



Hipospadias

Prof. Dr. R. Cankon GERMİYANOĞLU



OMÜ Tıp Fakültesi Üroloji Anabilim Dalı Çocuk Ürolojisi Bilim Dalı
Üroloji ve Çocuk Ürolojisi Uzmanı
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DÜNYA

Haberler > Dünya > Adolf Hitler'in hastalığından ötürü cinsel organı çok küçüktü

Adolf Hitler'in hastalığından ötürü cinsel organı çok küçüktü

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22 Şubat 2016 - 09:53:00



Haberi
Öne Çıkar

↑ 6

Paylaş

Paylaşın

Tweetle

G+1 0

- A +

Yorum yaz

Yaklaşık 100 yıl sonra gün yüzüne çıkan muayene kayıtları, Adolf Hitler'in hipospadias hastalığı nedeniyle cinsel organının çok küçük olduğunu ortaya koydu.

Hitler'in 1923 yılında yakalanmasını takiben yapılan muayenenin kayıtlarına göre; faşist liderin, halk arasında 'inmemiş testis' olarak bilinen kriptorşidizm hastalığı da bulunuyordu.

Hypospadias

Yunanca Hypo (aşağıda) Spadon (delik)



Ventral meatus (Glans-perine)
Ventrale deviasyon
Prepisyum dorsalde başlık şeklinde
ventralde defektli

Tedavi olmayan hypospadias

Hafif	Şiddetli
Penil kurvatur	Penil kurvatur
	Oturarak idrar yapma
	Püskürerek idrar yapma

Schlomer, J.Pediatr Urol.2014

İnsidans

1 / 200

1 / 300

İnsidans da artış (+)

Rocheleau, Pediatr Urol. 2009

İnsidans da artış (-)

Fisch, J Pediatr Urol. 2010



% 6-8



<15

Sınıflandırma

korpus spongiosumun ayrılma düzeyi

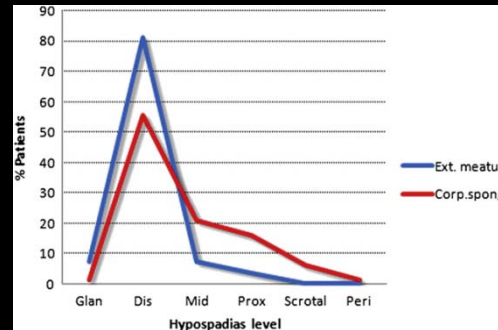
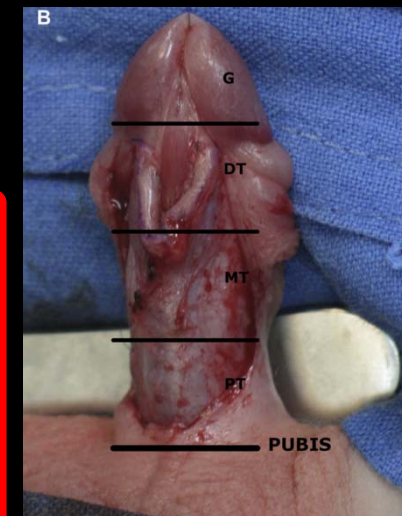
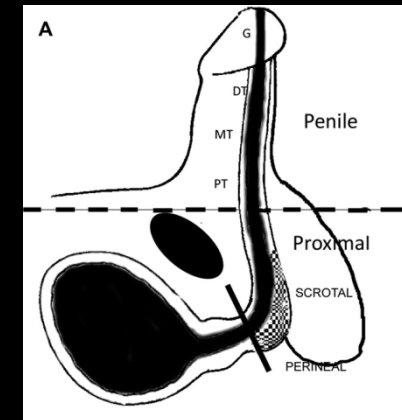


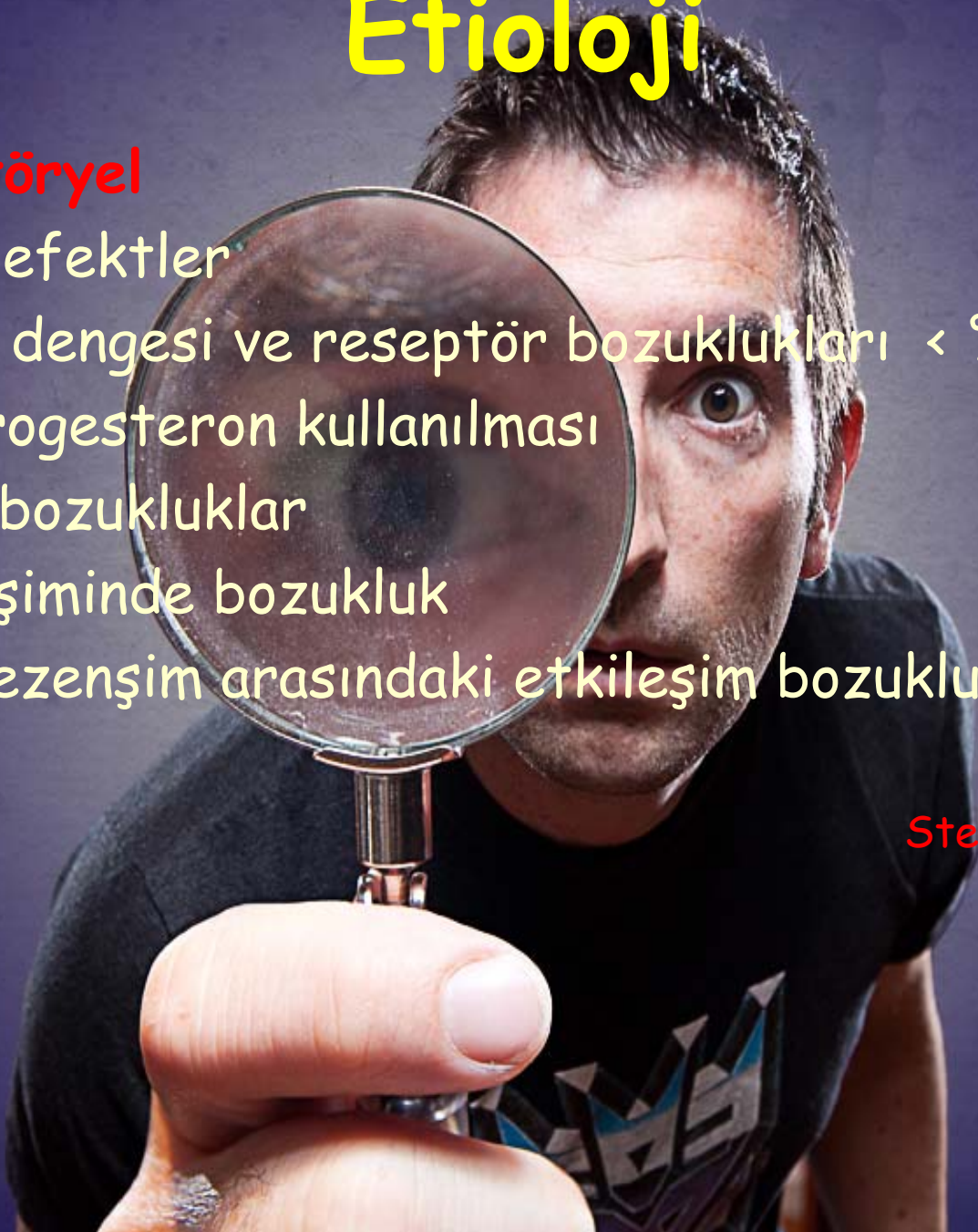
Table 1 Different classifications of hypospadias according to the location of the external meatus versus location of division of the corpus spongiosum.

Location of external meatus in relation to penile shaft or scrotum						
Smith 1938	Schaefer 1959	Avellan 1975	Browne 1938	Duckett 1996		Hadidi 2004
1st degree	Glanular	Glanular	Glanular	Glanular	Anterior	Glanular
2nd degree	Penile	Penile	Sub-coronal	Sub-coronal		Distal
			Mid shaft	Distal penile		
3rd degree	Perineal			Mid shaft	Middle	
		Penoperineal	Penoscrotal	Proximal penile	Posterior	Proximal
		Perineal	Midscrotal	Penoscrotal		
		Perineal	Scrotal	Scrotal		

Location of division of corpus spongiosum in relation to upper pubis	
Orkiszewski 2010	
Glanular & Coronal	Penile
Distal third	
Mid shaft	
Proximal third	
Scrotal	Proximal
Perineal	
Modified from Hadidi [3].	



Etoloji

A man with dark hair and a black t-shirt is holding a magnifying glass over his right eye. The background is a dark, textured blue.

