



Failed Hypospadias Repair

One-stage vs. Two-stage Repair

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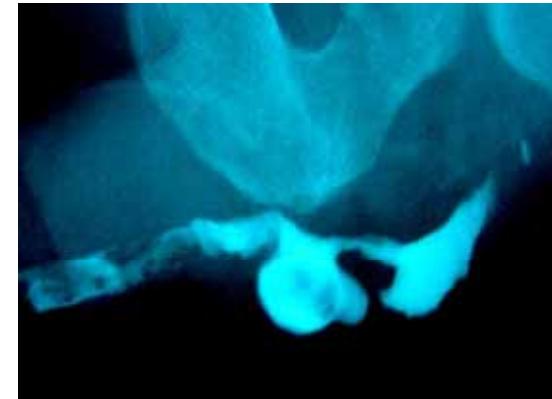
University Hamburg



One-stage vs. Two-stage Repair

Problems

- Strictures
- Fistulas
- Divertikula
- Hairy skin in the urethra
- Stones/Infections
- Lack of urethra
- Curvature
- Bad cosmetical result





One-stage vs. Two-stage Repair

Options

One-stage

Two-stage

Flaps

Buccal mucosa

Grafts

Meshgraft

Combinations

Penile Straightening



One-stage vs. Two-stage Repair

Decision

One-stage

Two-stage

Length stricture

short

long

Local conditions

healthy tissue

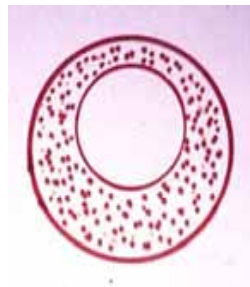
bad tissue

Curvature

no

severe

Degree of spongiofibrosis



Technique

Augmentation

Substitution > 2cm

One-stage vs. Two-stage Repair

Two stage buccal mucosa (Bracka)

- complete excision of scars
- good vascularized bed
- preparing of a bolster
- harvesting site: inner cheek/lower lip
- comprehensive dressing for 7 days





One-stage vs. Two-stage Repair

Two stage buccal mucosa (Bracka)

- second session after 3 months
- dissection exclusively in lateral direction
- tubularisation over catheter
- dressing for 7 days, VCUG





One-stage vs. Two-stage Repair

Two stage buccal mucosa - Own patients

2002 - 2007

n = 51 8 children

mean age 35 (5-71) yrs

Hypospadias cripples n = 32

Complex urethral strictures, Epispadias, BXO n = 19



One-stage vs. Two-stage Repair

Two stage buccal mucosa – Own patients

Complications first stage

Minor complications

6 (12%)

partial skin nekrosis, hematoma, bleeding
harvesting site, partial transplant nekrosis,
lymphedema

Failure

2 (4%)





One-stage vs. Two-stage Repair

Two stage buccal mucosa – Own patients

Complications second stage

Complications		11 (23%)
Fistula		8
	surgical closure	5
Stenosis		3
	dilatation, urethrotomy	
Failure		3 (6%)
Stenosis		3
	Mesh Graft	2
	Conduit	1

