

Patterns of care for prostate cancer

An update

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Detection

USA

AUA 2013

“Risks/benefits should be discussed with men 55-69 ”
Screening interval extended to 2 years

US Preventative Services Task Force 2012

*“The USPSTF recommends against PSA-based screening
for prostate cancer ”*

European guidelines

European Association of Urology

“Current published data are insufficient to recommend the adoption of population screening for prostate cancer as a public health policy because of the significant overtreatment that would result ”

Australia/New Zealand

USANZ

“PSA...together with DRE should be offered to men 55-69 after providing information about the risks and benefits of such testing ”

RCPA

“Men with PSA levels above age-adjusted median should be tested annually ”

RACGP

“Routine screening using DRE, PSA or US not recommended ”



Draft clinical practice guidelines PSA Testing and Early Management of Test-Detected Prostate Cancer

(Redirected from [Guidelines:PSATesting](#))

- Screening recommended for men 50-69
- DRE not mandatory
- Men with life expectancy <7 years should not be tested
- Active surveillance to be offered to men with low risk disease

Changing patterns of care: Transperineal biopsy

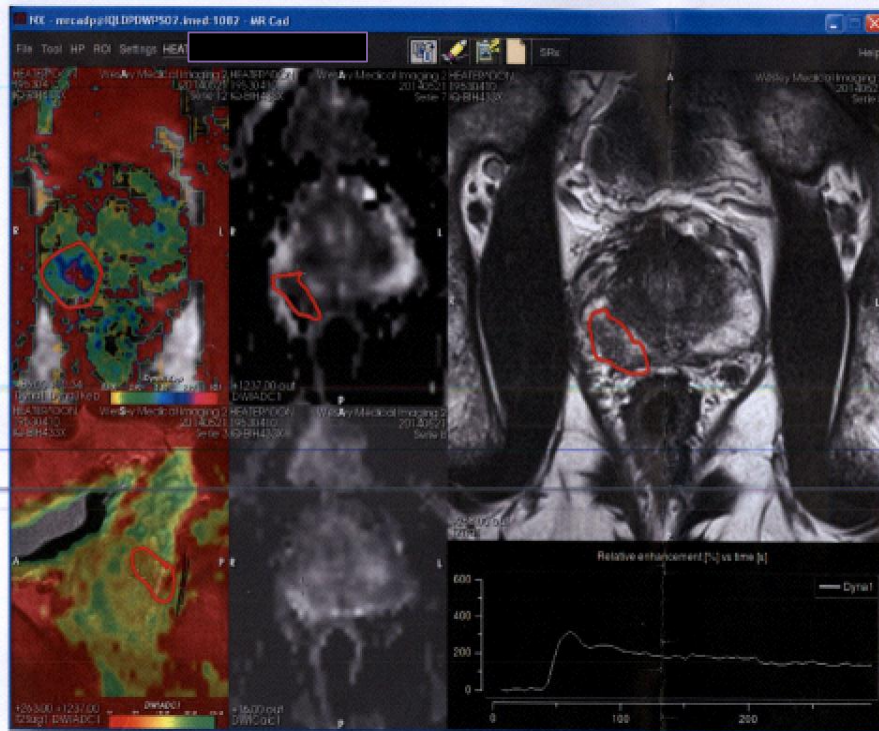
BJUI
BJU International

Sepsis and 'superbugs': should we favour the transperineal over the transrectal approach for prostate biopsy?

Jeremy P. Grummet^{†*†§°}, Mahesha Weerakoon[‡], Sean Huang^{*}, Nathan Lawrentschuk^{†‡}, Mark Frydenberg^{†§°}, Daniel A. Moon^{†‡§}, Mary O'Reilly^{§¶°} and Declan Murphy^{†‡}

**Alfred Health, †Epworth Healthcare, ‡Peter MacCallum Cancer Institute, §Cabrini Health, ¶Eastern Health Clinical School, and °Monash University, Melbourne, VIC, Australia*