Multifaktöryel

Genetik defektler

Androjen dengesi ve reseptör bozuklukları < % 5

IVF de progesteron kullanılması

Endokrin bozukluklar

Penis gelişiminde bozukluk

Epitel- mezenşim arasındaki etkileşim bozuklukları

Stein, Eur Urol. 2012

Değerlendirme



Operasyon odası

Penis tamamen deglove edildikten sonra

Korpus spongiosum ayrılma seviyesi

Üretral plate kalitesi

Glans büyüklüğü

Ventral dokuların hipoplazi derecesi

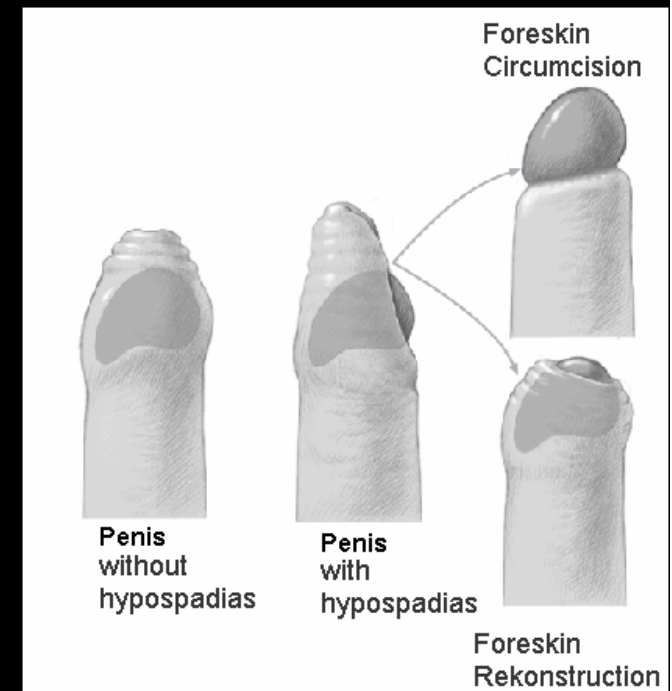
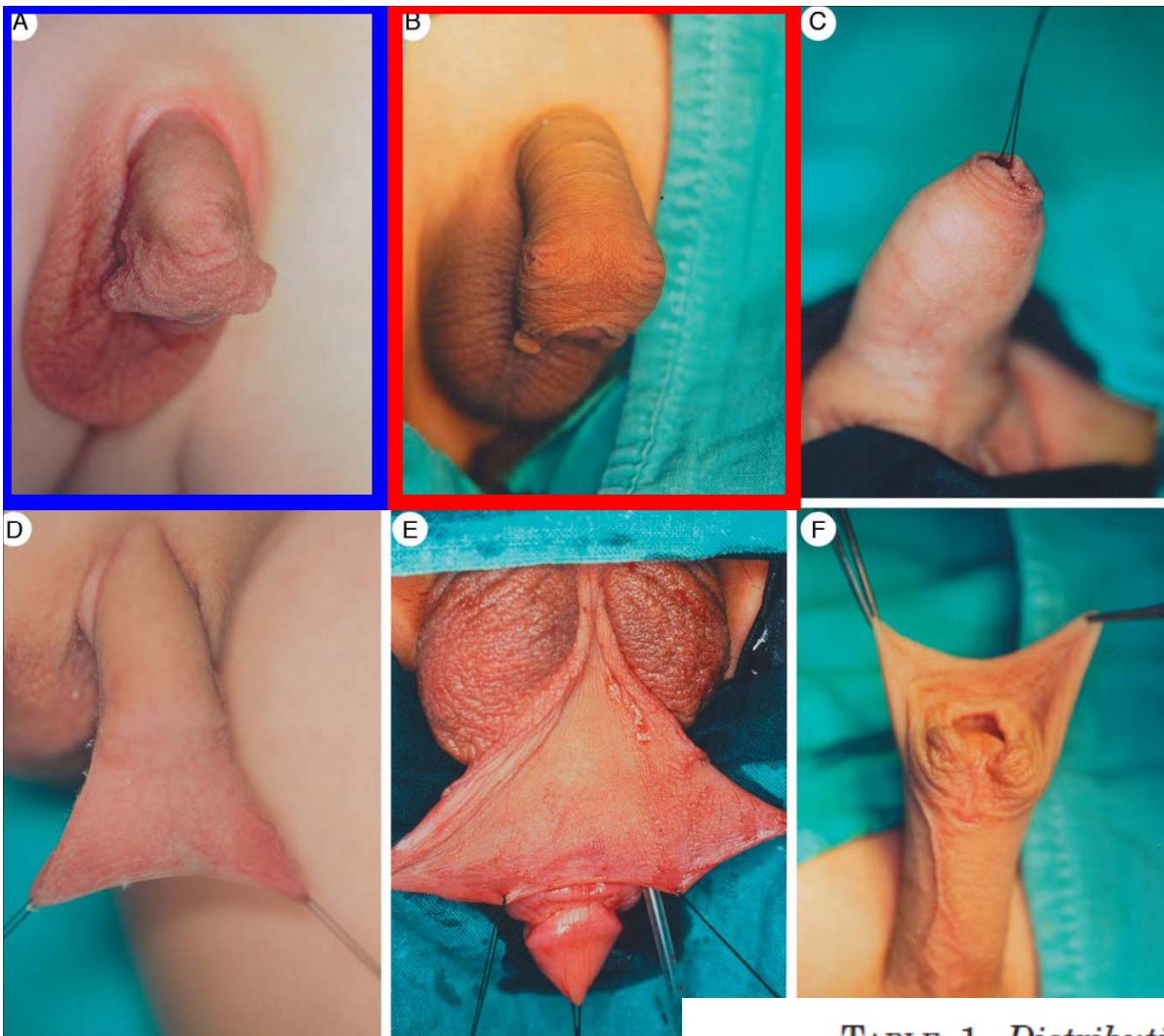


TABLE 1. *Distribution according to morphology types*

Type	Morphology	No. Pts (%)
A	Monk's hood or 1 humped	43 (24.7)
B	Cobra eyes or 2 humped	80 (45.9)
C	Normal	4 (2.3)
D	Flat	24 (13.8)
E	V-shaped	16 (9.2)
F	Collar-scarf	7 (4.0)
Total		174 (100)

Radojicic, J Urol. 2004

VASCULARIZATION OF HYPOSPADIAC PREPUCE

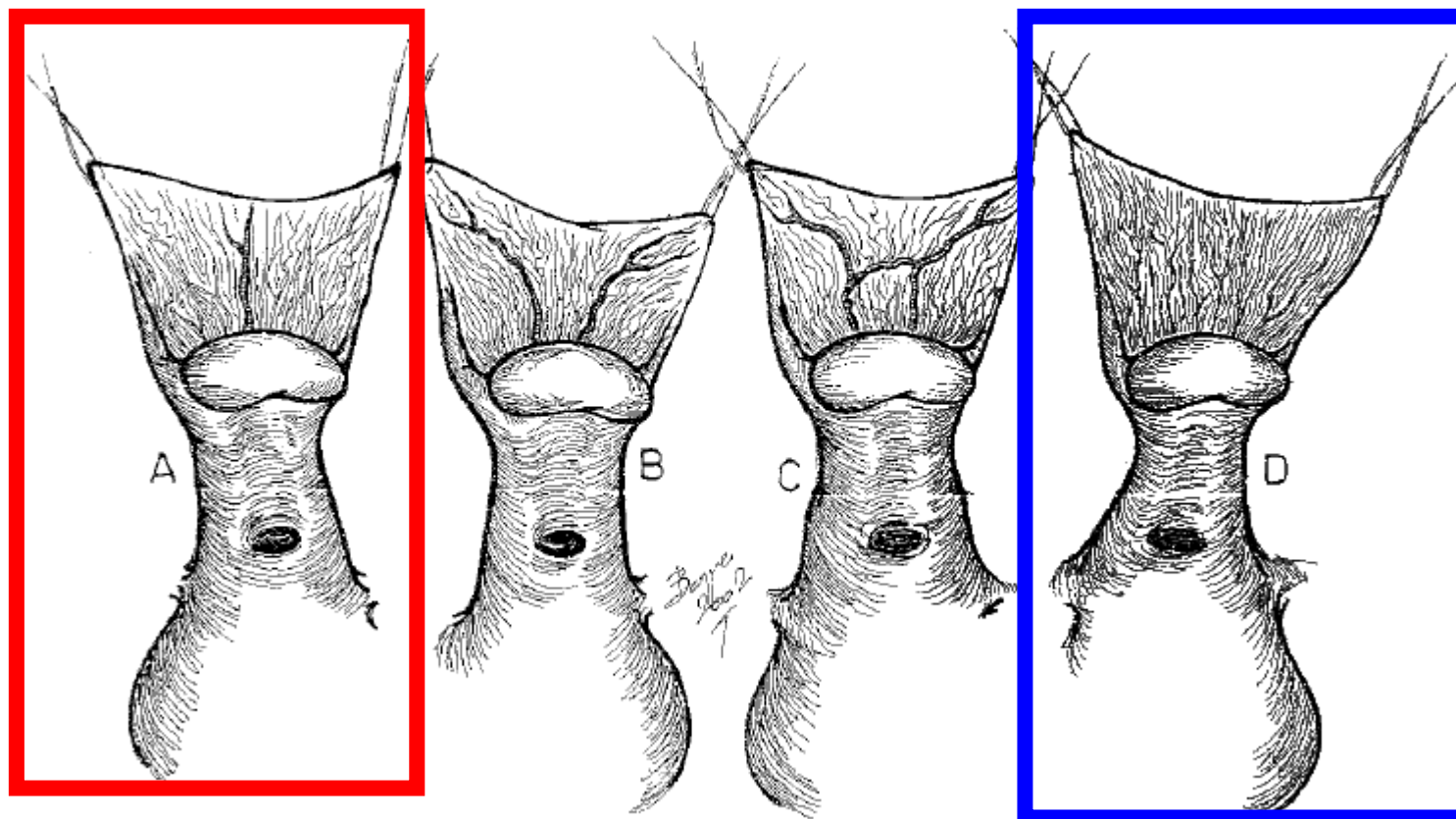
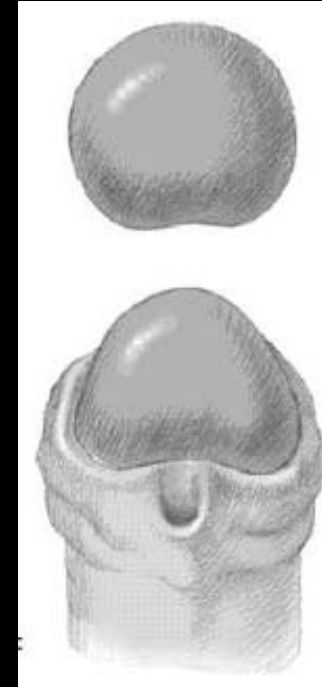
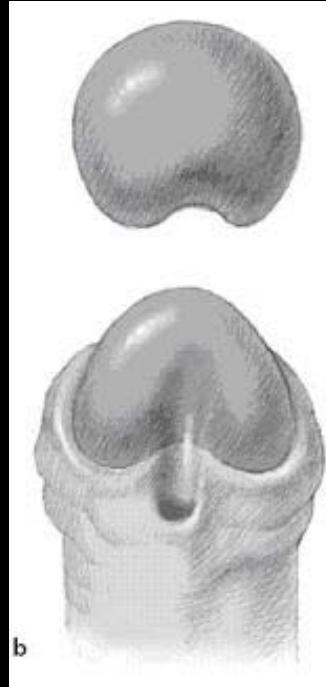
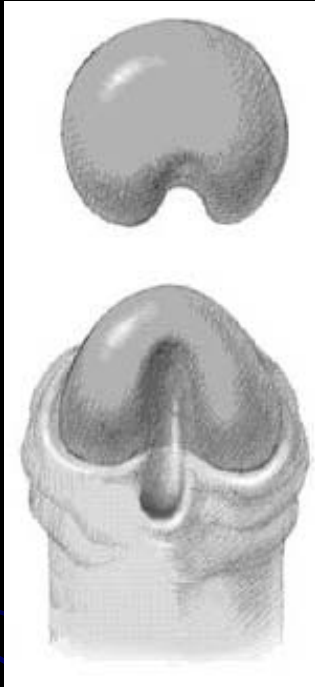


TABLE 2. *Distribution according to vascularization types*

Type	Vascularization	No. Pts (%)
1	1 Blood vessel predominant	76 (43.7)
2	2 Blood vessels predominant	22 (12.6)
3	H-like form (communication between 2 well-developed blood vessels)	25 (14.3)
4	Net-like form (no predominant blood vessels)	51 (29.3)
Total		174 (100)

