Aesth. Plast. Surg. 31:519–520, 2007
DOI: 10.1007/s00266-006-0225-2

Aesthetic Plastic Surgery

Umbilical Reinsertion in Abdominoplasty: Technique Using Deepithelialized Skin Flaps

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Abstract. One goal of abdominoplasty is to reestablish a natural-appearing umbilicus with hidden scars. The authors present a new technique for navel reinsertion.

Key words: Abdominoplasty—Deepithelialized skin flaps—Hidden scars—Navel reinsertion—Umbilical reinsertion

One goal of abdominoplasty is to reestablish a natural-appearing umbilicus with hidden scars. The authors present a new technique for navel reinsertion.

The surgery begins with separation of the umbilicus from the abdominal wall with a circular incision. The abdominal flap is elevated, and a vertical plication of the anterior rectus sheath is performed in the standard fashion. The umbilical stalk is sutured to the rectus fascia superiorly and inferiorly with 3-0 nylon stitches. The stalk length is left 1 cm over the level of the rectus fascia.

The site of reinsertion in the abdominal flap is determined by the pressure of a Kelly clamp tip under the tensioned abdominal flap. In this location, we draw a Y-shaped mark on the skin measuring 6 to 8 mm in the upper branches and 5 to 7 mm in its lower branch. The upper angle of the Y is 60°, and the lateral angles are 150°. Both sides of the Y then are deepithelialized following a slightly bent line joining its edges.

We complete the skin incision through the Y branches, resulting in a triangular upper flap and two deepithelialized lateral flaps (Fig. 1). We remove the adipose tissue in an area of 3 to 4 cm around the new navel, thinning the abdominal flap in the reinsertion area. We also remove a triangular patch of skin from the navel (between 10 and 2 o'clock). Both of the deepithelialized lateral flaps are then sutured with 3-0 nylon to the rectus aponeurosis, producing the effect of umbilicus-shaped abdominal skin (Fig. 2). The superior-skin triangular flap of the Y is made to coincide with the navel's triangular superior cut, and its edge is sutured with 4-0 nylon. The remainder of the abdominal and navel skin edges is sutured with 5-0 or 6-0 nylon. Two drains are placed under the abdominal flap, and the lower abdominal wound is closed. We perform the umbilical reinsertion before the abdominoplasty incision is closed, which facilitates the procedure by providing access both above and below the abdominal flap. The umbilical sutures are removed in 7 to 10 days.

Various techniques have been used to create an aesthetically pleasing reinserted umbilicus after abdominoplasty [1–4]. With most techniques, the umbilical stalk is fixed to the rectus sheath, and the abdominal skin is sutured directly to the navel. However, this produces tension between the skin edges of the umbilical flap and the abdominal cutaneous flap. This is particularly important for patients with thick adipose tissue in the abdominal area. If there is excessive tension at the edges, the reinserted umbilicus may be deformed by a hypertrophic scar [5]. The goal of our procedure is to avoid tension in this area. To obtain a tension-free skin suture, we use two deepithelialized skin flaps sutured to the rectus sheath. This technique pulls the skin edges of the abdominal flap down to the umbilicus and removes tension from the skin closure, creating a natural-appearing navel (Fig. 3).

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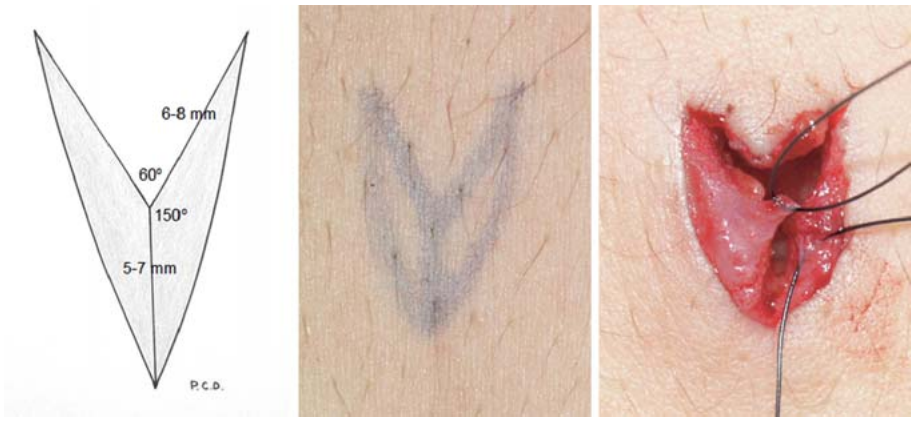

Fig. 1. *Left:* Y design. The darker area is deepithelialized. *Center:* The same design in a patient. *Right:* Incision through the Y branches, which obtains a triangular upper flap and two deepithelialized lateral flaps.

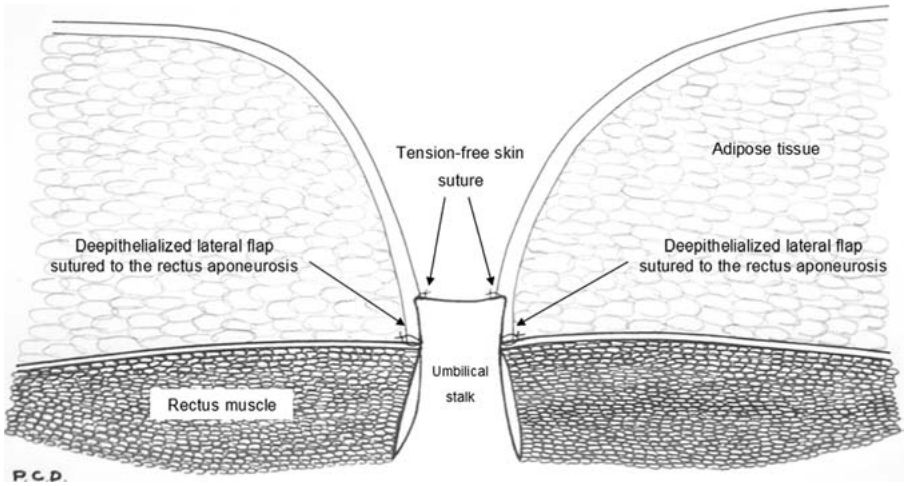

Fig. 2. Transverse cross section of the abdominal wall showing how the deepithelialized lateral flaps are sutured to the rectus aponeurosis.

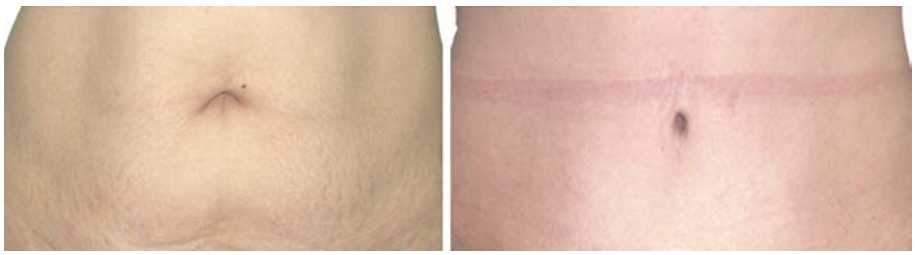

Fig. 3. *Left:* Preoperative view. *Right:* View of the same patient as in Fig. 1 at 1 year after surgery.

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