Changing patterns of care: Multiparametric Prostate MRI



DON HEATER 10/4/53

PSA 5.1

T2W 5/5

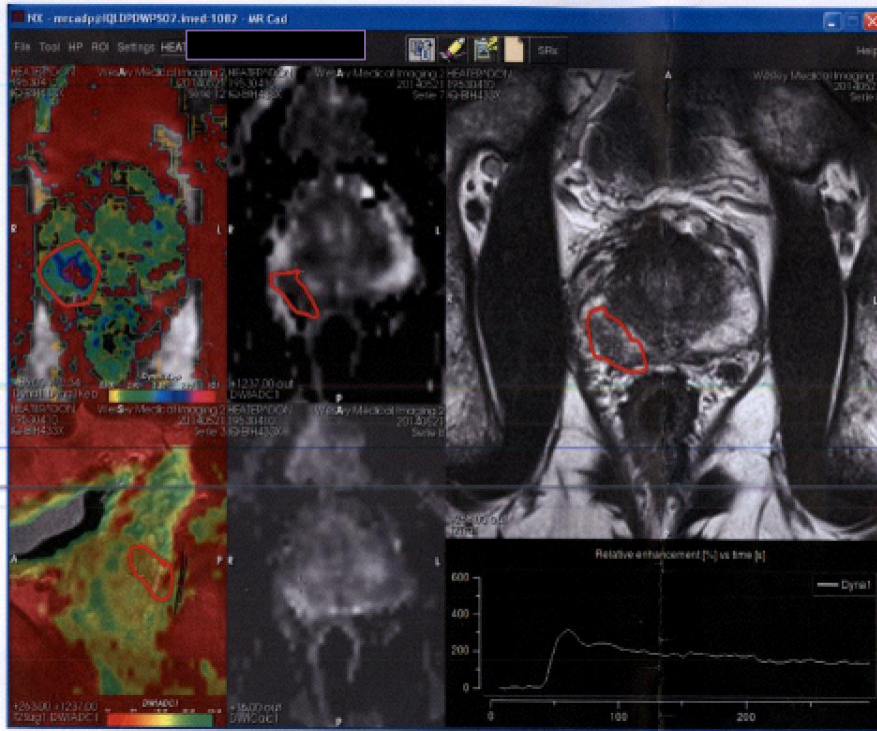
DWI 4/5 ADC 959

DCE 5/5

BEST FITS PIRADS 4

LT 21/5/14

Changing patterns of care: Multiparametric Prostate MRI



DON HEATER 10/4/53

PSA 5.1

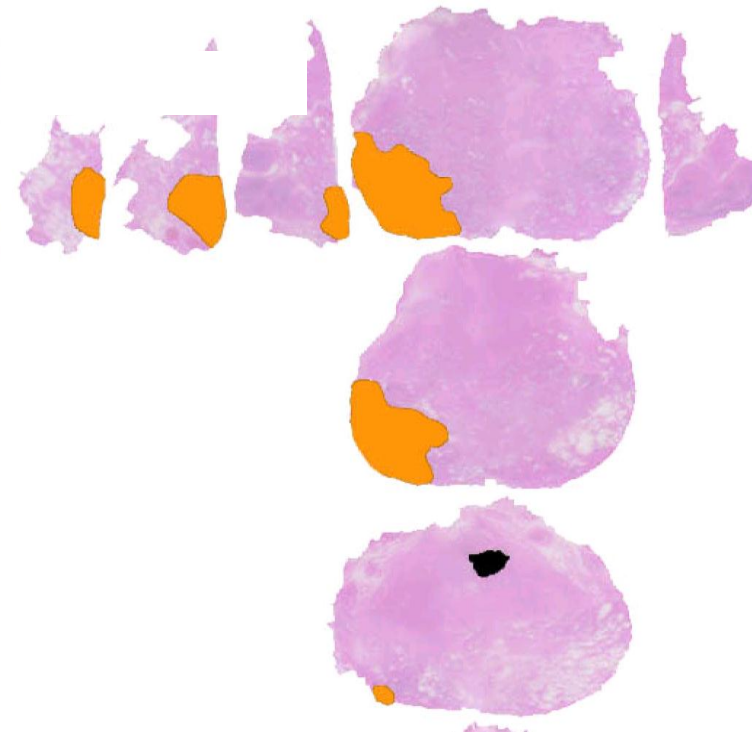
T2W 5/5

DWI 4/5 ADC 959

DCE 5/5

BEST FITS PIRADS 4

LT 21/5/14



Treatment

Not all prostate cancer is lethal!

Low volume

Early stage

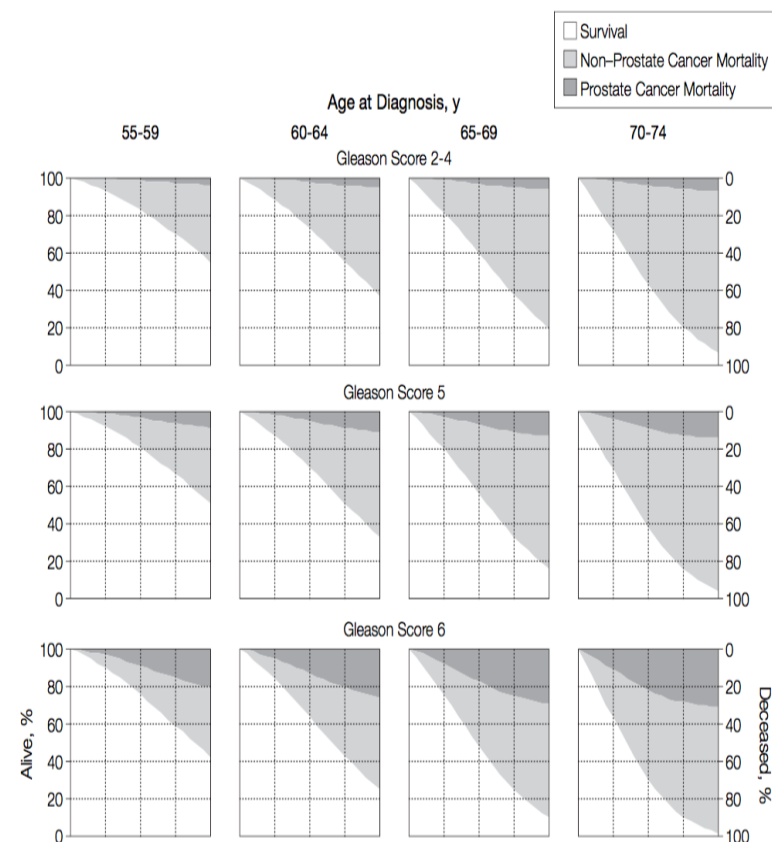
Low grade (Gleason 3+3=6)

PSA <10

Age >60

➔ Active surveillance

Figure. Survival and Cumulative Mortality From Prostate Cancer and Other Causes Up to 20 Years After Diagnosis, Stratified by Age at Diagnosis and Gleason Score

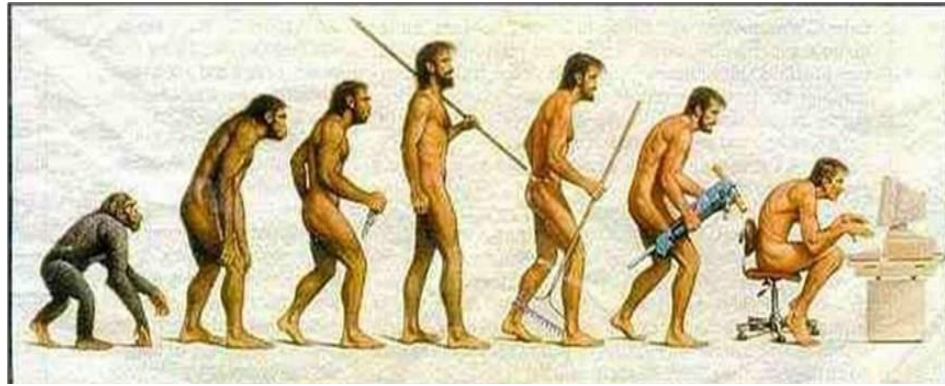


Albertsen et al, JAMA 2005

Treatment options

- Surgery – radical prostatectomy
- Radiation therapy
 - EBRT
 - Seed brachytherapy
 - HDR brachytherapy
- Focal therapy?
- Low risk disease
 - Surveillance
- More aggressive disease
 - Surgery best local control
 - Radiation best as adjuvant/salvage treatment?