Perovic, J Urol. 2003

Üretral Plate





Glans apı 14 mm veya daha azsa retroplasti komplikasyonu 2,7 misli fazla

Snodgrass F1000Prime Rep. 2014

Preop Androjen

Genital tüberkül uzunluğu < 25 mm (yaşamın ilk yılı)

Glans çapı < 14-15 mm

Snodgrass, Journal of Pediatric Urology. 2011



Chebotarev Alexander
Androgen

Preop Androjen

Beta HCG

1500IUx6 12 gün

Sistemik testosteron

100mg/m² iki-altı enjeksiyon

2 mm/kg/doz 3-4 haftada 3 enjeksiyon

Topikal Dihidrotestosteron

% 1 lik Testosteron krem

40 gün bir parmak



Preop Androjen

Penis,penil ve prepisyum derisi büyür

Meatus daha distale gelir

Kan desteđi ve dokuların beslenmesi artar

Kordinin şiddeti azalır

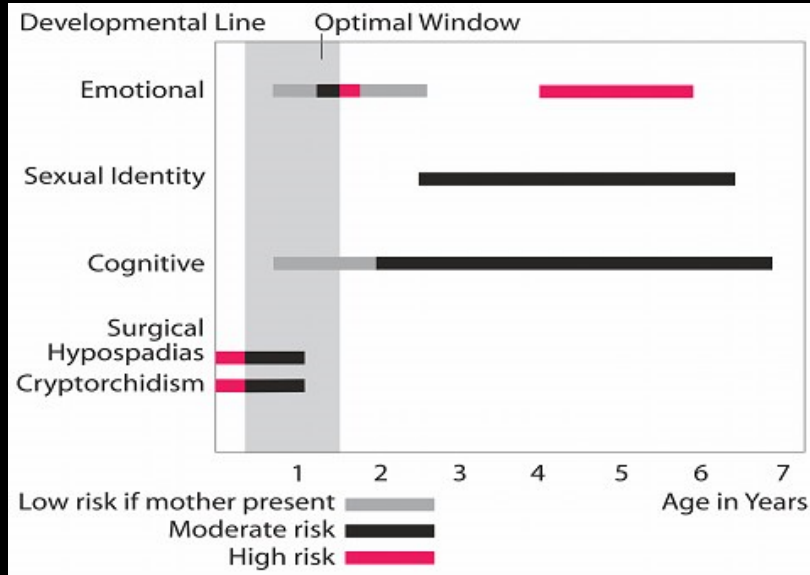
Komplikasyon ve redu ihtimali azalır

Preop Androjen

İyileşmedeki istenmeyen etkilerinden dolayı
operasyondan önce en az **3 ay** geçmelidir



Zamanlama



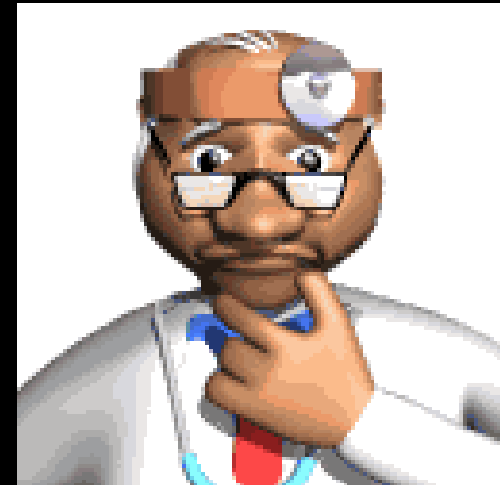
Genital cerrahinin psikolojik etkisi

Uygun cerrahi teknik

Pediyatrik anestezi

- 6 -15 ay emosyonel olarak daha az zorluk
- 24 -36 ay operasyon travması daha az
- 30 ay dan sonra deformitenin farkında
- 30 ay -5.5 yaş kastrasyon korkusu

6-15 ay



19.Yüzyıl

Cerrahi prensipler uygun ama tekniksel olarak yetersiz

1869 yılında Karl Thiersch ilk kez ciltten oluşturduğu
flepleri tubularize ederek epispadias onarımını yaptı

Thiersch, Arch. Heitkunde, 1869

Duplay bu tekniği penoskrotal hipospadias için kullandı.

Duplay, Arch. Gen Med. 1974

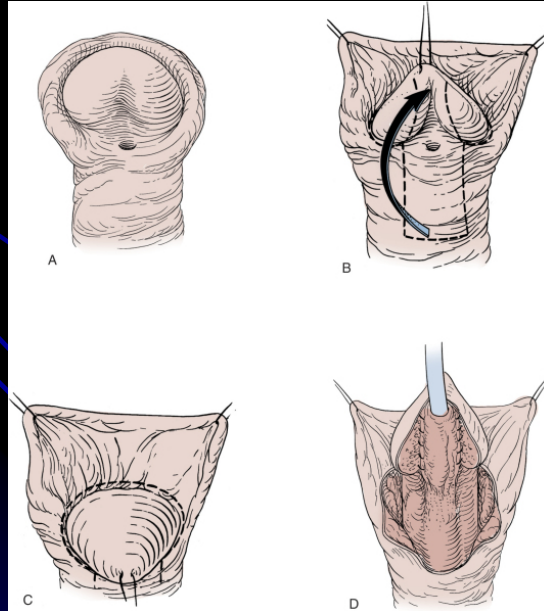
20.Yüzyıl ortalarına kadar

Birçok teknik

Aşamalı ameliyatlarda

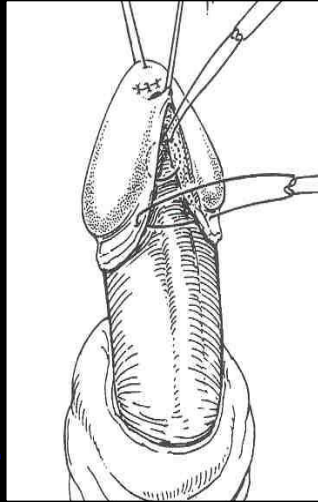
Uretroplastik için uygun olmayan dokuların kullanımı

İyi olmayan sonuçların kabulü

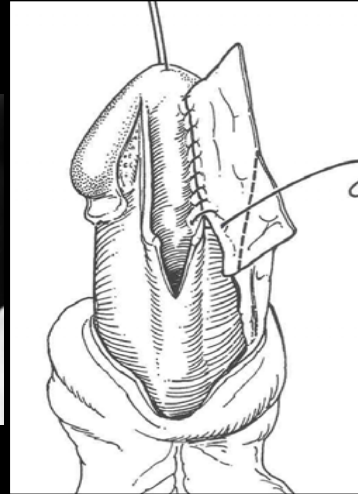


1980 ler

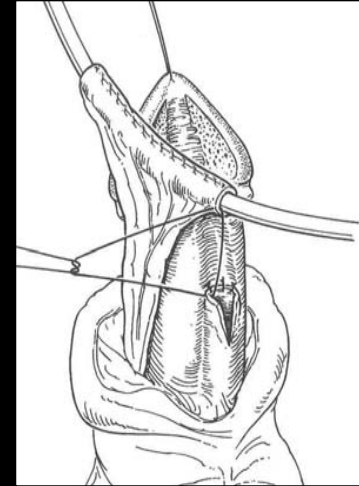
Modern prensiplerin standartizasyonu
Daha iyi ve fonksiyonel sonuçlar



MAGPI
1981



Onlay
1987



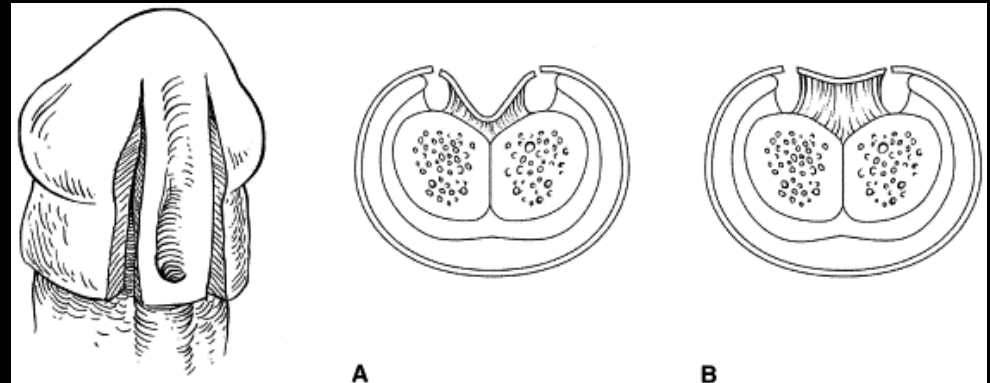
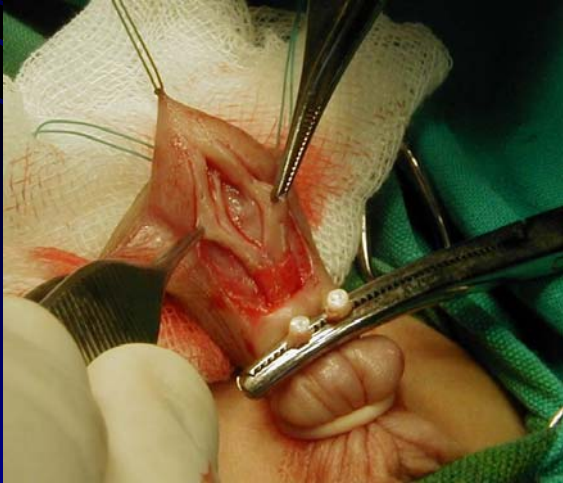
Transverse Island
1980



J. Duckett

1990 lar

Sadece normal fonksiyon deęil
Normal kozmetik grnm
Kolay uygulanabilirlik
Daha az komplikasyon



Anestezi

Genel anestezi

Dorsal penil sinir bloku
Operasyon başı ve sonunda



Chhiber J urol 1997

Caudal blok

Adrenalinsiz bupivacain % 0,25

Antibiotik

Operasyon esnasında geniş spektrumlu antibiotik I.V.

