

# Aesthetic standards and refinements in first-stage phalloplasty

Jens Berli, MD, Jonathan Zelken, MD, Daniel Calva, MD,  
Rachel Bluebond-Langner MD, Richard Redett, MD

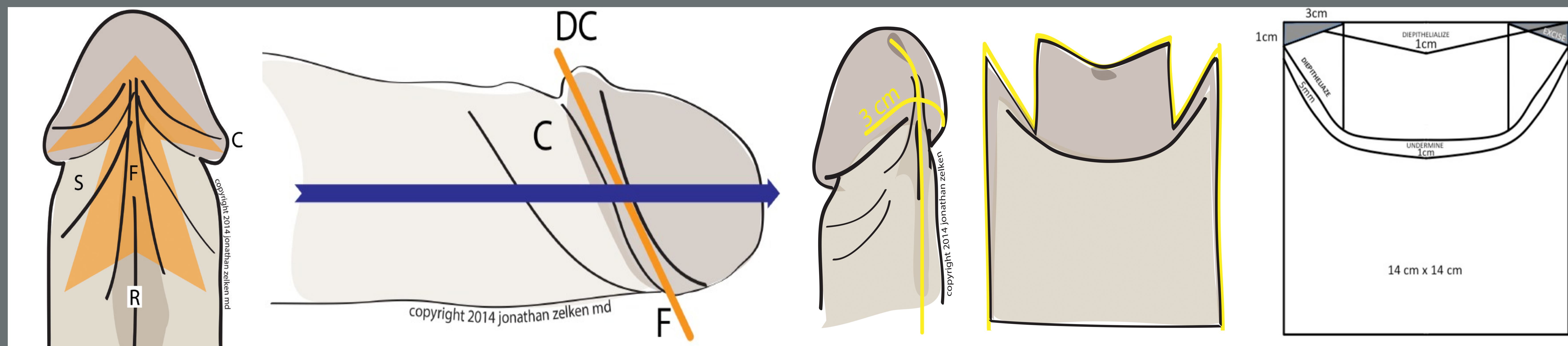
## Objective:

Little has been described in the phalloplasty literature regarding aesthetic standards and refinements. The shaft of the neophallus is a geometric object that can be reproducibly and realistically crafted by tubularizing the quadrangular flap. The corona-glans complex, however, is more complex and distinguishes a featureless soft tissue appendage from a penis. The challenge is to convert the raw edge of the tubed flap into a conical dome that resembles a phallic tip. We aim to:

- I) Describe anatomic features of the normal penis
- II) Devise a model to recreate these features from a two dimensional flap, and
- III) Reproducibly apply these techniques in patients.

## Methods:

- I) Description of anatomic features based of erect penile photographs. Fig 1
- II) An incision was made in a cadaveric penis along the ventral aspect from meatus through the frenulum to the tip. Cupping of the glans was eliminated by two relaxing incisions along the coronal ridge until the cupping no longer existed. Each backcut was 3 cm in length. The unfurled phallus was then laid out and pinned in place. Tracings were transferred to paper and adjusted to the 14cmx14cm design. Fig. 3, 4
- III) The design was employed in 6 patients for which an IRB approval was in place. Glansplasty was performed at the initial stage



## Results:

- I) The glans is a conical mass with a base that comprises the corona. This circular ridge tends to be of wider diameter than the shaft. Between the ridge and shaft is a coronal sulcus. In circumcised men, the preexisting foreskin site is scarred and may be hypopigmented or hyperpigmented. The dorsal coronal ridge is roughly straight as it extends laterally and orthogonal to the longitudinal axis of the penis. On lateral view, the corona takes an oblique turn toward the frenulum where it converges with the ventral raphe. Fig. 2 A fine line then continues toward the meatus. The meatus should reside at the anteriormost aspect of the penile tip. The underside of the phallus should resemble an arrow that points toward the meatus. Fig. 1
- II) Fig. 4/5
- III) Of the 6 patients 3 were treated for gender dysphoria and 3 for the sequelae of bladder exstrophy. 4 patients had an anterolateral thigh flap, 1 patient a limited latissimus dorsi flap and 1 patient a radial forearm free flap phalloplasty. All glansplasties were performed at the time of initial surgery. Follow up ranged from 1 year to 5 days. 1 patient exhibited necrosis of the Norfolk coronoplasty. No other flap related complications. Figure 5-7 show endresult after radial forearm free flap phalloplasty using the modified glansplasty design, conventional Norfolk coronoplasty and tattoo augmentation. The patient is also status after implantation of a penile prosthesis.



## Conclusion:

The pattern presented in this article is easily reproducible with or without a template. The shape of the glans is more conical than domelike, as seen after most phallic constructions. Additionally, the orientation of the corona and meatus is more anatomic than is generally seen after this operation. The markings allow for little guesswork during glansplasty. In thicker patients or donor sites with more subcutaneous tissue, the areas of deepithelization may need to be excised.