Improving treatment – Evolution of surgery



Positive Surgical Margin and Perioperative Complication Rates of Primary Surgical Treatments for Prostate Cancer: A Systematic Review and Meta-Analysis Comparing Retropubic, Laparoscopic, and Robotic Prostatectomy

Ash
Apri

Platinum Priority – Prostate Cancer

Editorial by Joshua J. Meeks and James A. Eastham on pp. 686–687 of this issue

* Instit
Colleg
Swede
Surgic

Perioperative Outcomes of Robot-Assisted Radical Prostatectomy Compared With Open Radical Prostatectomy: Results From the Nationwide Inpatient Sample

Quoc-D
Marco
Claudio
Mani N
Eur Urol. 2012 Sep;62(3):405-17. Epub 2012 Jun 1.

Systematic Review and Meta-analysis of Studies Reporting Urinary Continence Recovery After Robot-assisted Radical Prostatectomy

Eur Urol. 2012 Sep;62(3):418-30. Epub 2012 Jun 1.

* Vattikuti U
Center, Mon
Milan, Italy;
Eppendorf, I

Ficarra V, Novara
Stolzenburg JU, V
University of Padua

Systematic Potency Ra

Ficarra V, Novara C
VR, Van der Poel H
University of Padua,

International Journal of Urology (2013)

doi: 10.1111/iju.12070

Review Article

Robot-assisted radical prostatectomy compared with open and laparoscopic approaches: A systematic review and meta-analysis

Patrick S Moran,¹ Michelle O'Neill,¹ Conor Teljeur,¹ Martin Flattery,¹ Linda A Murphy,¹ Gordon Smith² and Máirín Ryan¹

¹Health Technology Assessment, Health Information and Quality Authority, and ²Department of Urology, Beaumont Hospital, Dublin, Ireland

Victorian patterns of care 2010-2013

Radical prostatectomy

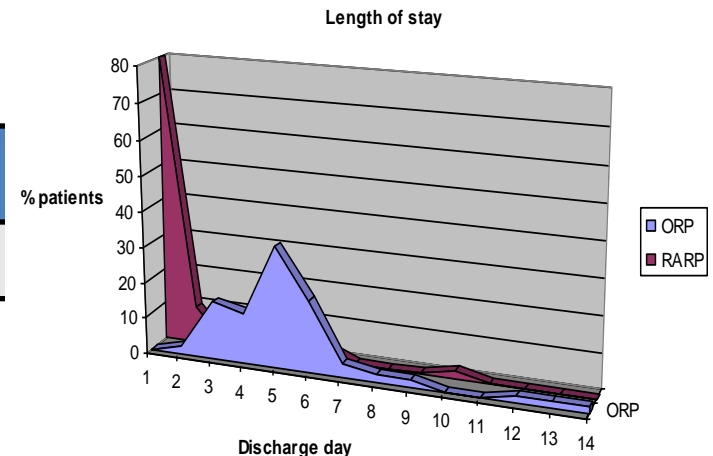
Basto, Ryan, Heriot, Moon, Murphy et al 2014

Blood transfusion rate

Public ORP	Public LRP	Public RARP	p-value	Private ORP	Private MIP	p-value
15%	6%	0%	<0.001	17%	2%	<0.001

Length of stay

Public ORP	Public LRP	Public RARP	p-value	Private ORP	Private MIP	p-value
4.82	3.57	1.67	<0.001	5.24	3.07	<0.001



Changing patterns of care: Older men



Early urinary continence recovery after robot-assisted radical prostatectomy in older Australian men

Marnique Y. Basto^{*†}, Chinni Vidyasagar^{*}, Luc te Marvelde[‡], Helen Freeborn^{*},
Emma Birch^{*}, Adam Landau^{*}, Declan G. Murphy^{*†§¶} and Daniel Moon^{*§¶**}

^{}Peter MacCallum Cancer Centre, [†]Department of Medicine, Dentistry and Health Sciences, The University of Melbourne, [‡]Centre for Biostatistics and Clinical Trials, Peter MacCallum Cancer Centre, [§]Epworth Hospital Richmond, [¶]Australian Prostate Cancer Research Centre, and ^{**}Cabrini Healthcare, Melbourne, VIC, Australia*



Changing patterns of care: High risk disease

BMJ



BMJ 2014;348:g1502 doi: 10.1136/bmj.g1502 (Published 27 February 2014)

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Comparative effectiveness of radical prostatectomy and radiotherapy in prostate cancer: observational study of mortality outcomes

Subgroup analyses indicated more clear benefits of surgery among younger and fitter men with intermediate and high risk disease. Sensitivity analyses confirmed the main findings.