Stent çekilene kadar sefalekssin

Meir J Urol 2004



Optikal Büyütme



Hemostaz

Bipolar koter
Turnike



Lastik band

Redman,Urology. 1986

Penrose dren

Crawford plast Reconstr Surg 2004

Epinefrin veya buzlu su ile ıslatılmış spanç

Epinefrin + Lidokain

• Apoptozisi uyarır

• Beta-2 adrenerjik reseptör aktivasyonu ile myosit ve daha az olarak endotelial hücrelerde sitotoksik etki

• TGP-Beta yolu ile fibrozis indüklenir

Darlık ve meatal stenoz

Kajbafzadeh,J Urol.2007

Stent

Geçici üriner diversiyon
Su geçirmez tamir
Sutur hattı immobilizasyonu
Yeni üretra drenajı
Doku reaksiyonu azlığı
Hasta rahatlığı

Hasta yatış süresi uzar
Hareket kabiliyeti azalır
Mesane spazmı
Enfeksiyon ihtimali

Diversiyon gereksiz

Rabinowitz J Urol 1987

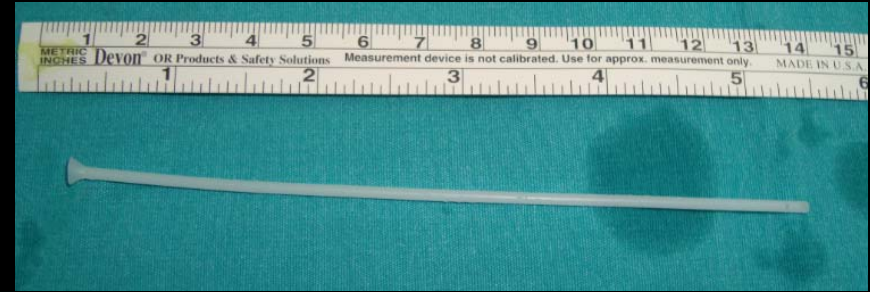
Stent zorunlu değil

Wheeler Br J Urol 1993

Stent yararlı % 4.6

Stentsiz % 18.9

Buson J Urol 1993



Pansuman

Üretral plate'in kullanıldığı onarımlarda proksimal, distal farkı olmadan, pansumanlı ve pansumansız takip edilen hastalar arasında seyir açısından fark yok.

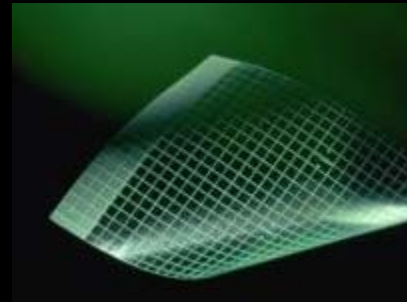
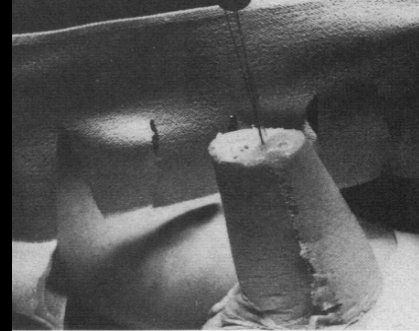
Kapatıldığında, idrar, gaita, sızıntı ve terlemeye bağlı ıslaklık



Van Savage, J Urol. 2000
McLorie, J Urol. 2001
Hadidi, Kasr El Aini J Urol. 2003

Pansuman

Petrolatum gauze
Silastic foam
Elastic bandage
Glove finger
Opsite
Coban bandaj



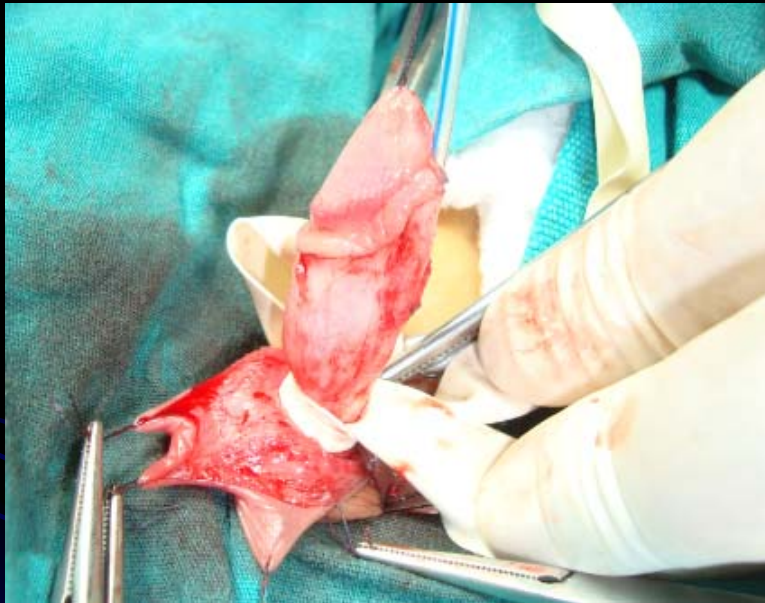
Gerekli değil

Sadece antibiotikli pomad

Van Savage J Urol 2000

Ventral Penil Kurvatur Kontrolu (Chordee)

Yunanca chorda (kordon - ip)



Ventral Penil Kurvatur

En şiddetlisi, korpus spongiosum yetersiz, üretra ince tüp şeklinde

Korpus spongiosum normal, Buck's ve dartos fascia katları anormal

Sadece dartos fascia katı anormal

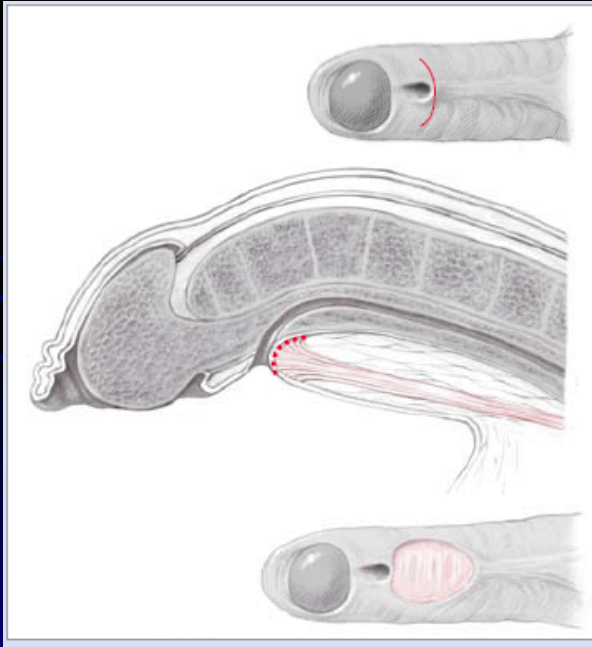
Devine,J Urol.1973



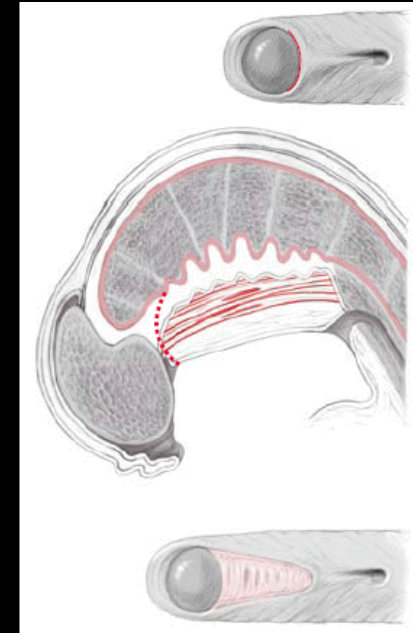
Ventral Penil Kurvatür (Chordee)

Üretral plate in epitelyal yüzeyinin altında iyi vaskülarize konnektiv doku

Baskin, J urol. 1998



Yüzeyel



Derin

Penil derinin tamamen deglove edilmesi

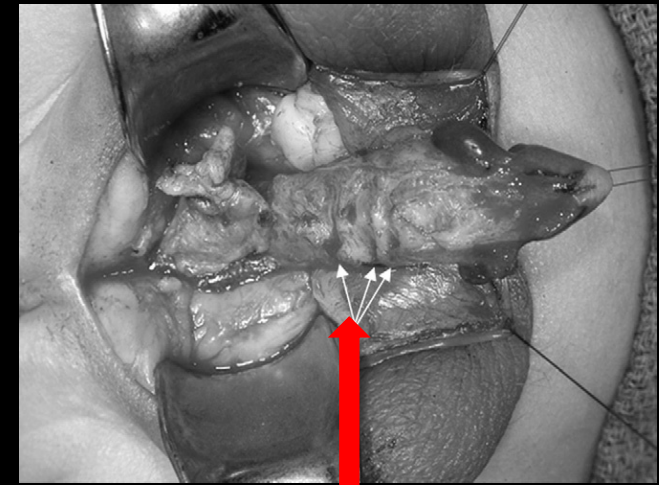
+Korpus spongiosum kanatlarının kavernöz doku ve glansdan ayrılması

+Kurvatur > 30 derece; Üretral plate serbestleştirilmesi

+Kurvatur > 30 derece; Normal üretranın serbestleştirilmesi

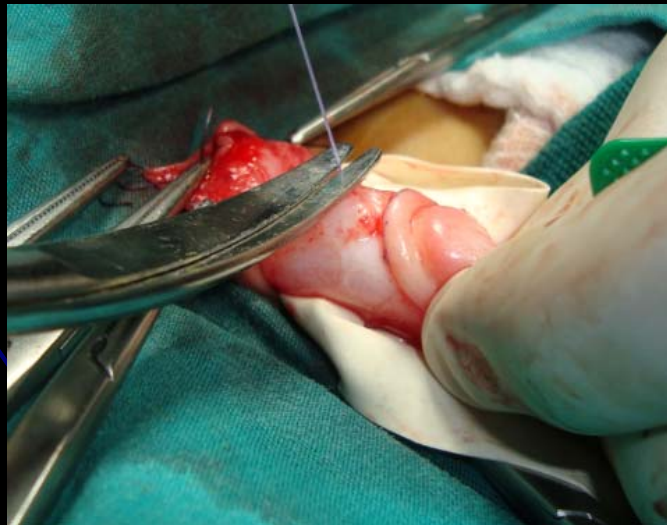
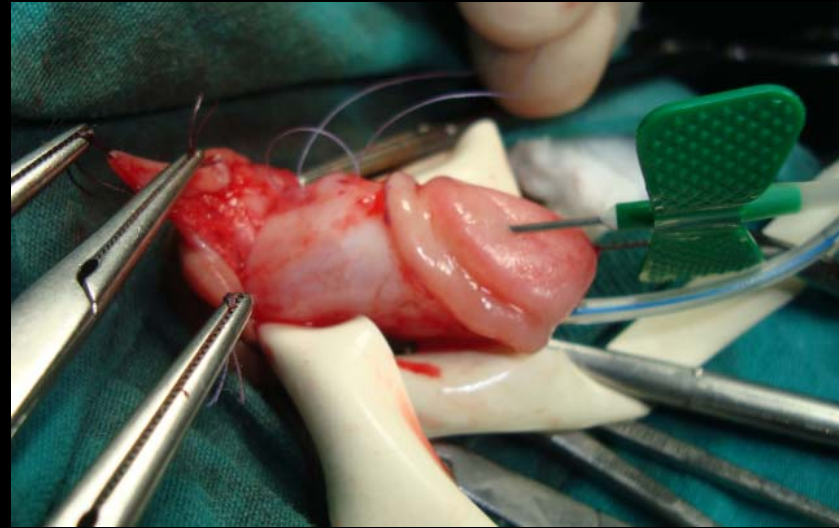
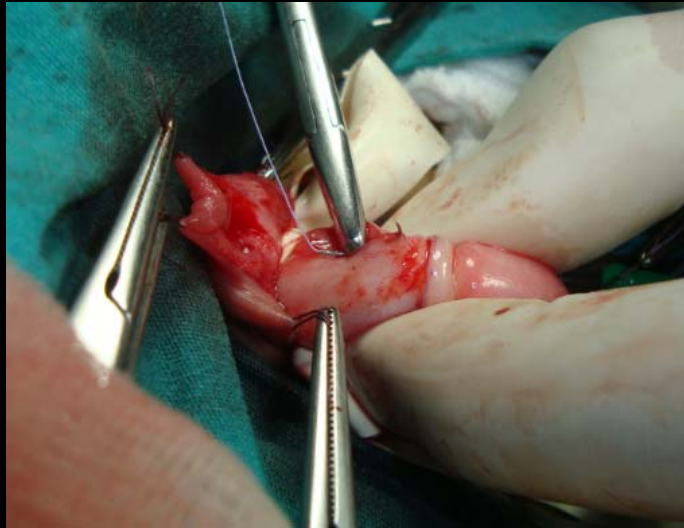
+Ventral uzatma,tunica albuginea 3 mm aralıklı 3 adet saat 4-8 arasında insizyon

