

# Center for Reconstructive Urethral Surgery



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# **3<sup>rd</sup> Masterclass of Andrology and Genitourethral Surgery**

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# Options for recurrent strictures after bulbar urethroplasty



# THE JOURNAL of UROLOGY®

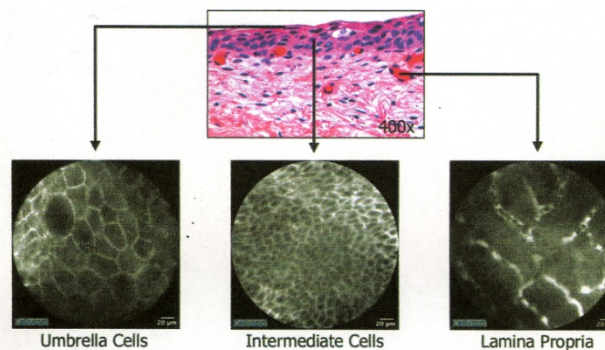
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Part 1 of 2

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Confocal laser endomicroscopy of bladder neoplasia (page 1299).

- Stricture Recurrence After Urethroplasty: Systematic Review
- Guideline for Management of Clinical T1 Renal Mass
- Incidence of Recurrent Frank Hematuria and Urological Cancers: Prospective 6.9 Years of Followup





# Success ? Failure

**“ Clinical outcome was considered a **failure** when any post-operative instrumentation was needed, including dilation “**

**J Urol 2007, 178:2470-2473**

**Eur Urol 2008, 53:828-833**

**BJU Int 2008, 102:853-860**

**J Urol 2009, 182: 548-557**

## **Follow-up criteria**

**“ Uroflowmetry and urine culture were repeated every 4 months in the first year and annually thereafter. When symptoms of decreased force of stream were present and uroflowmetry was less than 14 ml per second, urethrography urethral ultrasound and urethroscopy were repeated “**