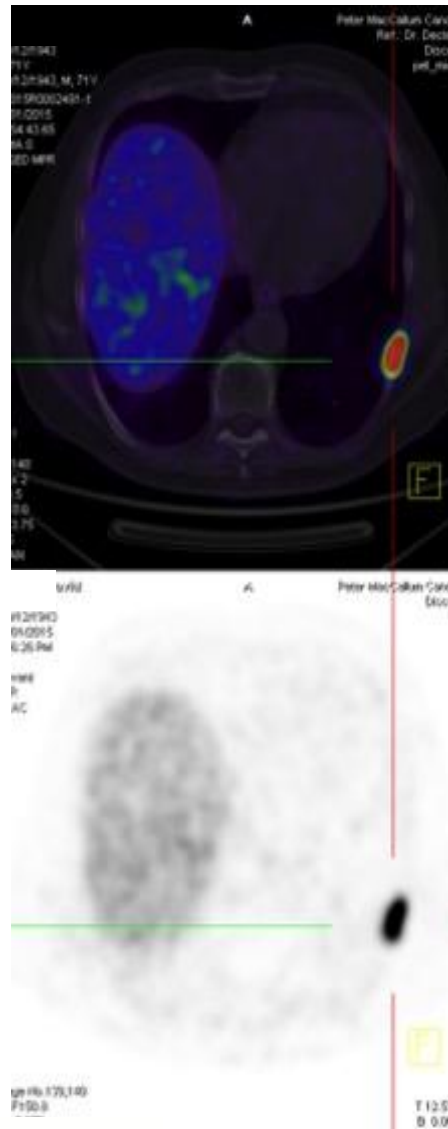
Staging/Re-staging

^{68}Ga -PSMA PET imaging

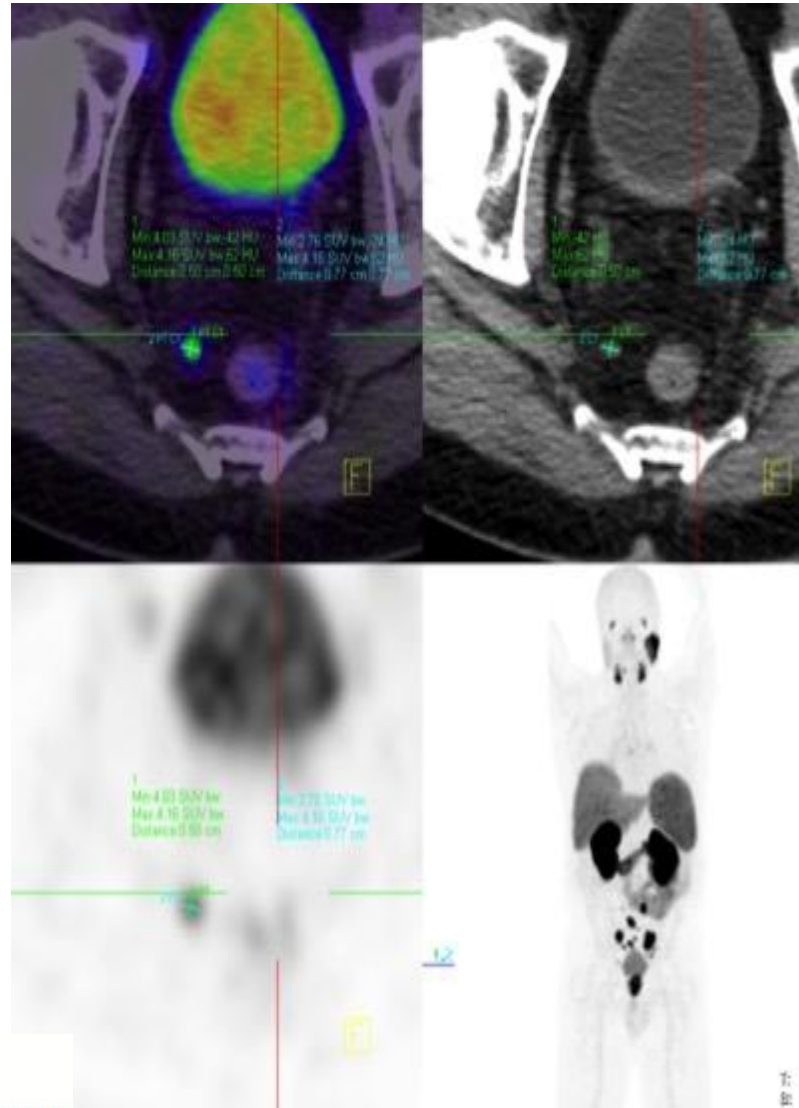
- Small polypeptide PSMA ligand
 - Not an antibody
 - Rapid circulation and uptake
 - Rapid blood pool clearance (low noise)
- Avoids need for cyclotron produced tracers
 - Ease of production
 - Short half life