Uretral plate sadece % 15 olguda kesilir

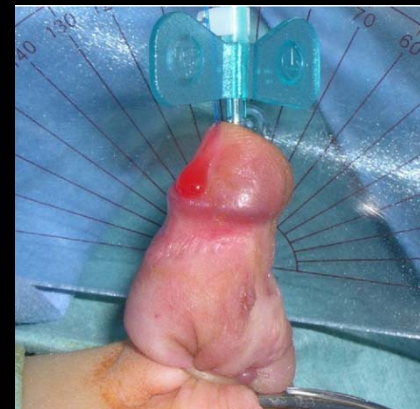
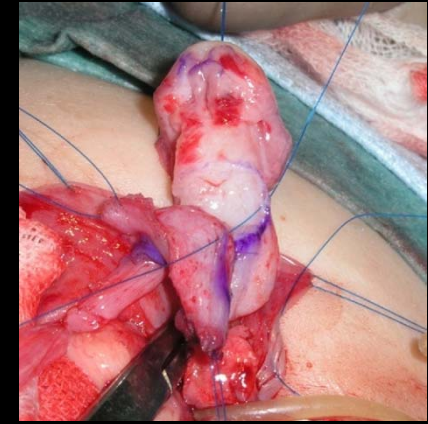
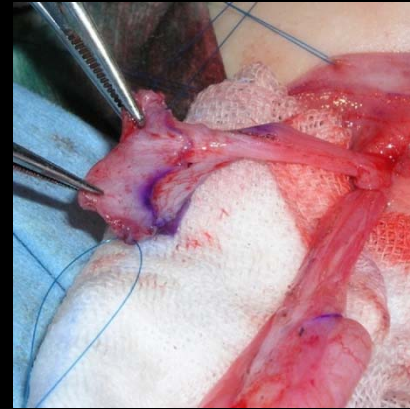
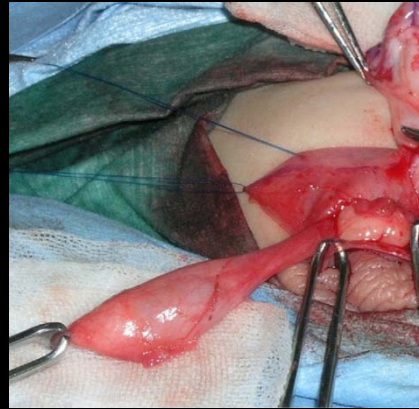
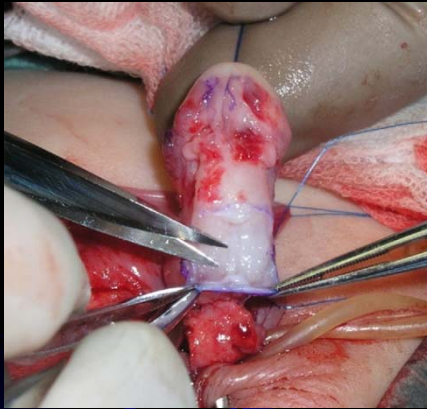
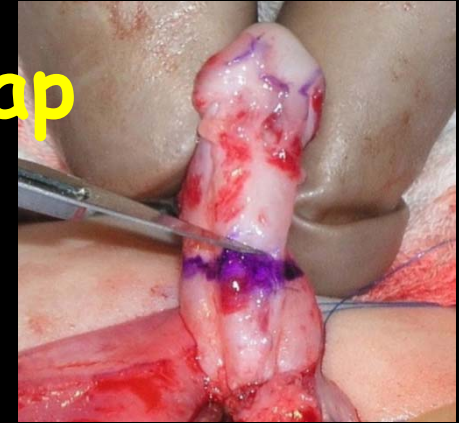


Snodgrass,J Urol. 2009

Dorsal plikasyon



Ventral graft veya flap



Dorsal plikasyon

Nörovasküler demet hasarına bağlı erektil ve duysal disfonksiyon

Ventral Graft

Dermal graft

1 ply İnce barsak submukozası

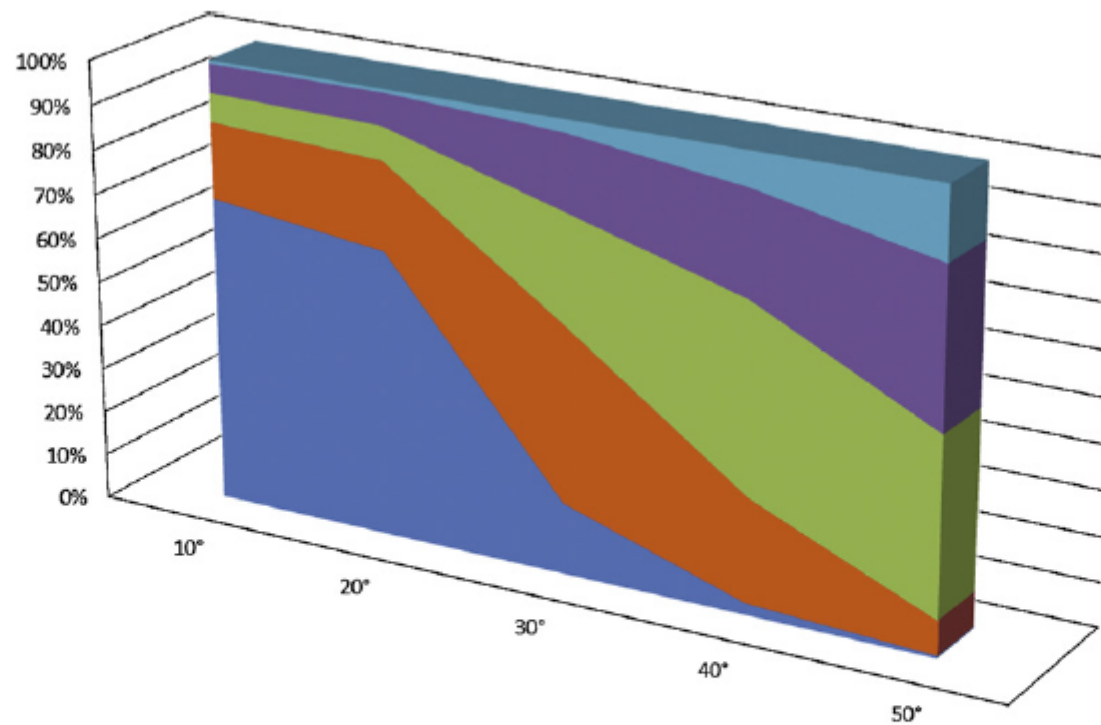
Tunika vaginalis flebi greften daha az küçülüyor

Anevrizmal dilatasyon

Castagnetti,J Urol.2010

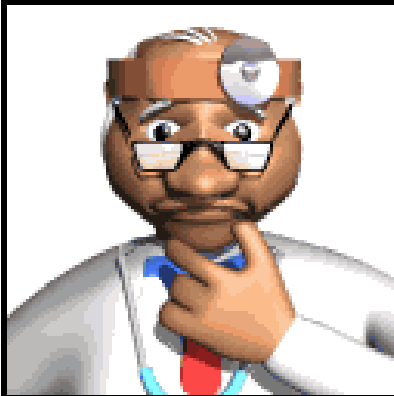
TABLE 2. Preferred techniques for chordee correction

	No. 30–40 Degrees	No. Greater Than 50 Degrees*
No repair	6	0
Dorsal placcation	83	31
Ventral (dermal graft)	7	40
Ventral (tunica vaginalis flap)	4	21
Ventral (nonautologous graft)	1	7
Combined dorsal + ventral repair	0	2



	10°	20°	30°	40°	50°
ventral grafting	0.8	0.8	2.8	7.8	16.3
urethral division	6.5	7.3	16.8	23.5	35.6
Nesbit	6.5	7.6	24.5	42.6	39.9
plication	17.2	20	39.9	23.5	7.6
no correction	68.9	64.2	16	2.6	0.6

Fig. 2 – Preferred techniques of chordee correction as percentages ($n = 377$).