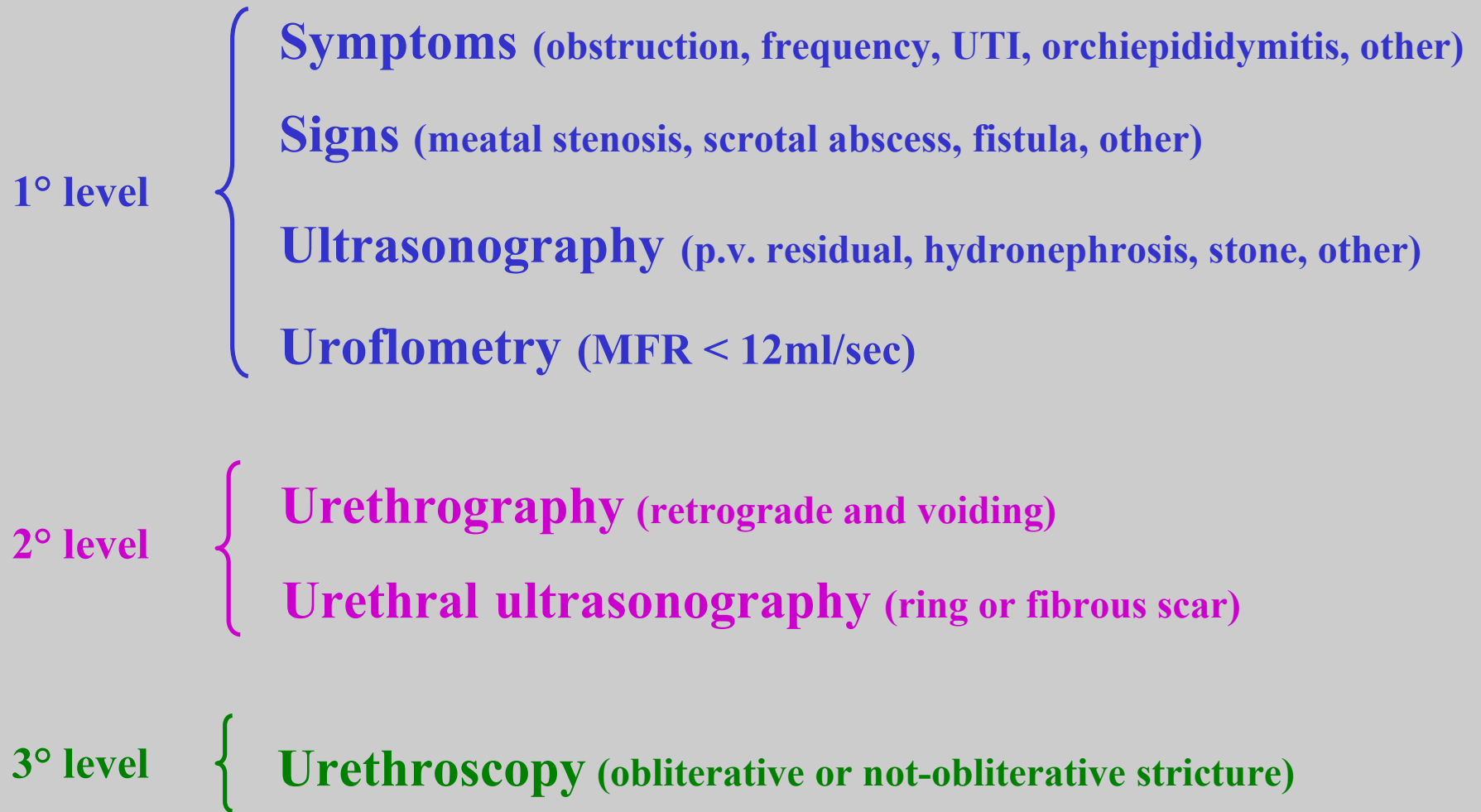
**J Urol 2007, 178:2470-2473**

**Eur Urol 2008, 53:828-833**

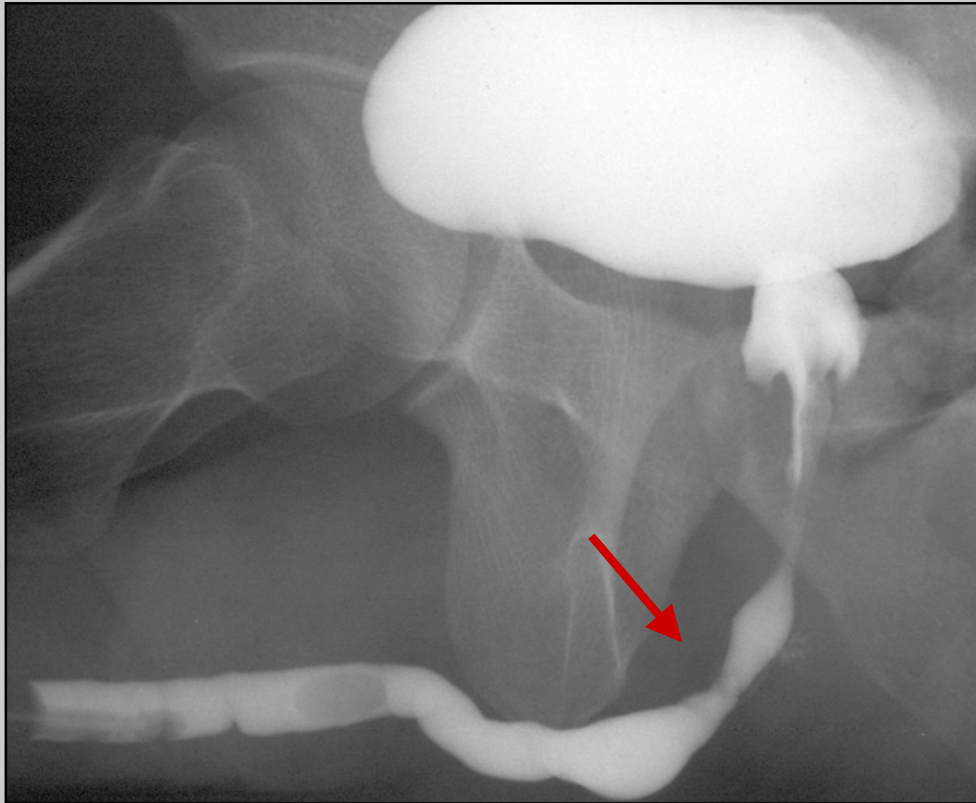
**BJU Int 2008, 102:853-860**

**J Urol 2009, 182: 548-557**

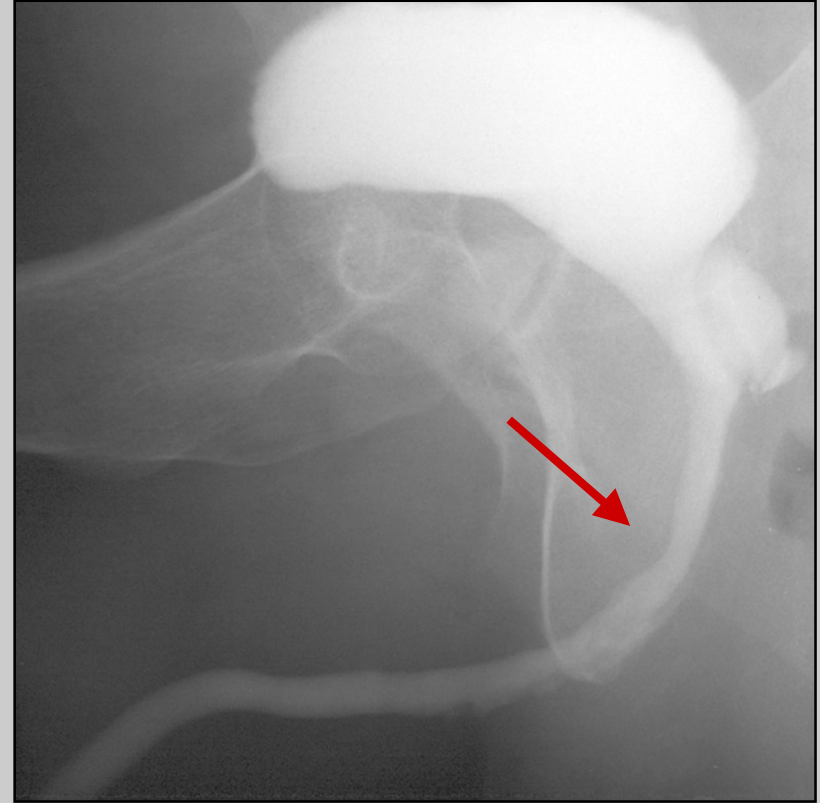
# Objective outcome measurement



# Urethrography



**retrograde**



**voiding**

# Urethrography



retrograde



voiding



# Voiding urethrography in patients who undergone bulbar urethroplasty



**excellent**



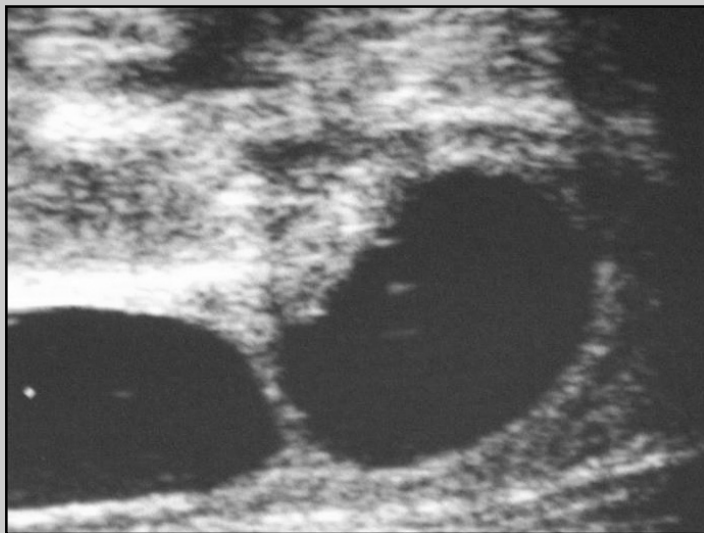
**satisfactory**



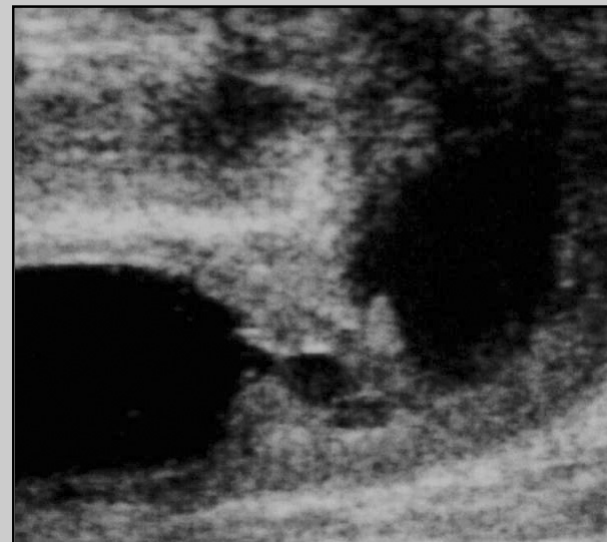