68yo. RARP 2011. PSA 4. CT normal; Bone scan equivocal



67yo. CLL in remission (multiple nodes).
PSA 13; cT3b; Gleason 4+4=8



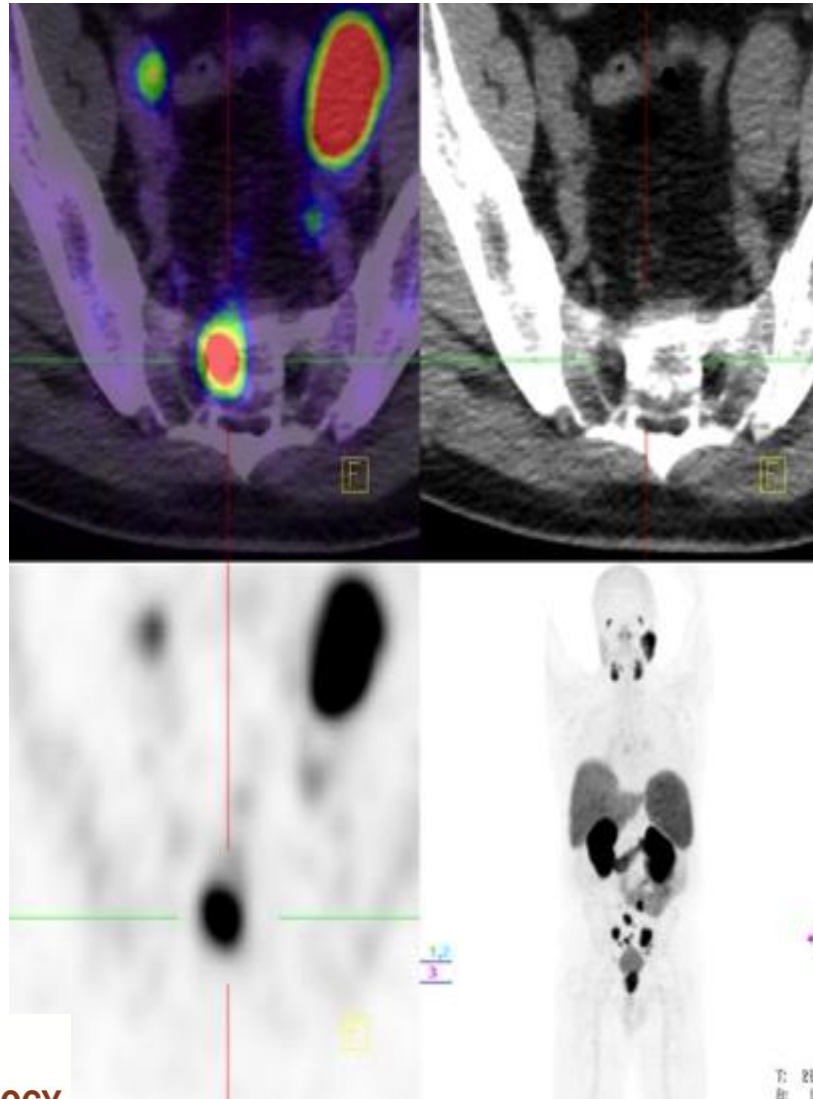
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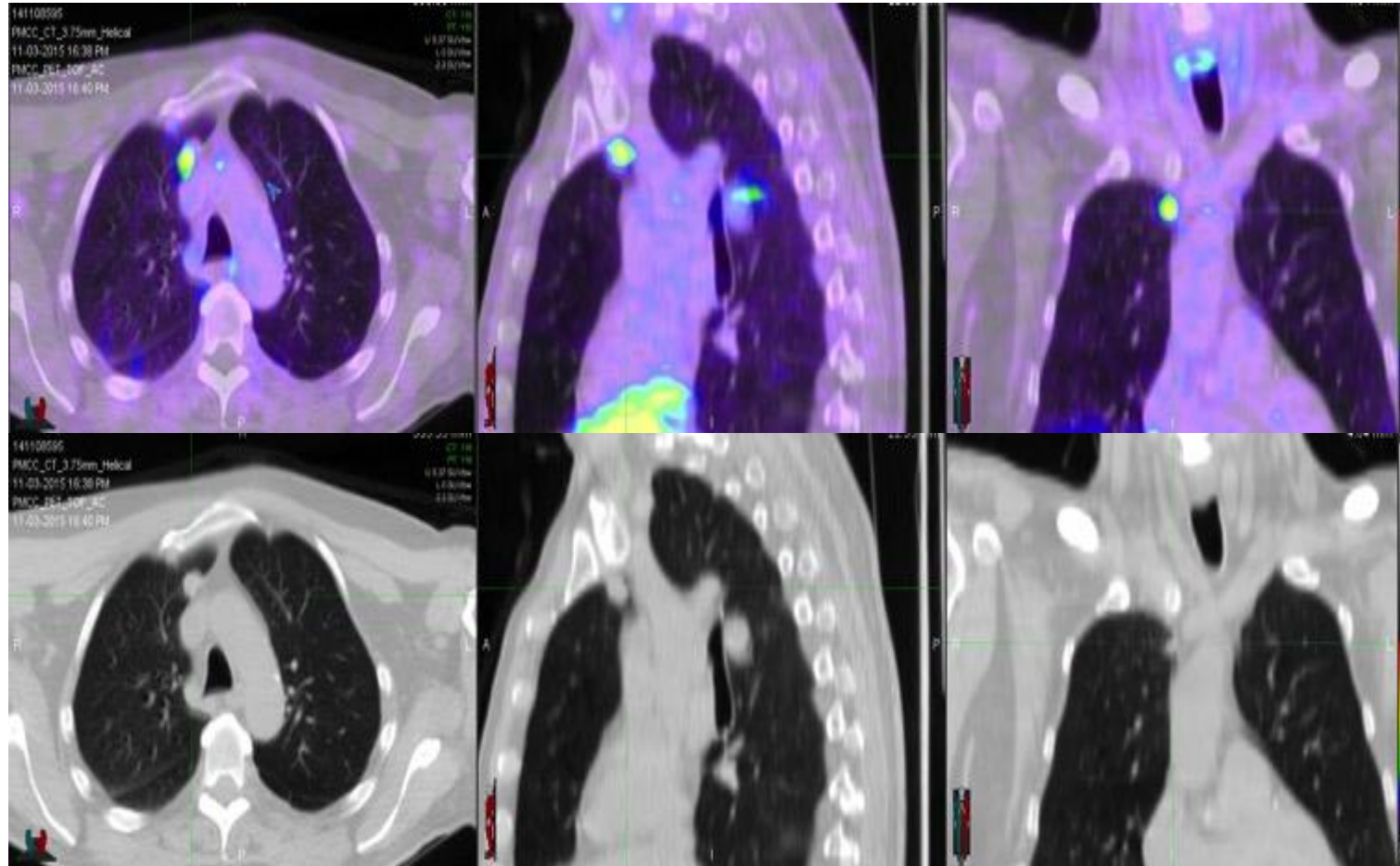
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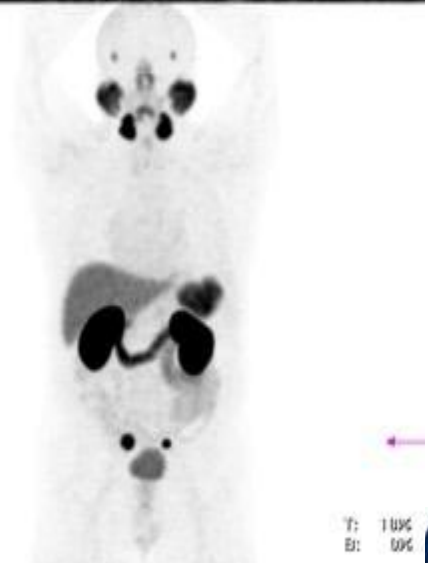
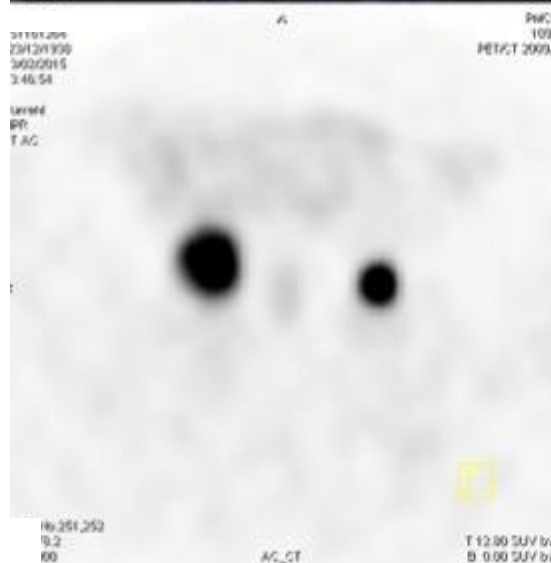
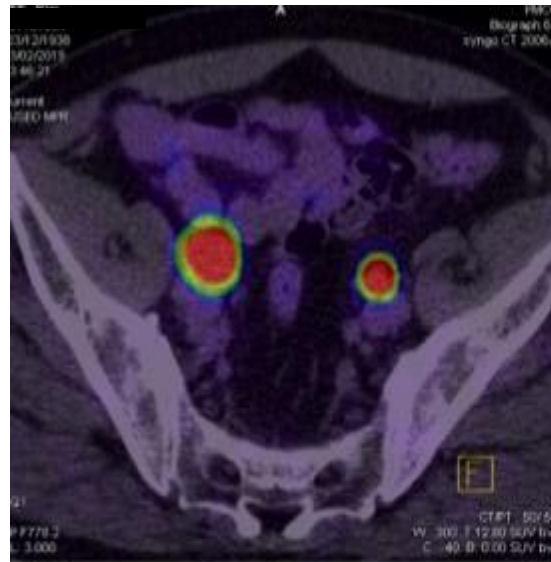
67yo. ORP pT3a 4+3=7. Salvage EBRT. PSA 0.9
CT abdo pelvis & bone scan negative