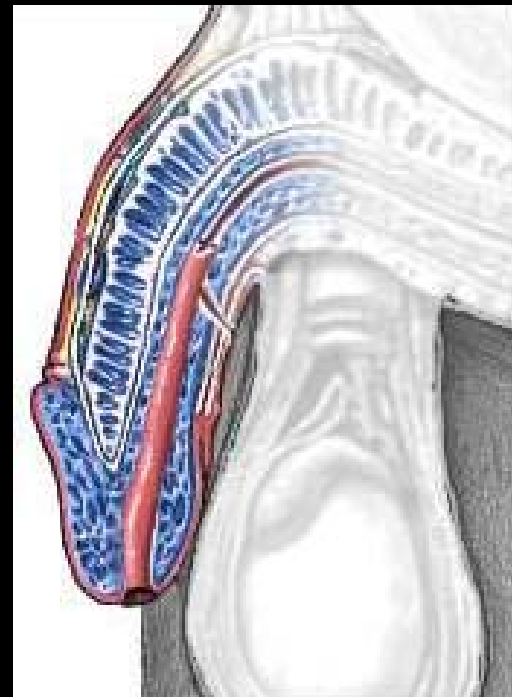
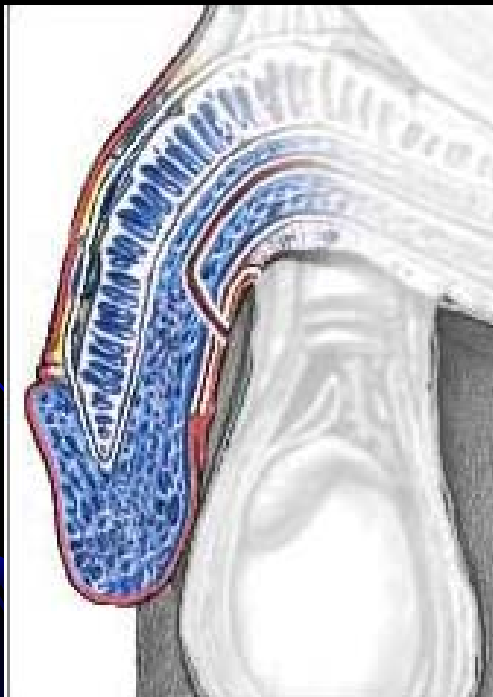
Tedavi

Hypospadias after
chordee release

Glanular: **Inverted Y technique** or
MAGPI, Y-V modified Mathieu

Distal penile: **Y-V modified Mathieu** or
Tubularised incised plate (TIP)

Proximal: **Lateral Based (LB) flap** or
Onlay island flap, TIP, or
Two stage repair



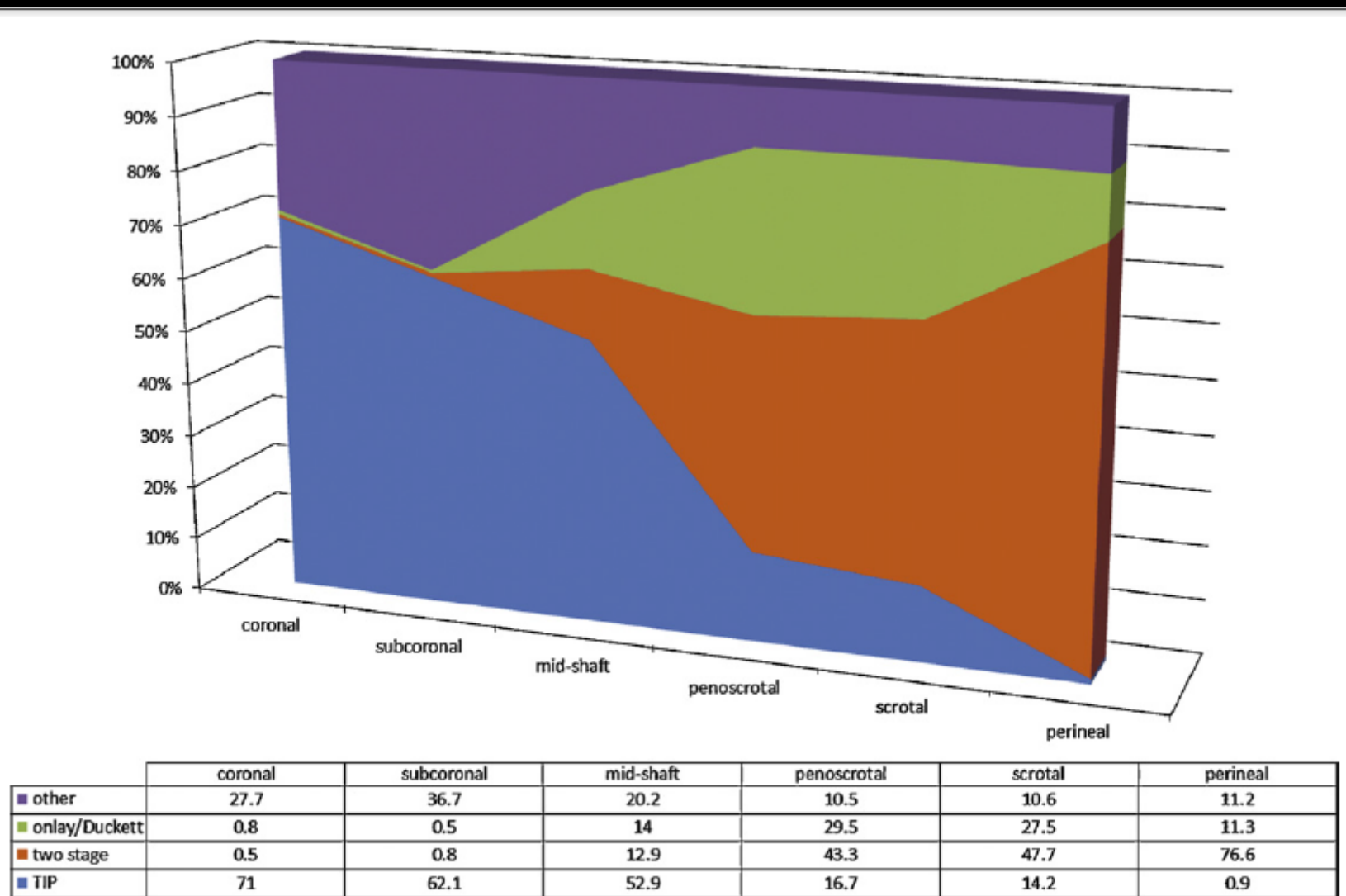


Fig. 1 – Preferred techniques of hypospadias repair as percentages ($n = 377$).
TIP = tubularised incised plate.

Ereksiyon - Mesane Spazmı

Epidural anestezi (Erişkin)

Ketakonazol (Ketoral) 200mg tb

Adrenal ve testiküler androjen sentezini azaltır.

Hepatotoksik

Başlangıç, 3 üncü gün, bitiş 3 X 400 mg

2 saatte testosteron düşer 8 saatte normal

Ketakanazol Etkisiz

DeCastro, j Urol. 2008

Amyl nitrit (Vaporole)

30 saniye 3-20 dakika



Antikolinerjik (Oxybutynin) 0,2 mg /kg/ 6 saatte bir

Komplikasyon

Kanama ve Hematom

Reoperasyon , Kanama diatezi araştırılması
En sık görülür.