**poor**



# Urethral ultrasonography in patients who undergone bulbar urethroplasty

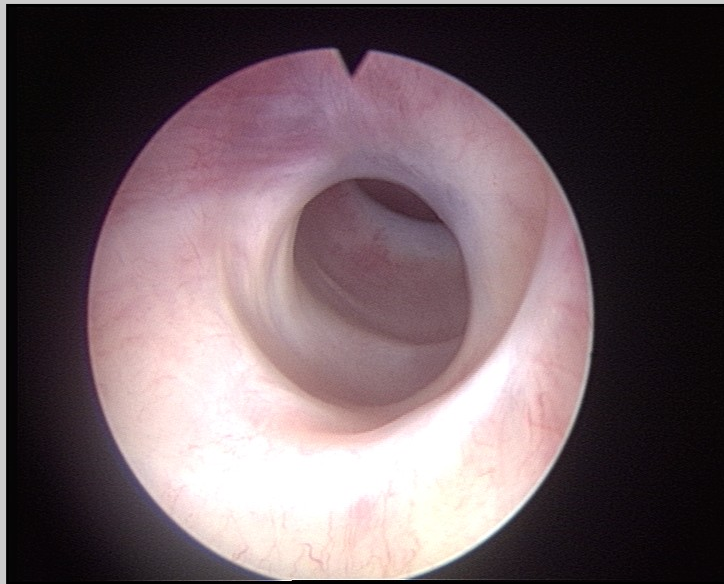


ring

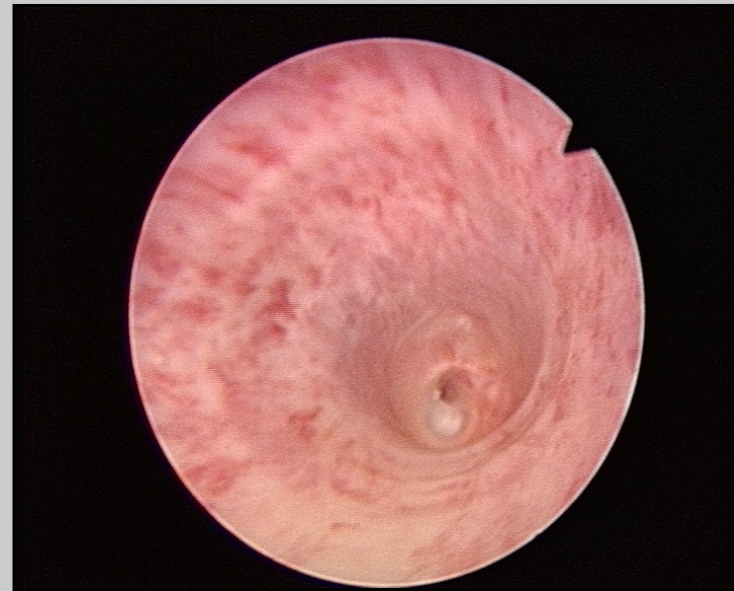


fibrous scar

# Urethroscopy in patients who undergone bulbar urethroplasty



**Non-obliterative**



**obliterative**

# Subjective outcome measurement

## Questionnaire



**A. R. Mundy**



**D. Andrich**



**M. Fish**



**G. Barbagli**



**M. Lazzeri**

# Bulbar urethroplasty



**End-to-end anastomosis**

**One-stage oral graft urethroplasty**

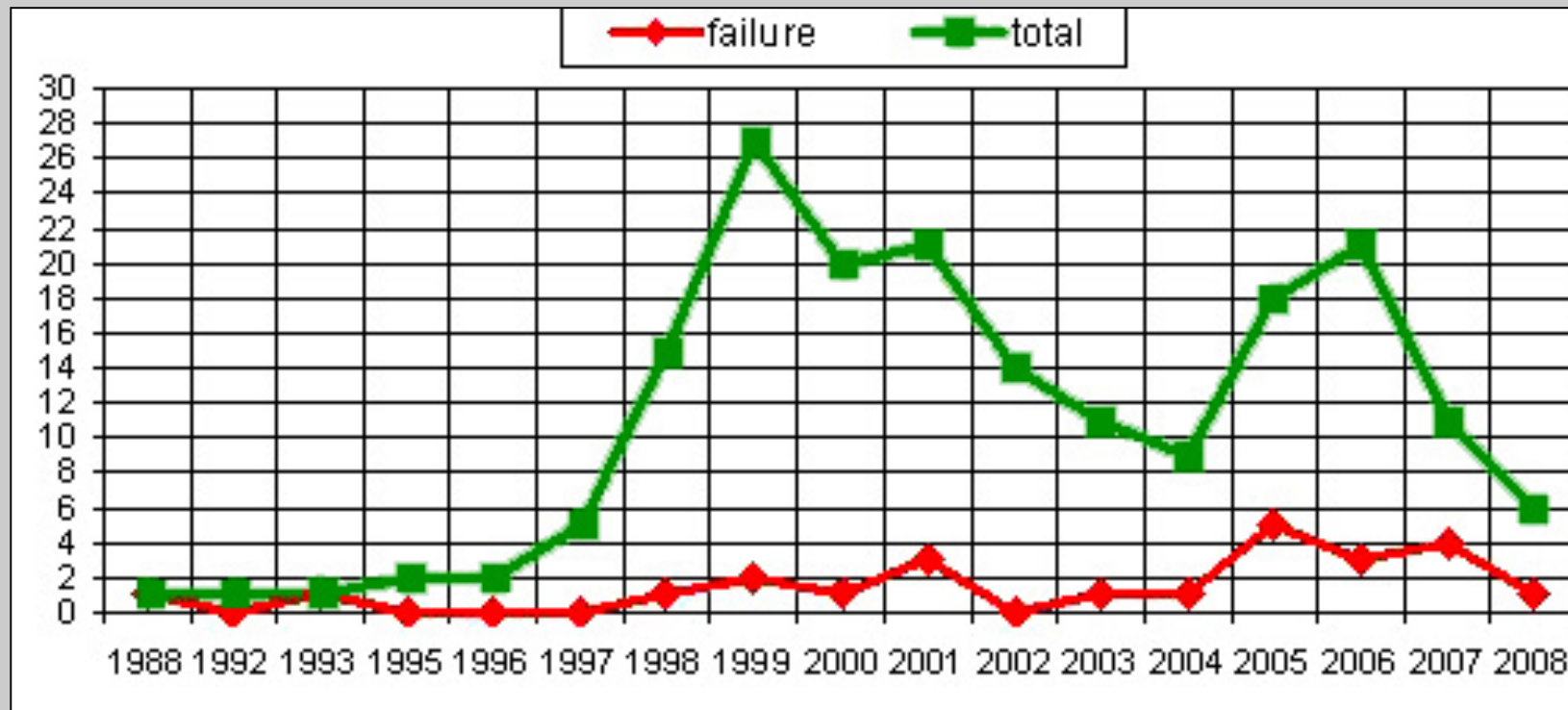
**Two-stage urethroplasty**

# Bulbar urethroplasty

<b>surgical technique</b>	<b>total</b>	<b>success</b>	<b>failure</b>	<b>median follow-up (months)</b>
<b>end-to-end anastomosis</b>	<b>185</b>	<b>161 (87%)</b>	<b>24 (13%)</b>	<b>85</b>
<b>oral mucosa urethroplasty</b>	<b>154</b>	<b>131 (85.1%)</b>	<b>23 (14.9%)</b>	<b>35</b>
<b>two-stage urethroplasty</b>	<b>58</b>	<b>36 (62.1%)</b>	<b>22 (37.9%)</b>	<b>80</b>
<b>total</b>	<b>397</b>	<b>328 (82.6%)</b>	<b>69 (17.4%)</b>	



## End-to-end anastomosis: 185 patients



161 success (87%)

24 failure (13%)