67yo. ORP pT3a 4+3=7. Salvage EBRT. PSA 0.9
CT abdo pelvis & bone scan negative



VATS lobectomy Gleason 4+4=8 prostate cancer

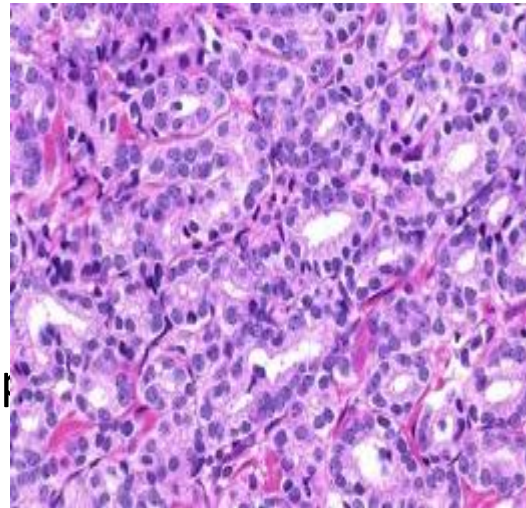
67yo. HDR/EBRT 2012. PSA rising, now 12.1



67yo. HDR/EBRT 2012. PSA rising, now 12.1

Salvage pelvic lymph node dissection
Gleason 4+4=8 in these two nodes (2 of 11)

PSA drop



Management of advanced disease

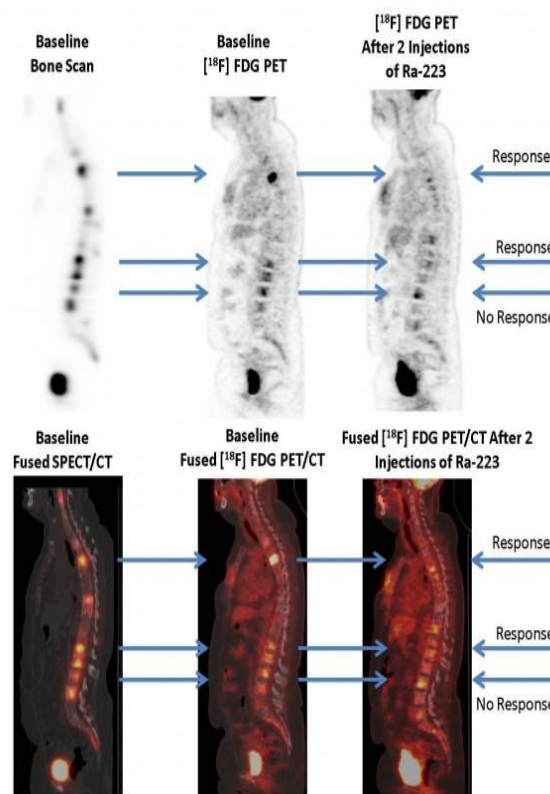
Multiple systemic options

- ADT remains first line treatment
 - Reduce morbidity by:
 - Intermittent therapy
 - Exercise regime
 - Vitamin D/calcium supplementation
 - Zoledronic acid, denosumab
 - LHRH antagonist reduced cardiac risk?

Sequencing of newer agents

- Chemotherapy (docetaxel)
 - Up front for men with high volume metastatic disease
- Abiratarone
- Enzalutamide
- Radium-223

[¹⁸F] FDG PET/CT at Baseline and After 2 Injections of Ra-223



Images obtained after 2 injections of Ra-223 showed a significant decrease ($\geq 25\%$ decrease of SUV_{max} from baseline) in [¹⁸F] FDG uptake intensity in multiple bone mets located in the thoracic and lumbar spine, indicating a partial metabolic treatment response at the level of the tumor cells early during Ra-223 therapy.