Horton Clin Plast Surg 1988

Meatal stenoz

Dilatasyon, Meatoplasti De Sy J Urol 1984

Üretral darlık

Proksimal anastomotik bölge

İnternal Üretrotomi, Yama grefti Scherz J urol 1988

Fistül

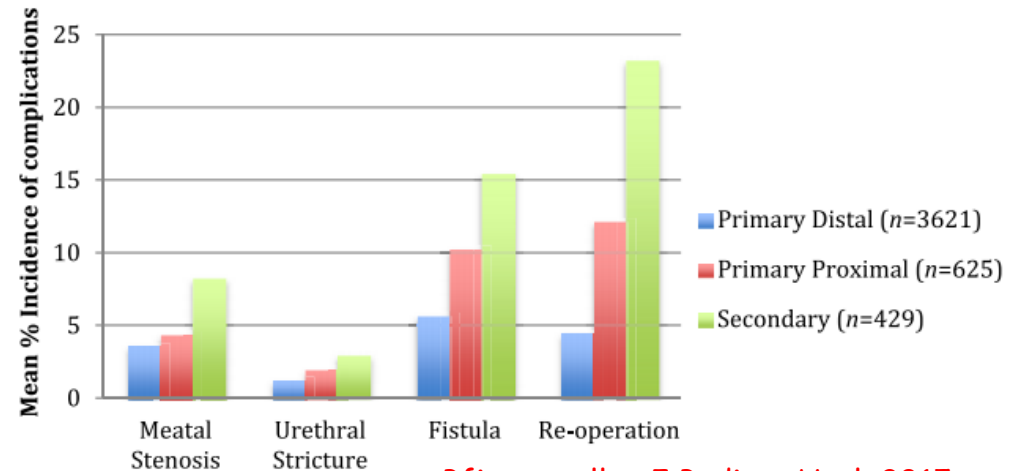
2. Tabaka oranı azaltır Santangelo 2003

Enfeksiyon

Üretra divertikülü

Rekürren penil kurvatur

İntraüretral kıl uzaması

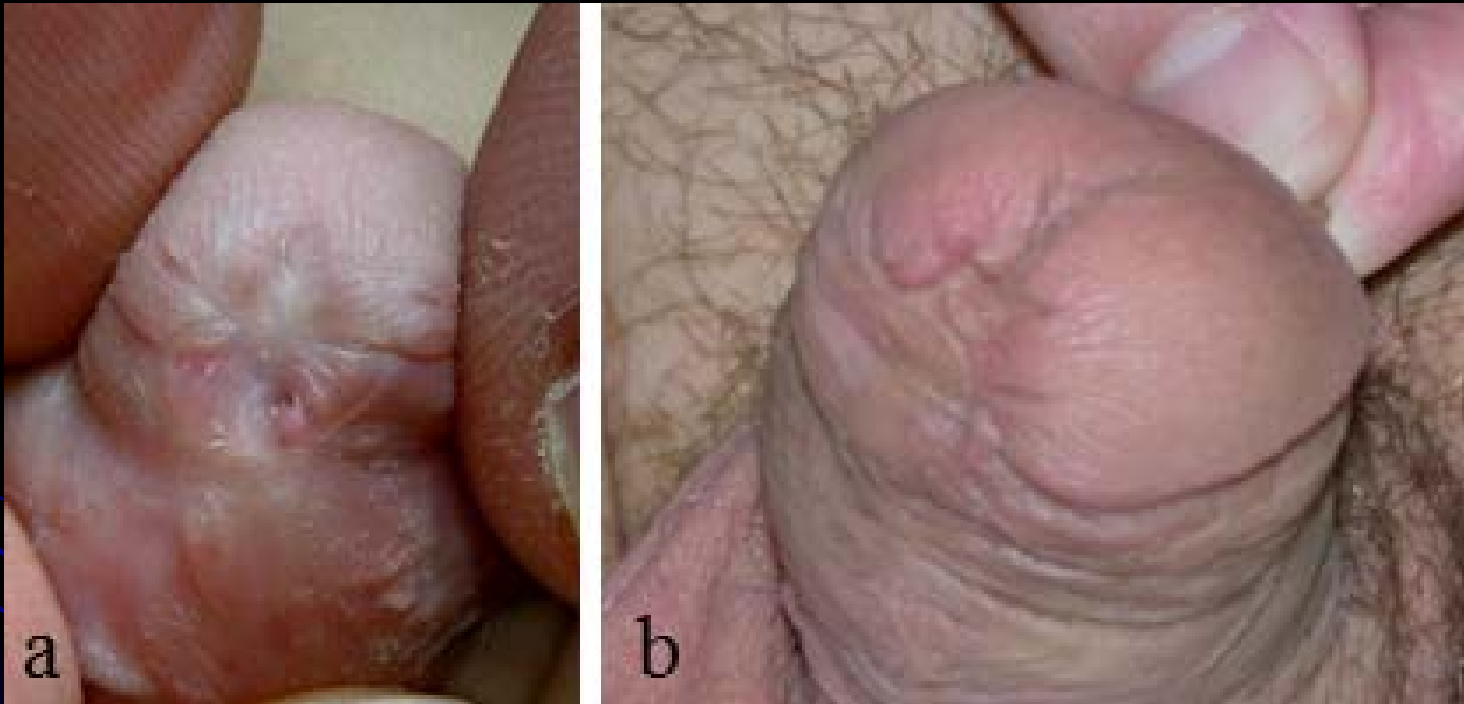


Pfistermuller.J Pediatr Urol. 2015

Meatal stenoz

Prepubertal 8 Fr

Erişkinde 14 FR nin altı



(a) Glans kanatlarının tam ayrılması ve subkoronal meatus

(b) Ayırık glans kanatlarını tutan deri köprüsü ve pseudoglandüler meatus



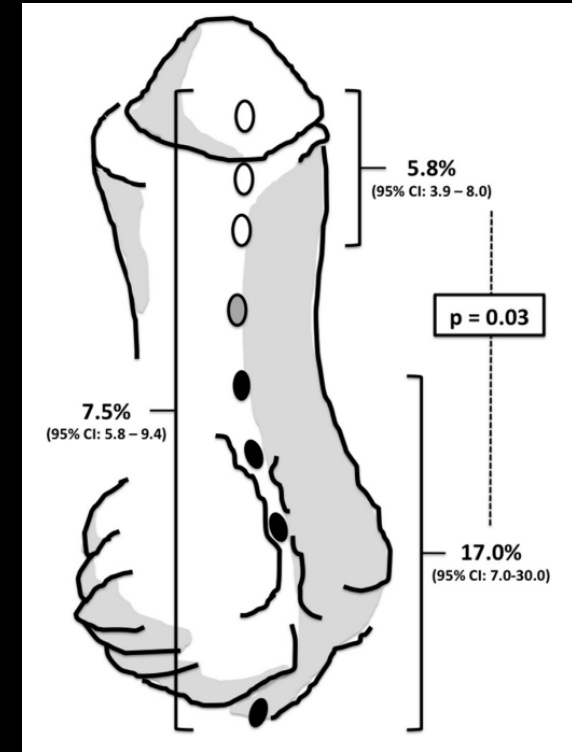
İyi iyileşmiş glansla birlikte subkoronal fistül
Ayrık glans kanatları arasında ince deri bandı

Snodgrass F1000Prime Rep. 2014

Fistül

Üstüste gelen sütur hattı
Meatal darlığa bağlı distal obtrüksiyon
Divertiküle bağlı turbulan idrar akımı
Vaskülerite yetersizliği

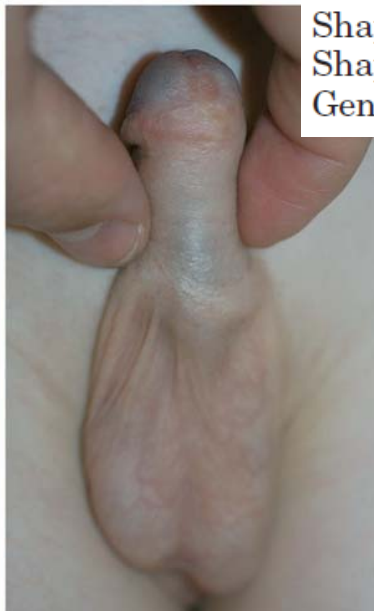
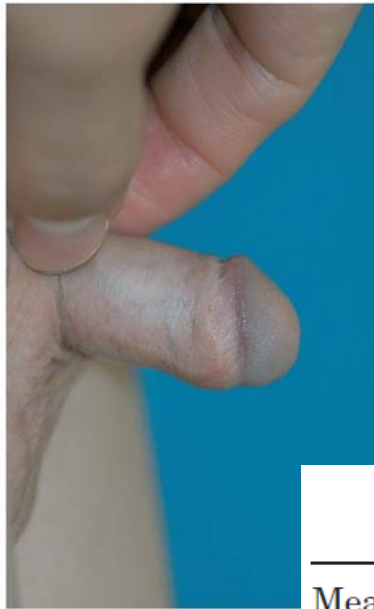
Dartos flep kullanımı
Epitel hattının lümene doğru döndürülmesi



İdrar akım çalışmaları

	Obstrüksiyon
Tubularized incised urethral plate	% 24.6
In situ tubularization without incision of the plate (Duplay, King, or Thiersch-Duplay)	% 20
Meatal-based flap (Mathieu)	% 17.6
Meatal advancement and glanuloplasty	% 5 Meatal darlık
Urethral advancement (Beck)	% 2 Meatal darlık

Pediatric Penile Perception Score



	very satisfied	satisfied	dissatisfied	very dissatisfied
Meatal position and shape	☐	☐	☐	☐
Shape of the glans	☐	☐	☐	☐
Shape of the penile skin	☐	☐	☐	☐
General cosmetic appearance	☐	☐	☐	☐

Weber, J Urol. 2008

HOPE

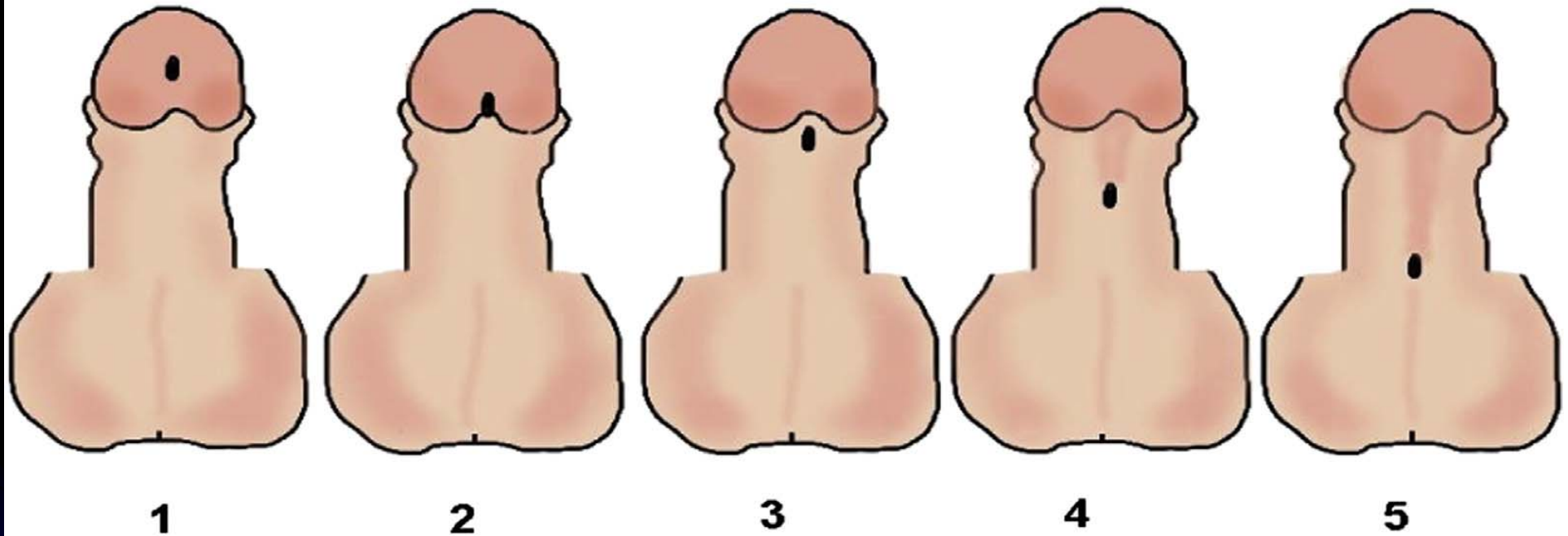
(Hypospadias Objective Penile Evaluation)

Table 1 Hypospadias Objective Penile Evaluation (HOPE-score).

1. Position meatus: assess the position of the meatus?
See HOPE-score reference pictures
 - ☐ Position 1 (10 points)
 - ☐ Position 2 (8 points)
 - ☐ Position 3 (5 points)
 - ☐ Position 4 (3 points)
 - ☐ Position 5 (1 point)
2. Shape meatus: what is the shape of the meatus?
See HOPE-score reference pictures
 - ☐ Normal (10 points)
 - ☐ Slightly abnormal (7 points)
 - ☐ Moderately abnormal (4 points)
 - ☐ Severely abnormal (1 point)
3. Shape glans: what is the shape of the glans?
See HOPE-score reference pictures
 - ☐ Normal (10 points)
 - ☐ Slightly abnormal (7 points)
 - ☐ Moderately abnormal (4 points)
 - ☐ Severely abnormal (1 point)
4. Shape Skin: what is the shape of the penile skin?
See HOPE-score reference pictures
 - ☐ Normal (10 points)
 - ☐ Slightly abnormal (7 points)
 - ☐ Moderately abnormal (4 points)
 - ☐ Severely abnormal (1 points)
- 5.1 Torsion: is there a torsion of the penis?
See HOPE-score reference pictures
 - ☐ 0–30° (10 points)
 - ☐ 30–50° (7 points)
 - ☐ 50–70° (4 points)
 - ☐ >70° (1 points)
- 5.2 Curvature in penile erection: is there a curvature of the penis in erection?
See HOPE-score reference
 - ☐ No erection observed (5.2 does not account for the HOPE-score)
 - ☐ 0–30° (10 points)
 - ☐ 30–50° (7 points)
 - ☐ 50–70° (4 points)
 - ☐ >70° (1 point)

Hypospadias Objective Penile Evaluation (HOPE)-score = mean number of points question 1–5.