# Options for recurrent strictures after end-to-end anastomosis

**24 failures**

**17 urethrotomy (70.8%)**

**3 end-to-end anastomosis (12.5%)**

**2 perineal urethrostomy (8.3%)**

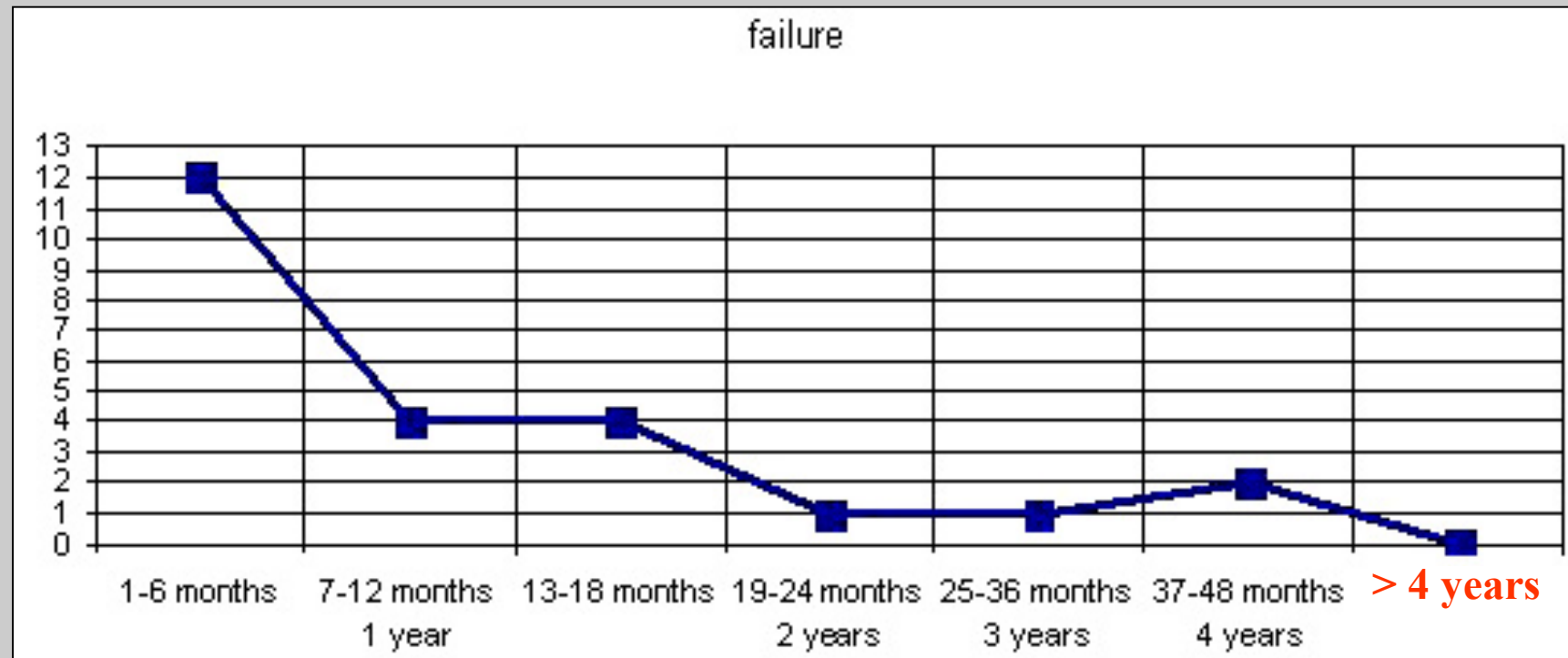
**1 two-stage urethroplasty (4.2%)**

**1 one-stage oral graft urethroplasty (4.2%)**

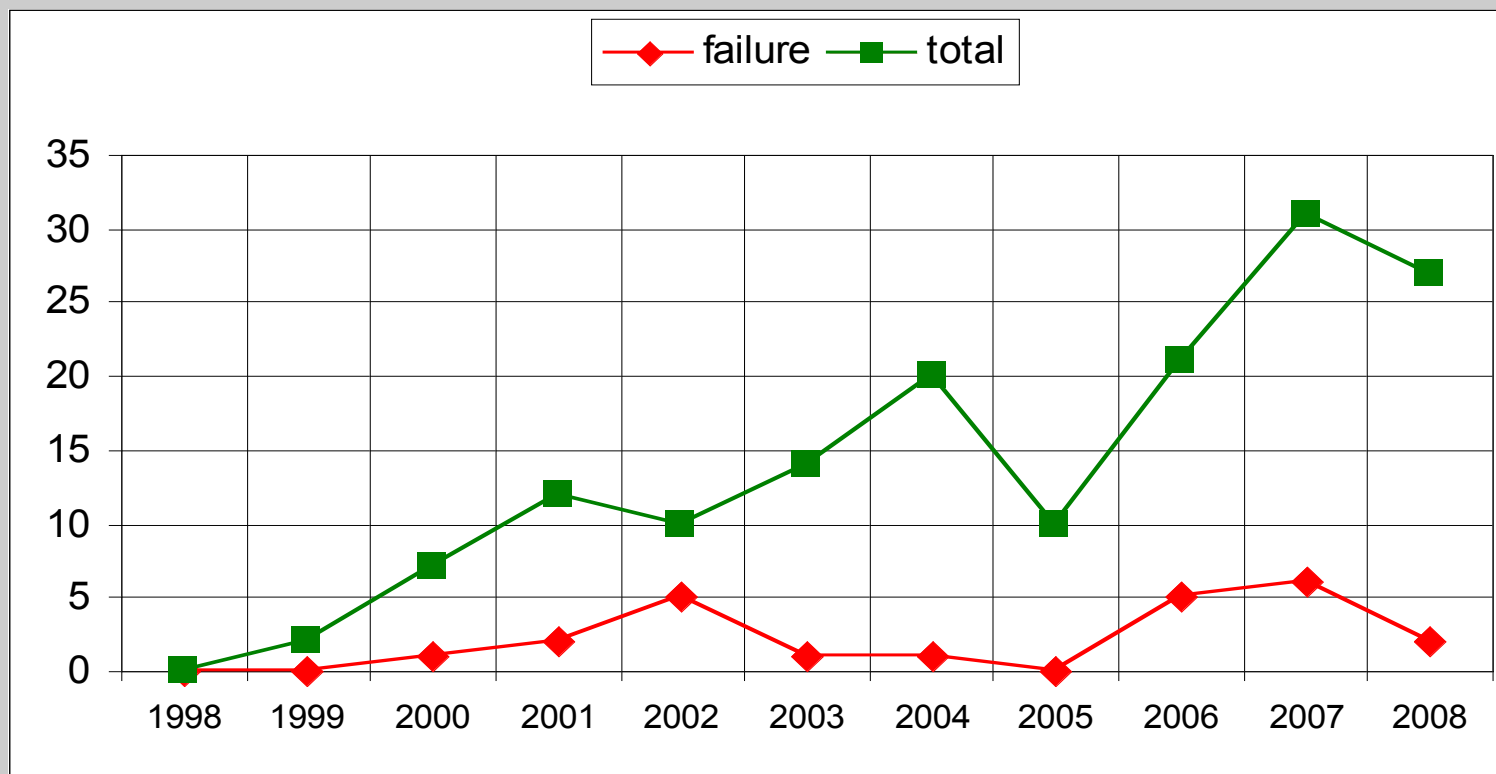
# Results in recurrent strictures after end-to-end anastomosis

	N. patients	success	failure	treatment		outcome
Urethrotomy	17	14 (82.3%)	3 (17.7%)	1 urethrotomy		success
				1 perineostomy	revision	success
				1 perineostomy		success
End-to-end anastomosis	3	3 (100%)				
Perineal urethrostomy	2		2 (100%)	11 revisions (diabetes)		success
				2 revisions		success
Two-stage urethroplasty	1	1 (100%)				
Oral mucosa graft	1	1 (100%)				
Total	24	19 (79.2%)	5 (20.8%)			

