

Urethral Advancement:

A century-plus
and still going strong !

Şeref Etker MD
Istanbul, Turkey

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BACKGROUND

Urethral advancement, known as the 'KOFF procedure' has stood the test of time, to-date, for well over a century.

The original description of technique is a matter of debate, and claims of priority were raised by Drs. Carl BECK (of NY) and von HACKER, on both sides of the Atlantic. The names of Dr. B. Bardenheuer, and Dr. Carl Beck (of Chicago) have been mentioned in the same context.

A review of historical literature suggests that it was the Prussian surgeon Dr. Franz KÖNIG of Göttingen who was the first to employ the technique for the repair hypospadias.

Carl BECK
(1856-1911) New York

[Carl BECK
(1864-1952) Chicago]

Viktor Ritter von HACKER
(1852-1933) Tübingen

Bernhard BARDENHEUER
(1839-1913) Köln



Franz KÖNIG
(1832-1910) Göttingen

Stephen A. KOFF
(b. 1944) Columbus, OH

PL. I
PROCÉDÉ CARL BECK



Fig.-1



Fig.-2



Fig.-3

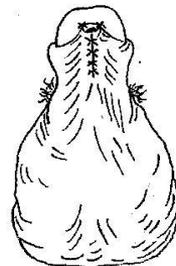


Fig.-4

PL. II
PROCÉDÉ VON HACKER

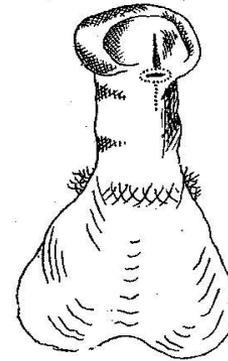


Fig.-1

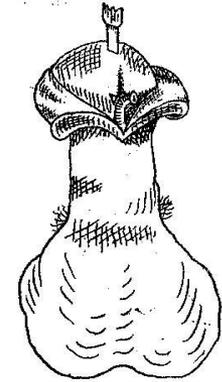


Fig.-2

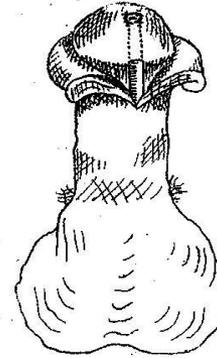


Fig.-3

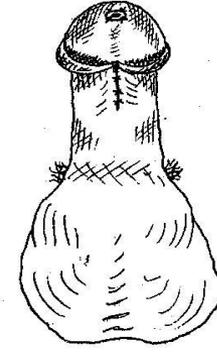


Fig.-4

HUSNI-CHAKIR

Beck (of NY) vs. von Hacker urethroplasty techniques
Docteur Husni-Chakir [Şakar of Istanbul], *De l'hypospadias balanique et son traitement chirurgical (Procédé de von Hacker)*, Thèse méd., Paris, 1901, pl. I-II.

RATIONALE

1. 'Dysplastic tissues located beyond division of corpus spongiosum [including the urethral plate]' do not grow/develop at the same rate.

S Thiry, D Gorduza, P Mouriquand

'Urethral advancement [a.m. Koff] in hypospadias with distal division of the corpus spongiosum : outcome of 158 cases'

J Ped Urol, 10(3); June 2014: 451-454.

2. The (antegrade) blood supply of the penile urethra is based on the blood supply to the corpus spongiosum.

TECHNIQUE

Basic: Dislocation & transposition of the urethra

Advanced: Glanuloplasty

Orthoplasty a.m. Koff

INDICATIONS

Distal and mid-penile hypospadias with chordee

JF Koenig, M Kottwitz, PH McKenna, 'Urethral mobilization for distal and mid shaft hypospadias with chordee' *J Urol*, 190(4 Suppl); Oct 2013: 1545-1548.

Medical indication: the 'burnt out' patient !

Extended indication:

Secondary urethral surgery involving reconstructed (neo)urethra.