Flamen et al, J Nucl Med. 2013; 54 (Suppl 2):647

Advances in prostate cancer care

- Evidence based screening guidelines
- Superior detection of significant disease
- Better surveillance for low risk disease
- Improved staging scans
- Reduced morbidity of treatment
- Multimodal treatment for high risk disease
- Multiple agents available for metastatic disease

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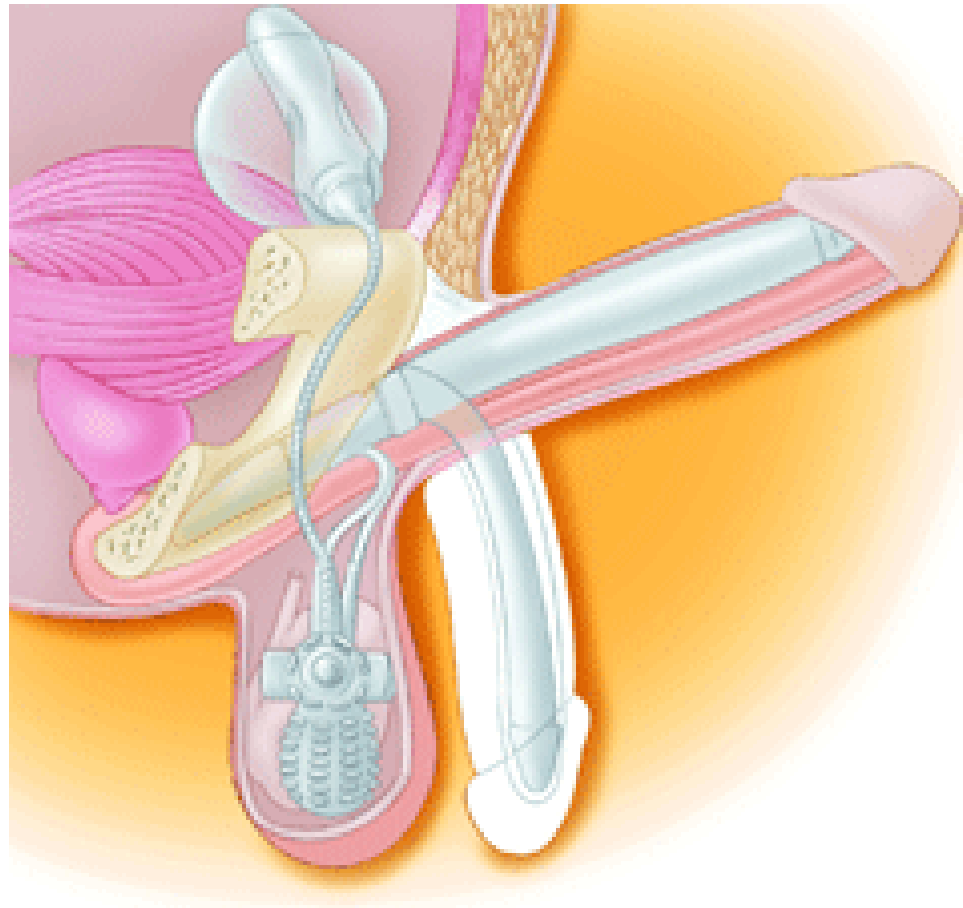
Management of post-prostatectomy ED and incontinence

First line management of ED

- Early penile rehabilitation post nerve-sparing
- Initial management – ‘goal directed’
- Modify risk factors (lifestyle/medication/psych)
- Least to most invasive treatment trial
 - Oral medication
 - Vacuum device
 - Intracavernosal injections