# End-to-end anastomosis



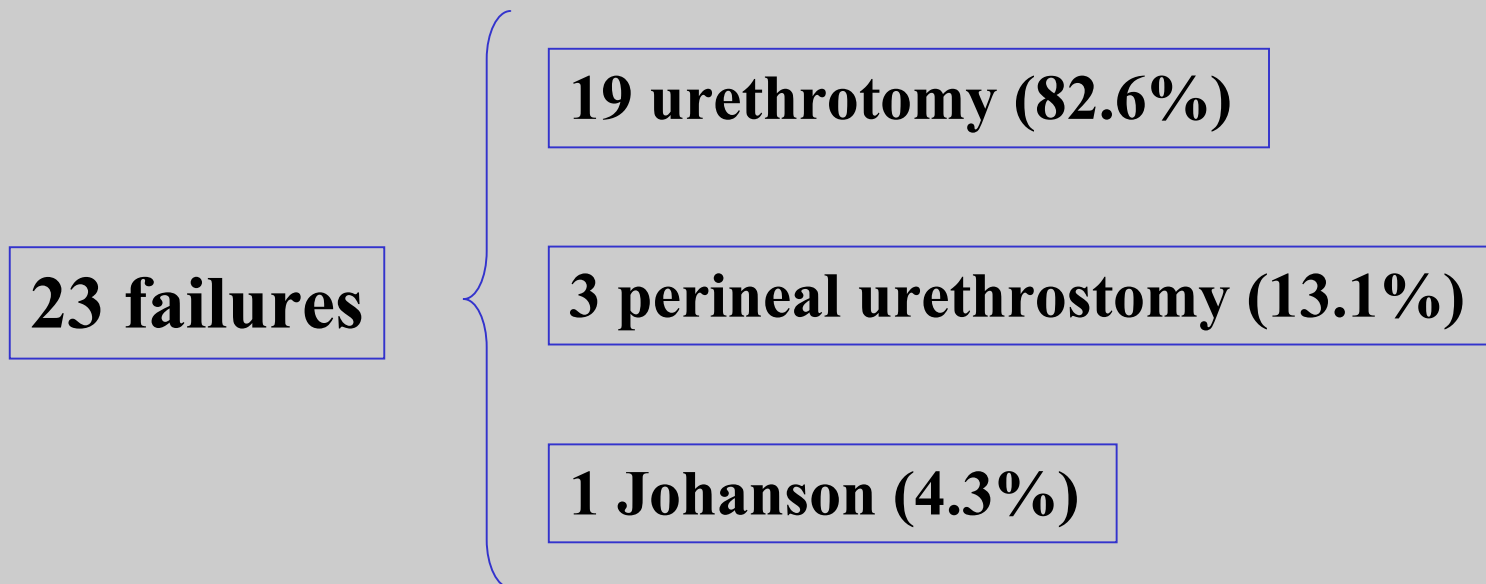
# One-stage oral graft urethroplasty: 154 patients