Personal experience with urethral advancement in re-do urethroplasties:

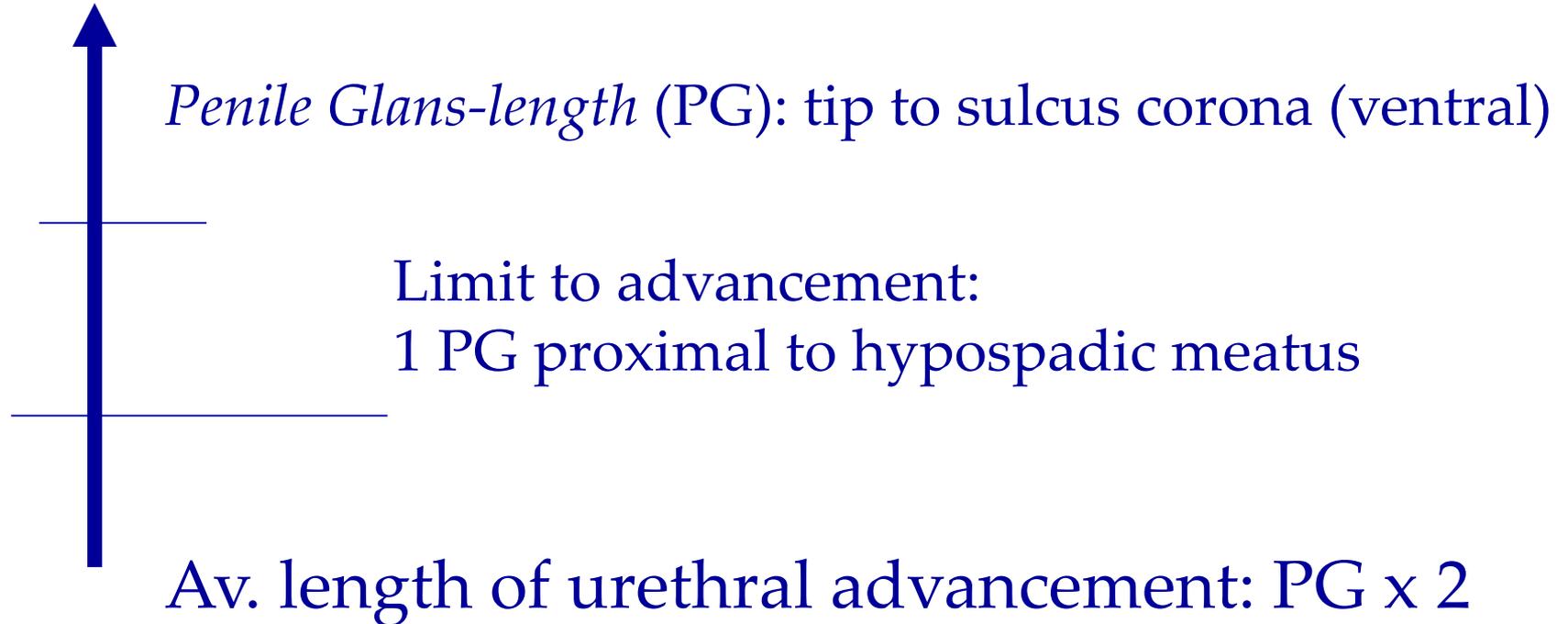
Duplay & TIPU

TIPU x 2 + ?

Asopa I & Duckett onlay

Asopa II (Double-face)

LIMITATION (suggested)





MEMO Dissect urethra to level of bulbar urethra

CAVE Urethral puncture in dissection

DIVERT ! ↵

The urethral advancement technique seems to have been established in certain countries – such as Egypt.¹ But is not included in surgical training courses/workshops held at the same centers ?

(1) MS Hashish, MI Elsawaf, MA Moussa, (Tanta, Egypt)
'Urethral advancement procedure in the treatment of primary distal hypospadias: A series of 20 cases',
Ann Ped Surg., vol 13(1); 2017: 29-37.

HS Hassan, HA Almetaher, M Negm, EA Elhalaby (Tanta & Qena, Egypt)
'Urethral mobilization and advancement for distal hypospadias',
Ann Ped Surg, vol 11(4); 2015: 239-243.

HM Hammouda, YS Hassan, AM Abdelateef, MA Elgammal (Assiut, Egypt)
'New concept in urethral advancement for anterior hypospadias',
J Pediatr Urol 4(4); Aug. 2008: 286-9.

MM Awad (Zagazig University, Cairo, Egypt)
'Urethral advancement technique for repair of distal penile hypospadias: A revisit', *Indian J Plast Surg*, 39(1); 2006; 34-38.

MESSAGE

'[T]his approach appears to work in many boys with distal hypospadias and... is often successful even in redo repairs. Few patients appeared to have long-term complications of significant curvature.

The Koff procedure is one that should be in the toolbox of every urologist.'

Editorial Comment by Douglas A. Canning,
J Urol, 193 (4); April 2015: 1368–1369.