1. Position of Meatus:

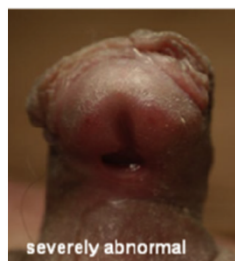
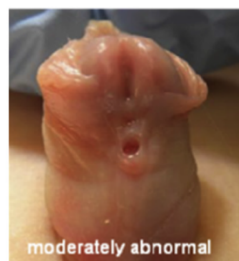
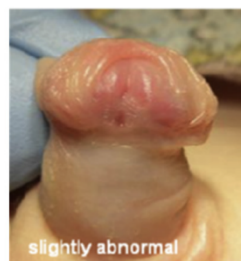
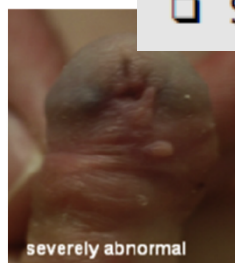
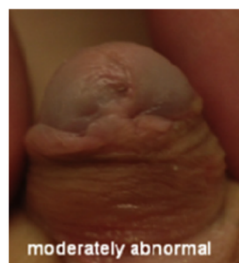
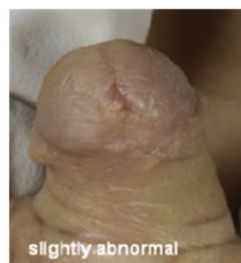
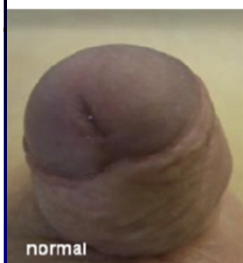
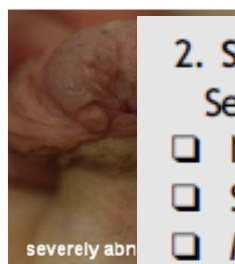
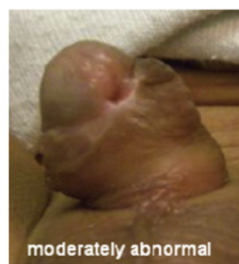
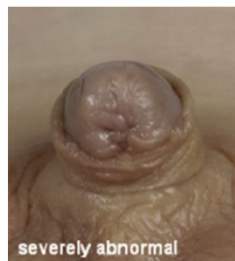
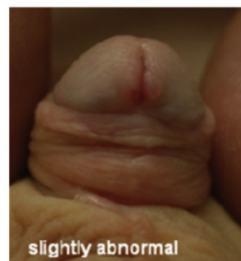
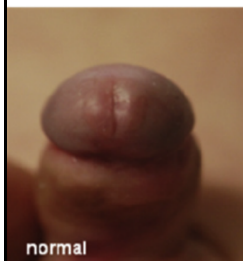
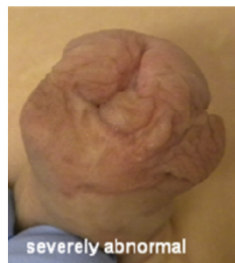
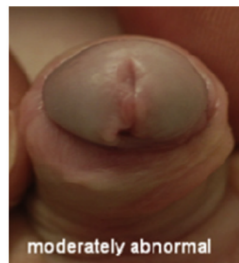
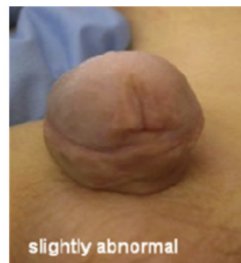
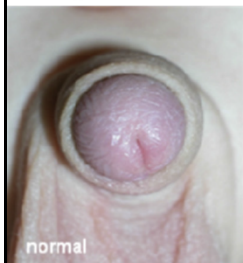


1. Position meatus: assess the position of the meatus?

See HOPE-score reference pictures

- ☐ Position 1 (10 points)
- ☐ Position 2 (8 points)
- ☐ Position 3 (5 points)
- ☐ Position 4 (3 points)
- ☐ Position 5 (1 point)

2. Shape of Meatus

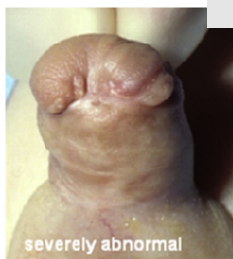
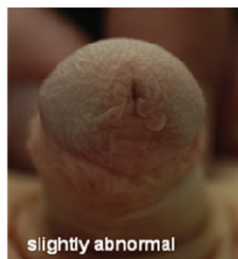
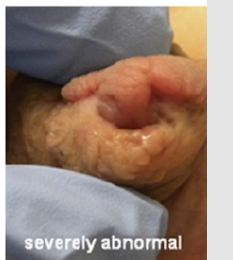
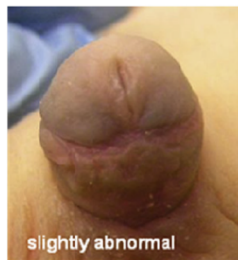
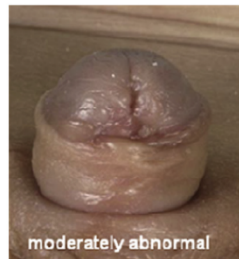
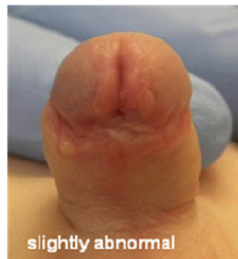


2. Shape meatus: what is the shape of the meatus?

See HOPE-score reference pictures

- ☐ Normal (10 points)
- ☐ Slightly abnormal (7 points)
- ☐ Moderately abnormal (4 points)
- ☐ Severely abnormal (1 point)

3. Shape of Glans:

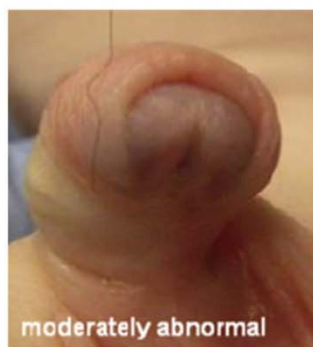
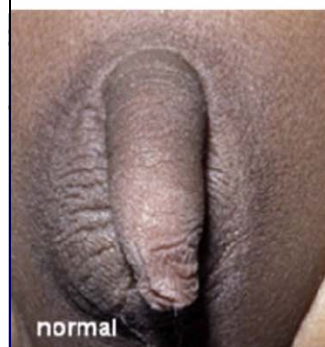
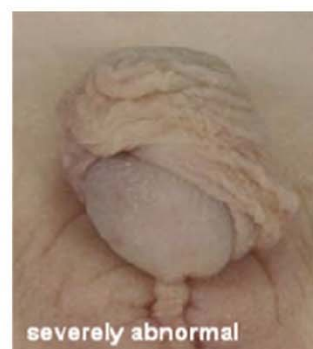
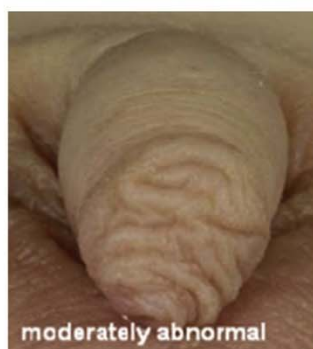
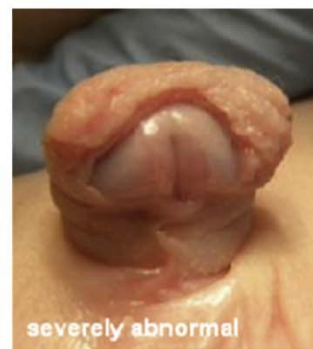
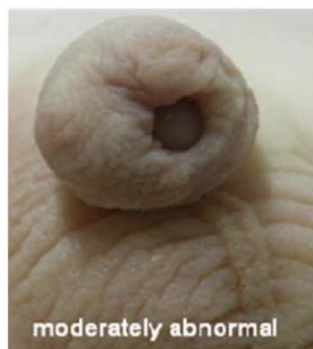


3. Shape glans: what is the shape of the glans?

See HOPE-score reference pictures

- ☐ Normal (10 points)
- ☐ Slightly abnormal (7 points)
- ☐ Moderately abnormal (4 points)
- ☐ Severely abnormal (1 point)

4a. Shape of Skin with (reconstructed) foreskin:



4. Shape Skin: what is the shape of the penile skin?

See HOPE-score reference pictures

- ☐ Normal (10 points)
- ☐ Slightly abnormal (7 points)
- ☐ Moderately abnormal (4 points)
- ☐ Severely abnormal (1 points)

5. Torsion:



0-30°



30-50°



50-70°

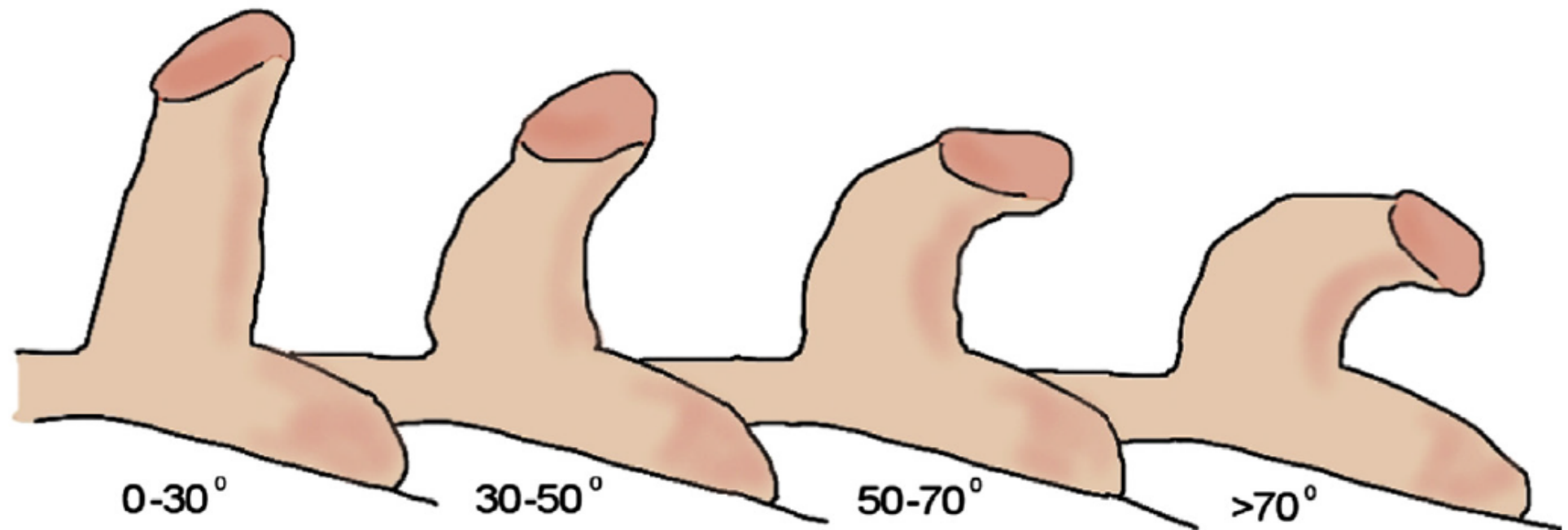


>70°

5.1 Torsion: is there a torsion of the penis?
See HOPE-score reference pictures

- ☐ 0–30° (10 points)
- ☐ 30–50° (7 points)
- ☐ 50–70° (4 points)
- ☐ >70° (1 points)

6. Curvature in erection (if observed):



5.2 Curvature in penile erection: is there a curvature of the penis in erection?

See HOPE-score reference

- ☐ No erection observed (5.2 does not account for the HOPE-score)
- ☐ 0–30° (10 points)
- ☐ 30–50° (7 points)
- ☐ 50–70° (4 points)
- ☐ >70° (1 point)



15 Ocak 1932

Avusturyalı heykeltıraş Heinrich Krippel