131 (85.1% ) success

23 (14.9% ) failure

# Options for recurrent strictures after one-stage oral graft urethroplasty

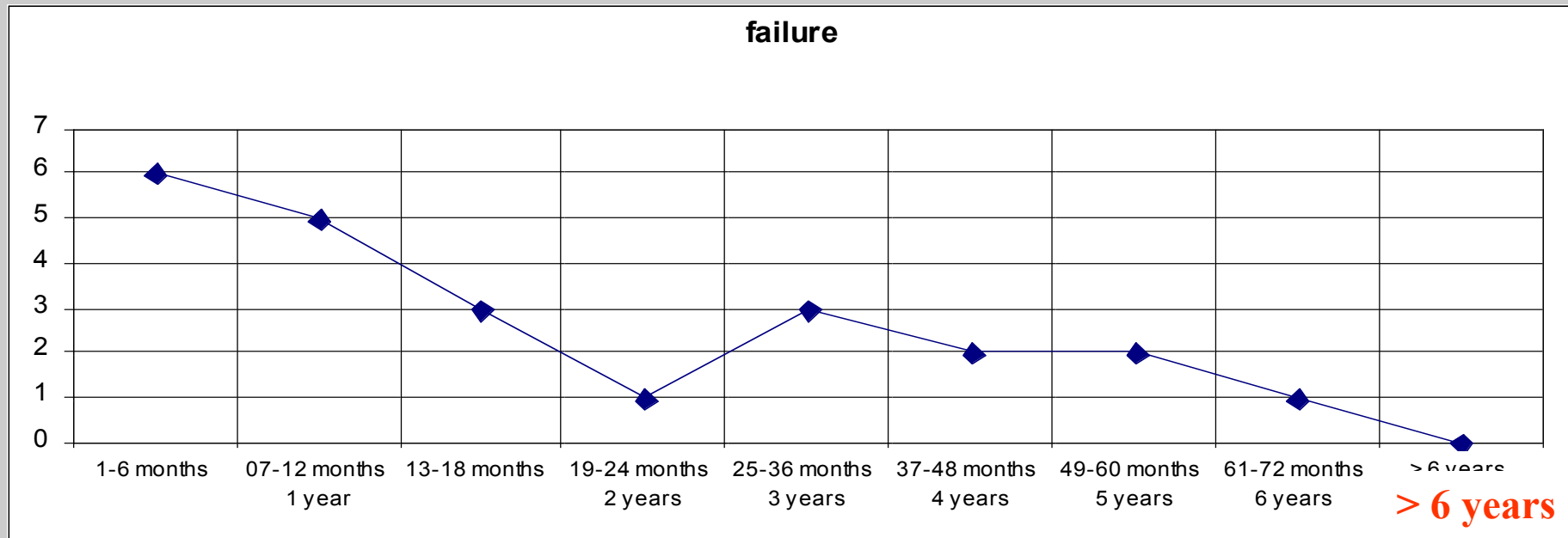


# Results in recurrent strictures after one-stage oral graft onlay urethroplasty

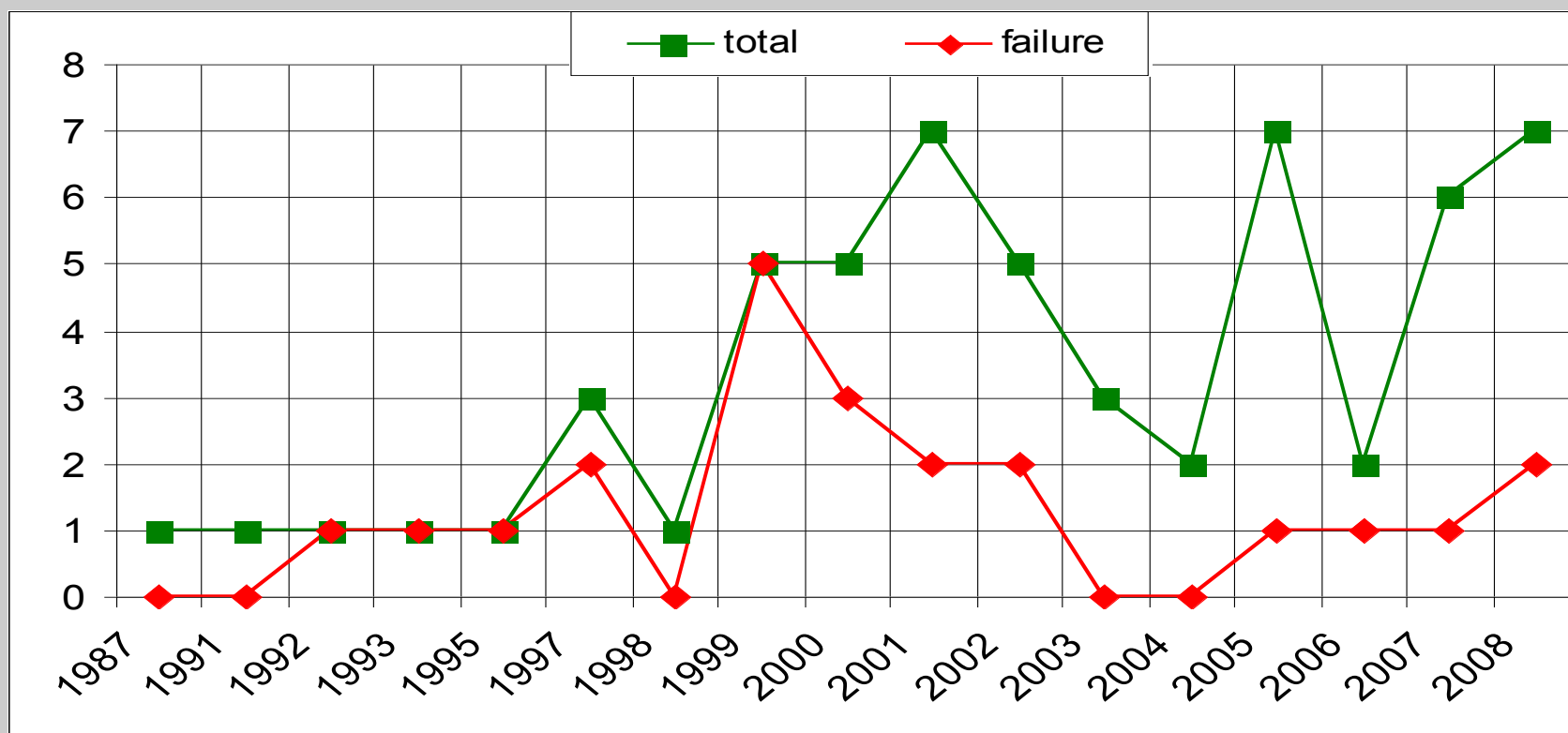
	N. patients	success	failure	treatment			outcome
Urethrotomy	19	8 (42.1%)	11 (57.9%)	1 urethrotomy (7 cases)			success
				1 urethrotomy	oral graft		success
				2 perineostomy			success
				1 end-to-end anastomosis	perineostomy	revision	success
Perineal urethrostomy	3	3 (100%)					
Johanson	1	1 (100%)					
Total	23	12 (52.2%)	11 (47.8%)				



