An innovative strategy for non-grafting penile enlargement:

The Egydio Paradigm for Tunica Expansion Procedures (TEP)
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INTRODUCTION AND OBJECTIVE

When a penile procedure is required, patients may have suffered reduction in penile size which has not yet been perceived.18 A clinical diagnosis of this condition is fundamental to an informed decision whether the patient wishes to undergo a non-grafting enlargement surgery.3 Maximal potential penile restoration can be determined intraoperatively when the bundle is dissected. The proper size for the device can then be determined more accurately after digital palpation of the normal maximum penile circumference.83

Previous existing techniques for lengthening include Circular incision,9,10 Sliding,11 Modified Sliding (MoST)9 and Multiple horizontal incisions (MH)9,12,13 of which have now been abandoned (TEP). This next generation, non-grafting technique maintains the natural strength of the tunica albuginea to enable application of all states of the penis without the necessity of a urethral catheter. As the urethra is more elastic, the limit of the restoration depends only on the length of the dissected neurovascular bundle. Before the urethra does not determine penile length restriction,14 need not the proximal urethra be detached, or elevated during the procedure to lengthen the shaft of the penis. To determine the need to increase the number of incisions (N), tissues may be grasped by the fingers to stretch the penis past the desired neurovascular bundle become taut, while taking care that the tunica albuginea not restrict the bundle from being fully stretched. (Figure 4) If further expansion is required, the incisions are enlarged as in (TEP) or control incisions to reduce the size of the incisions (L). If the size of the incisions (L) are too large, they will produce deeper indentations and larger spaces, which interfere with the tissue healing process, and provide less support for the cylinders. These undesirable effects, which would otherwise restrict the generation, were avoided by using a smaller (L) and increasing the number of incisions (N) to maximize the tissue expansion ratio.

The expansion ratio (RTEP) is directly proportional to (L) and inversely proportional to (d). The ratio of the incisions (L) are between 2 to 5 inches (0.197 to 3.153 inches), and both (d) and (d) are set to between 2 to 3 mm (0.079 to 0.118 inches). A better expansion ratio can be obtained by increasing number (N) of incisions (L). The incisions are made perpendicular to the desired direction of expansion. The expansion ratio (RTEP) can be calculated using the following formula:

\[ \text{RTEP} = \frac{L}{d} \]

METHODS

From February 2016 through February 2019, 416 patients underwent surgery with the Egydio TEP Strategy. This next generation, non-grafting technique maintains the natural strength of the tunica albuginea to enable application of all states of the penis without the necessity of a urethral catheter. As the urethra is more elastic, the limit of the restoration depends only on the length of the dissected neurovascular bundle. Before the urethra does not determine penile length restriction, need not the proximal urethra be detached, or elevated during the procedure to lengthen the shaft of the penis. To determine the need to increase the number of incisions (N), tissues may be grasped by the fingers to stretch the penis past the desired neurovascular bundle become taut, while taking care that the tunica albuginea not restrict the bundle from being fully stretched. (Figure 4) If further expansion is required, the incisions are enlarged as in (TEP) or control incisions to reduce the size of the incisions (L). If the size of the incisions (L) are too large, they will produce deeper indentations and larger spaces, which interfere with the tissue healing process, and provide less support for the cylinders. These undesirable effects, which would otherwise restrict the generation, were avoided by using a smaller (L) and increasing the number of incisions (N) to maximize the tissue expansion ratio.

Mathematical Formulas

\[ \text{RTEP} = \frac{L}{d} \]

RESULTS

Surgical Techniques

No failure.18 Subsequent incision and degloving10 provides adequate exposure of the penis shaft to enable application of the TEP (Figure 2).17

Parapenoscrotal or aponeurosis is injected into the urethral sponge corpora and the parapenoscrotal incision is made to bone to irrigate the bundle, stimulate perfusion, and minimize retraction of the glans during surgery.18

The reservoir of a 3-piece prosthesis is inserted with the glans attached to the urethra to maintain the glans in the most natural position. (Figure 2A) The stretched penis shows the maximum (d) and the minimum (d) of tissue expansion. (Figure 2B) The stretched penis shows the maximum (d) and the minimum (d) of tissue expansion. (Figure 2C) The stretched penis shows the maximum (d) and the minimum (d) of tissue expansion. (Figure 2D)

Figure 2

Figure 3

Figure 4

Figure 5

Figure 6

Figure 7

Figure 8

REFERENCES

Because incisions promote expansion, they are made to the maximum depth of the entire tunica or scar tissue; where needed to preserve the cavernous tissue beneath. Non-expansion areas of the penile are not removed, even in case of calcifications, because incisions and expansions can occur in adjacent tissue. Tissue expansion can occur anywhere along the circumference of the penis to the maximum circumference of the normal neurovascular bundle. Before the urethra does not determine penile length restriction, need not the proximal urethra be detached, or elevated during the procedure to lengthen the shaft of the penis. To determine the need to increase the number of incisions (N), tissues may be grasped by the fingers to stretch the penis past the desired neurovascular bundle become taut, while taking care that the tunica albuginea not restrict the bundle from being fully stretched. (Figure 4) If further expansion is required, the incisions are enlarged as in (TEP) or control incisions to reduce the size of the incisions (L). If the size of the incisions (L) are too large, they will produce deeper indentations and larger spaces, which interfere with the tissue healing process, and provide less support for the cylinders. These undesirable effects, which would otherwise restrict the generation, were avoided by using a smaller (L) and increasing the number of incisions (N) to maximize the tissue expansion ratio.

The expansion ratio (RTEP) is directly proportional to (L) and inversely proportional to (d). The ratio of the incisions (L) are between 2 to 5 inches (0.197 to 3.153 inches), and both (d) and (d) are set to between 2 to 3 mm (0.079 to 0.118 inches). A better expansion ratio can be obtained by increasing number (N) of incisions (L). The incisions are made perpendicular to the desired direction of expansion.

The expansion ratio (RTEP) can be calculated using the following formula:

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CONCLUSION

The Egydio TEP Strategy provides surgeons with solutions for the complex issue of penile size reduction, both circumspectly and intrapersonally, and is demonstrated to be safe and effective to provide symptomatic relief of penile curvature.