap is split in the midline to facilitate the approach to the umbilicus. The umbilicus is isolated on its stalk. Further cranial dissection up to the xiphisternum is required, especially when hernia repair or plication is necessary. We prefer not to convert the incision to a fleur-de-lis as this increases the risk of healing complications. At this stage the abdominal flap usually becomes heavy and one or two assistants are required to allow for adequate exposure. The rakes of the Rultract® are repositioned into the innermost layer of the abdominal wall fat and the preferred degree of elevation is set (Figures 2 and 3). Any abdominal repair or strengthening procedure can now be performed with adequate exposure and proper assistance.

DISCUSSION

The Rultract® sternal retractor was designed to facilitate intrathoracic procedures, such as dissection of the internal mammary artery, subxiphoid pericardial surgery and redo sternotomies. Recently its usefulness has been demonstrated in the transcervical approach to superior mediastinal tumours.^{5,6}

We have found the Rultract® system ideal in patients where large abdominal flaps have to be created prior to excision. In one patient, 18lb of excess tissue were removed (Figures 2 and 4). The system also improves access to the abdominal wall musculature. Prior to its use, one or two additional surgical assistants were required to allow for adequate exposure. Other devices have been described in the literature for facilitating bariatric surgical procedures; however, these are specialised instruments, whereas the advantage of the Rultract® system is that it is multi-purpose and available in any hospital where cardiothoracic surgery is routinely performed.⁷

CONCLUSION

Body-contouring procedures following bariatric surgery threaten to put an enormous strain on the surgical team. The amount of skin and fat dissected can be excessive. In dermolipectomies in combination with abdominal wall repairs, where large, heavy abdominal flaps are created, we have found the Rultract® cable pulley retractor system to be cost-effective and easy to use.

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