# One-stage oral graft urethroplasty



# Two-stage urethroplasty: 58 patients



36 (62.1%) success

22 (37.9%) failure

# Options for recurrent strictures after two-stage urethroplasty

**22 failures**

**15 urethrotomy (68.3%)**

**5 perineal urethrostomy (22.7%)**

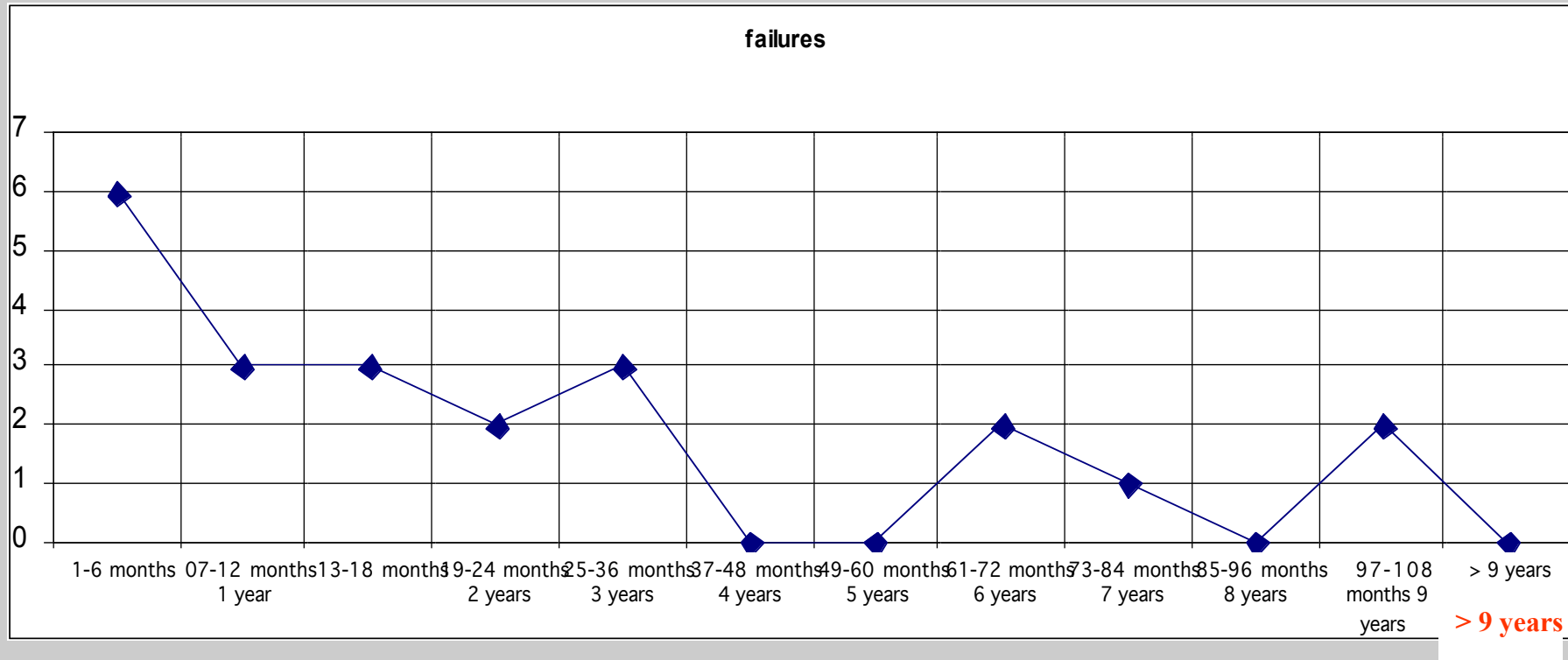
**1 Johanson (4.5%)**

**1 one-stage oral graft urethroplasty (4.5%)**

# Results in recurrent strictures after two-stage urethroplasty

	N. patients	success	failure	treatment			outcome
Urethrotomy	15	6 (40%)	9 (60%)	1 urethrotomy (3 cases)			success
				2 urethrotomies (1 case)			success
				1 perineostomy	revision		success
				1 urethrotomy	oral graft		success
				1 end-to-end anastomosis			success
				1 oral graft			success
				1 urethrotomy	oral graft	skin flap	success
Perineal urethrostomy	5	4 (80%)	1 (20%)	revision			success
Johanson	1		1 (100%)	perineal urethrostomy			success
Oral mucosa graft	1	1 (100%)					
Total	22	11 (50%)	11 (50%)				

# Two-stage urethroplasty



# Options for recurrent strictures after 397 bulbar urethroplasties

**69 failures**

**51 urethrotomy (73.9%)**

**10 perineal urethrostomy (14.5%)**

**3 end-to-end anastomosis (4.4%)**

**2 oral mucosal graft urethroplasty (2.9%)**

**2 Johanson (2.9%)**

**1 two-stage urethroplasty (1.4%)**



# Options for recurrent strictures after 397 bulbar urethroplasties

## Urethrotomy: 51 cases

**1 urethrotomy :**

<b>success</b>	<b>28 (54.9%)</b>
<b>failure</b>	<b>23 (45.1%)</b>

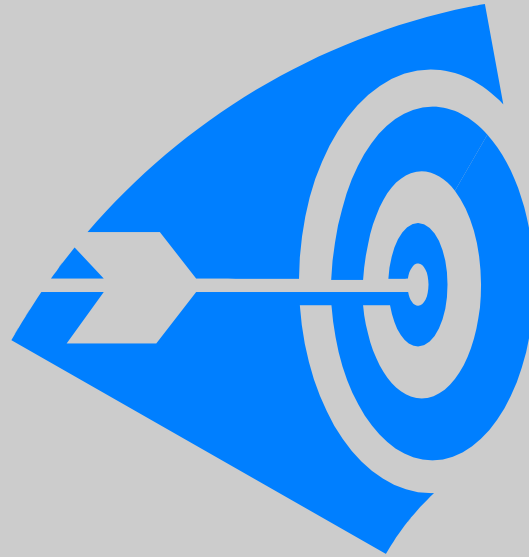
**23 failures:**

**14 cases: 2 urethrotomies : 11 success (78.5%)**

**1 case: 3 urethrotomies : 1 success (100%)**

**8 cases: other surgery**

# How many times can I repeat urethrotomy ?



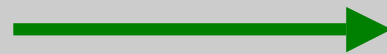
**It depends on how long the patient has been  
disease-free**

**< 1 year**

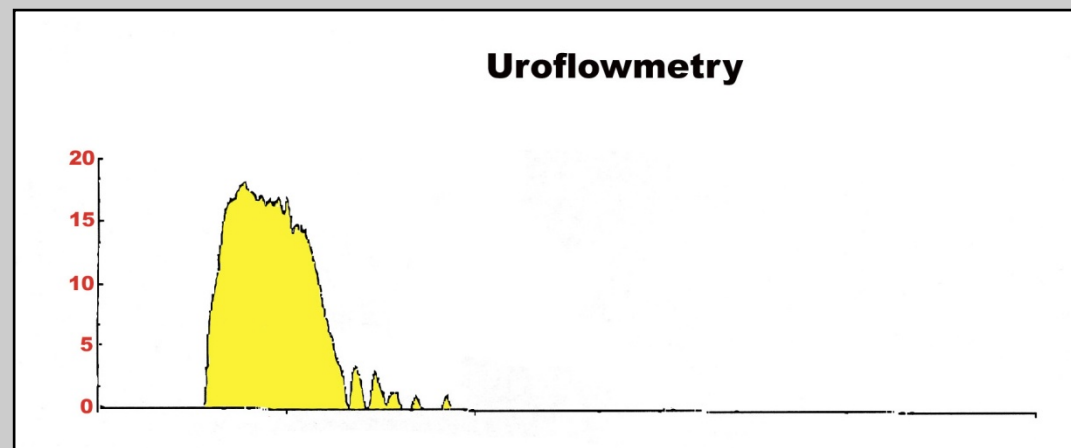


**I can't**

**> 1 year**



**I can**



**Which type of redo-urethroplasty ?**

# Redo-urethroplasty

	N. patients	primary repair	success	failure
Perineal urethrostomy	10	2 end-to-end 3 oral graft 5 two-stage	7 (70%)	3 (30%)
End-to-end anastomosis	3	end-to-end	3 (100%)	
Oral mucosa graft	2	end-to-end two-stage	2 (100%)	
Two-stage urethroplasty	1	end-to-end	1 (100%)	
Johanson	2	1 oral graft 1 two-stage	2 (100%)	

# **Options and results in recurrent strictures after bulbar urethroplasty**

**Urethrotomy 51 cases : 54.9% success (1 attempt)**

**Redo-urethroplasty 18 cases : 83.3% success**

# Algorithm in recurrent strictures after bulbar urethroplasty

