Creating the Perfect Umbilicus: A Systematic Review of Recent Literature

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NO DISCLOSURES

INTRODUCTION: The aim of this study was to perform an updated systematic review of the literature over the last 10 years, analyzing and comparing the many published techniques with the hope of providing plastic surgeons with a new standard in creating the perfect umbilicus in the setting of both abdominoplasty and abdominally-based free flap breast reconstruction.

METHODS: An initial search using the PubMed online database with the keyword “umbilicoplasty” was performed. These results were filtered to only include articles published within the last 10 years. The remaining articles were thoroughly reviewed by the authors and only those pertaining to techniques for umbilicoplasty in the setting of abdominoplasty and abdominally-based free flap were included.

RESULTS: Of the 10 unique techniques yielded by our search, 9/10 (90%) initially incised the native umbilicus with a round, oval, or vertical ellipse pattern. Of the 9 techniques that initially perform a round incision, 4 of them (44.4%) later modify the round umbilicus with either an inferior or superior excision to create either a “U” or “inverted U” shaped umbilicus. In terms of the shape of the incision made in the abdominal flap for umbilical reinsertion, the most common were either a round incision or an inverted “V” or “U,” both of which accounted for 4/10 (40%) and 3/10 (30%), respectively. Almost all of the studies (8/10; 80%) describe “defatting” or trimming of the subcutaneous adipose tissue around the incision to create a periumbilical concavity following inset of the umbilicus. 4/10 (40%) of the techniques describe suturing the dermis of the umbilical skin to rectus fascia. Furthermore, 3/10 (30%) advise that stalk plication is a necessary step to their technique. 7/9 techniques (77.8%) preferred nondissolvable sutures for skin closure, with nylon being the most common suture material used. Only 2/9 (22.2%) used dissolvable sutures. An algorithm is provided by the authors (see Figure 1).

CONCLUSION: Although future studies are necessary, it is our hope that this systematic review better elucidates the techniques and provides some guidance to both aesthetic and reconstructive plastic surgeons in the pursuit of creating the perfect umbilicus following abdominoplasty and TRAM/DIEP breast reconstruction.

Figure 1. Umbilicoplasty Algorithm. The authors propose the following algorithm to help in choosing a given technique for umbilicoplasty.