

# Improved Infection Outcomes After Mulcahy Salvage Procedure and Replacement of Infected IPP with Malleable Prosthesis

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# Mulcahy Salvage

- Revolutionized the management of the worst complication in prosthetic urology
  - 82% infection-free rate
  - Minimizes loss of penile size
  - Decreases time of sexual inactivity
  - Avoids difficult penile prosthesis reimplantation

# Mulcahy Salvage

- Many prosthetic surgeons have modified Mulcahy's original technique by using malleable instead of 3-piece IPP
- Aim of this study was to investigate the efficacy and safety of the modified Mulcahy salvage protocol

# Results

Surgical History	N	Salvage rate %
First time IPP	39	92.3% (36/39)
Previous IPP Surgeries (Mean 3.2, Range 1-9)	18	94.5% (17/18)
Total	57	93% (53/57)

# Materials and Methods

- Retrospective multi-institution study
  - Total OR time
  - Surgical OR time
  - Previous IPP surgical history
  - Follow-up history
  - Eventual outcome
  - Culture data

# Patient Data

Surgeon	Number of Patients
Dr. Francois Eid	22
Dr. Ricardo Munarriz	17
Dr. Rafael Carrion	11
Dr. Paul Perito	5
Dr. Larry Levine	1
Dr. Jason Greenfield	1
<b>Total</b>	<b>57</b>

# Patient Data

- Mean Age: 57.7 years
  - Range 26 to 79 years
- Time to salvage: 2 months
  - Range 2 weeks to 9 months
- Mean Surgical OR Time: 122 mins
  - Range 47 to 209 minutes

# Microbiology

## All Infections

Cultured Organism	Number of Patients
Coag. negative staphylococcus	14
Candida albicans	4
MRSA	4
Group B streptococcus	3
Escherichia coli	3
Prevotella bivia	2
Enterococcus faecalis	2
Pseudomonas aeruginosa	2
Peptostreptococcus	2
Clostridium innocuum	1
Bacteroides tectus	1
Lactobacillus acidophilus	1
Staph epidermidis	1
Klebsiella pneumoniae	1



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<i>Lactobacillus acidophilus</i>	<b>1</b>
Staph epidermidis	1
Klebsiella pneumoniae	1

# Malleable to IPP

- 15/38 salvaged patients later had replacement with IPP (28%)
  - Mean Time to IPP: 6.9 months
  - Range 1 to 29 months
- Mean age: 49.4 years
  - Range 26 to 71 years
- Previous surgeries
  - 8 new IPPs at time of infection
  - Other 7 averaged 3.5 previous cases

# Microbiology

## Malleable to IPP

Cultured Organism	Number of Patients
Coag. negative staphylococcus	5
MRSA	3
<i>Clostridium innocuum</i>	1
<i>Bacteroides tectus</i>	1
Enterococcus faecalis	1
Escherichia coli	1
Pseudomonas aeruginosa	1
<i>Candida albicans</i>	1

# Persistent Infection

- 4/57 (7%) required malleable explant
- Mean age: 60.3 years
  - Range 50 to 70 years
- Previous surgeries
  - New IPPs: 3 at time of infection
  - Revision IPP: 1 (two previous surgeries)

# Microbiology

## Persistent Infection After Salvage

	Cultured Organism at Salvage	Cultured Organism at Explant
#1	Coagulase negative staphylococcus	Coagulase negative staphylococcus, prevotella bivia, staphylococcus epidermidis
#2	Prevotella bivia	None
#3	Lactobacillus acidophilus	None
#4	MRSA	MRSA

# Limitations

- Retrospective study
- Small population of patients
  - Number reflects low infection rate over vast amount of implants

# Conclusions

- Improved infection-free rate with malleable vs. IPP Mulcahy salvage (93% vs. 82%)
- Feasible to convert malleable to IPP
- Broader antibiotic coverage needed?