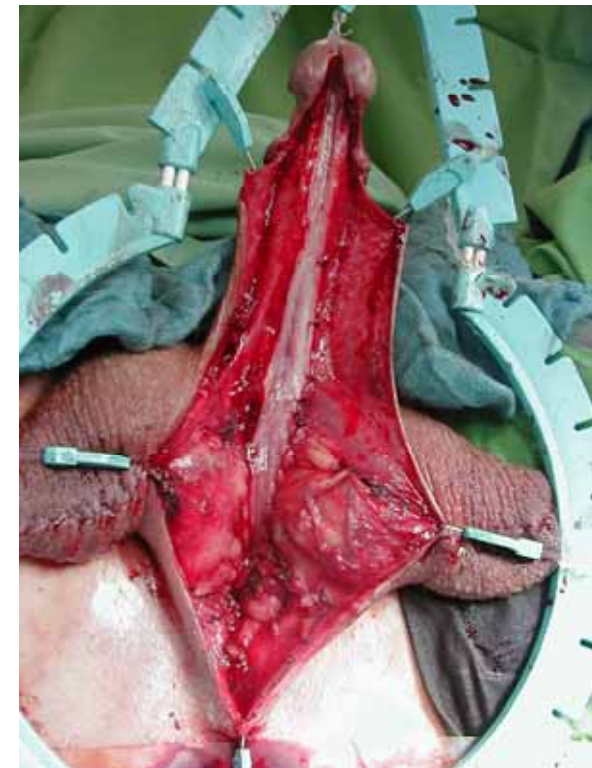




One-stage vs. Two-stage Repair

Two stage Meshgraft – Stricture > 12-15cm

- spatulation of the stenotic urethra and scrotum
- resection of the urethra if necessary
- tailoring of incision surface by horizontal scrotal sutures
- good vascularized bed
- blood controlling sutures of the corpus spongiosum

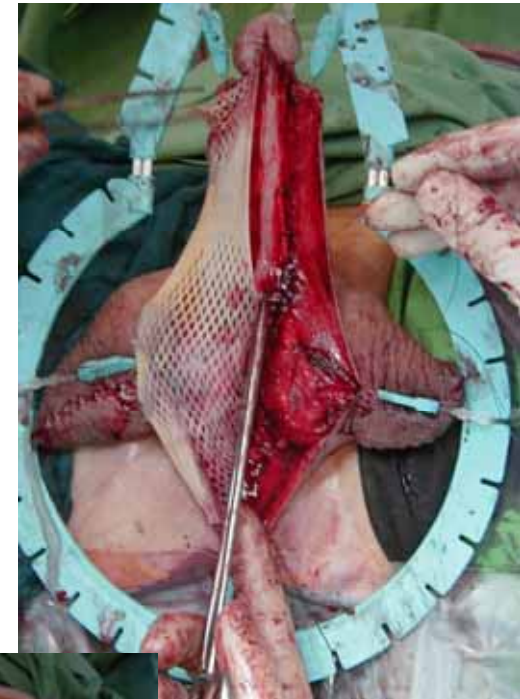




One-stage vs. Two-stage Repair

Two stage Meshgraft

- Site of graft harvesting: Inner thigh
- Mesh: 1:1.5
- Graft fixation: interrupted running sutures
- fibrin glue
- cystostomy
- comprehensive dressing for 7 days





One-stage vs. Two-stage Repair

Two stage Meshgraft

- Second stage after 3 months
- dissection in lateral direction
- closure over catheter
- VCUG after 10 days





One-stage vs. Two-stage Repair

Two stage Meshgraft - Own patients

1997 - 2009

n = 198

mean age 54 (18 - 79) yrs

Hypospadias cripples n = 5



One-stage vs. Two-stage Repair

Two stage Meshgraft - Own patients

Complications

Complications

51%

Minor complications

35.3%

fistula, hematoma, infection

Stenosis

15.7%

surgical correction

7%

Hypospadias – Stenosis

0%

fistula

1 (20%)





One-stage vs. Two-stage Repair

	Buccal mucosa	Meshgraft
Overall primary success rate	75% 38 / 51	84% 86 / 102
Overall final success rate	88% 45 / 51	92% 94 / 102





One-stage vs. Two-stage Repair

Literature - ReDo two-stage hypospadias repair

	pts.	Success rate (Surgical)
Bracka et al., Br J Urol 1995	>600	83%
Nitkunan et al., Paed Urol 1996	42	83%
Price et al., Br J Plast Surg 2003	31	71%
Snodgrass et al., J Urol 2004	25	88%
Barbagli et al., Eur Urol 2006	31	68%
Mokhless et al., J Urol 2007	19	
Barbagli et al., J Urol 2010	416	88%



One-stage vs. Two-stage Repair



Buccal mucosa (51)



Meshgraft (102)

Questionnaire

Follow-up

urinary stream good/excellent

34.8 (2-64)

56 (3-148) months

no residual urin

60%

84%

no or slight curvature

57%

87%

no or slight shortening penis

77%

69%

no or slight disturbance
of the erectile function

69%

62%

57%

45%



One-stage vs. Two-stage Repair

Thanks for your attention