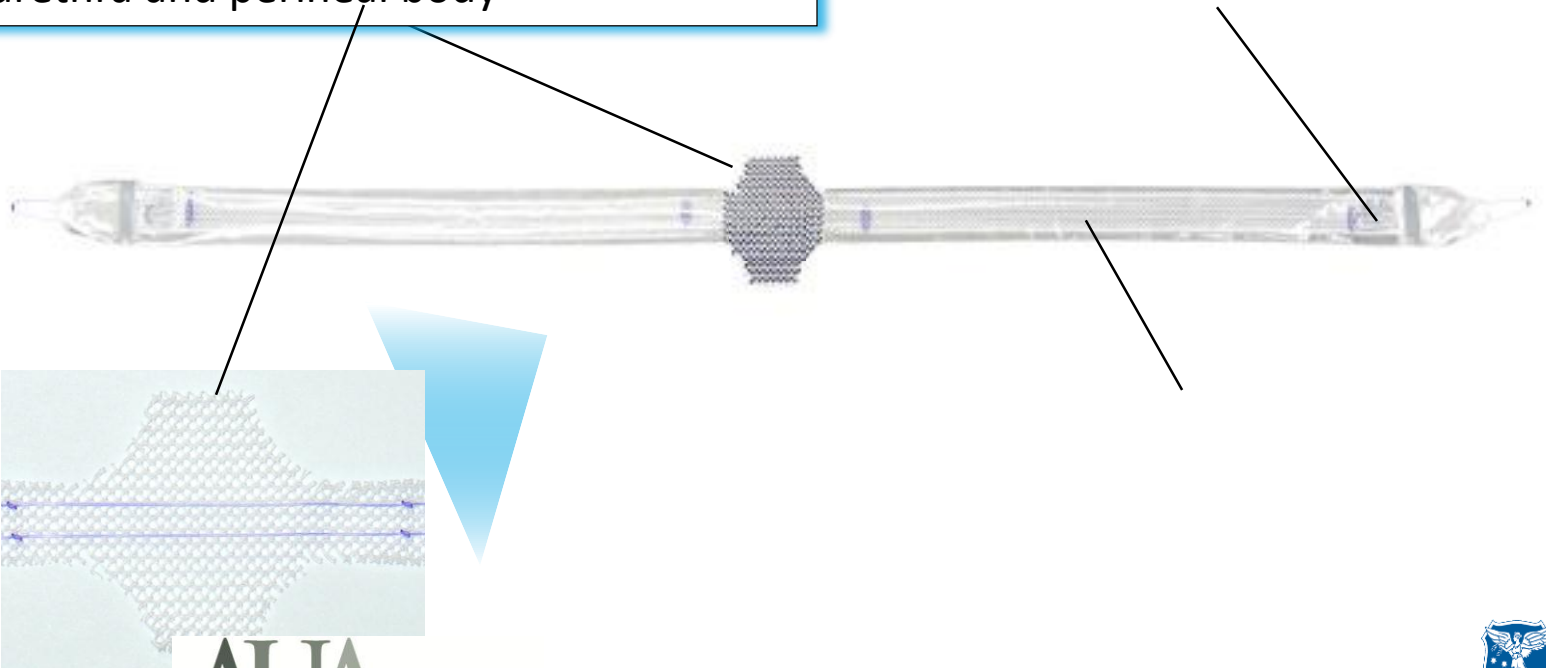
Inflatable implants



Male sling

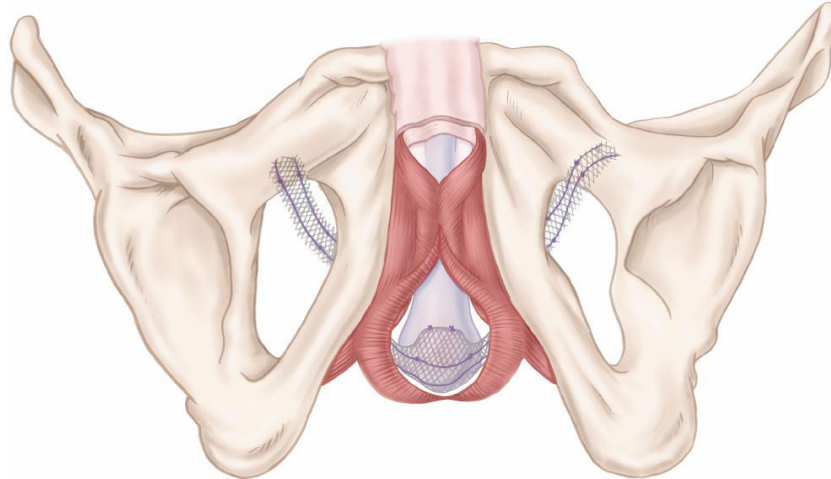
- Trans-obturator passage of polypropylene mesh

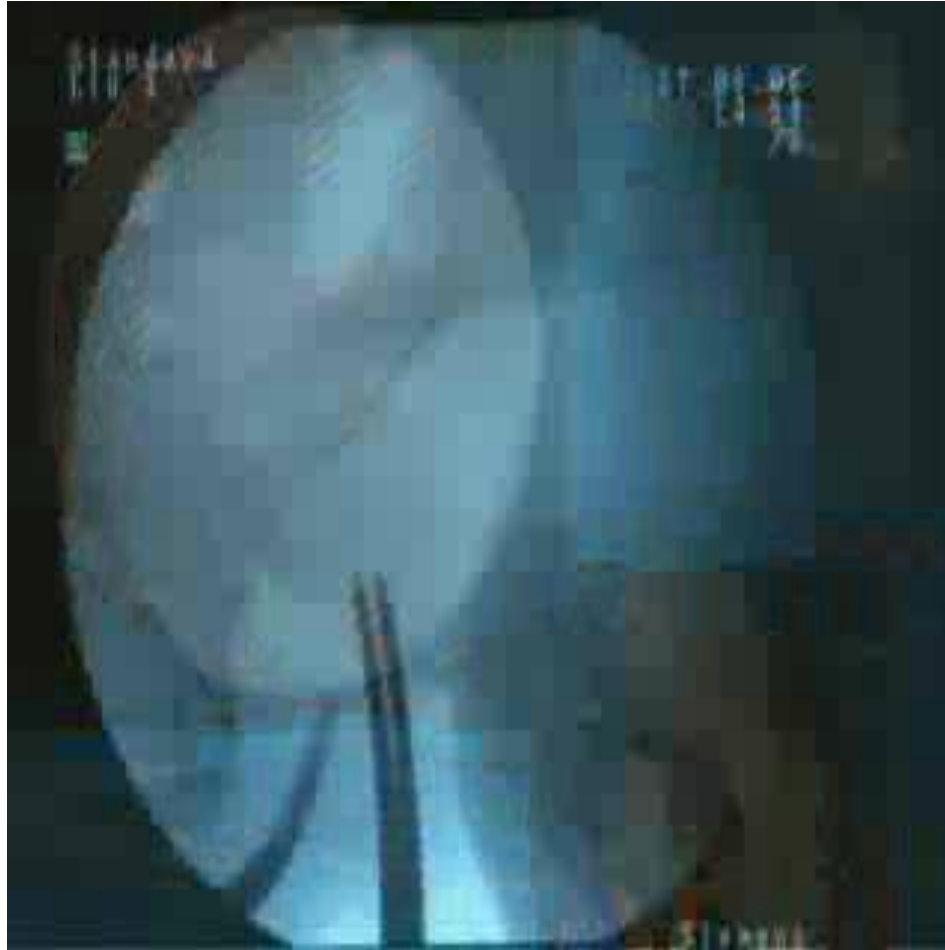
Broad center allows fixation to corpus spongiosum and support of the bulbar urethra and perineal body



Mechanism of action

- The sling is placed on the proximal urethral bulb
- Tensioning the sling elevates the dorsal aspect of the sphincteric urethra and supporting structures





Artificial urinary sphincter

Outcomes of artificial urinary sphincter implantation in the irradiated patient

Niranjan J. Sathianathan, Sean M. McGuigan* and Daniel A. Moon*

Faculty of Medicine, Nursing and Health Sciences, Monash University, and *Epworth HealthCare, Melbourne, Vic., Australia

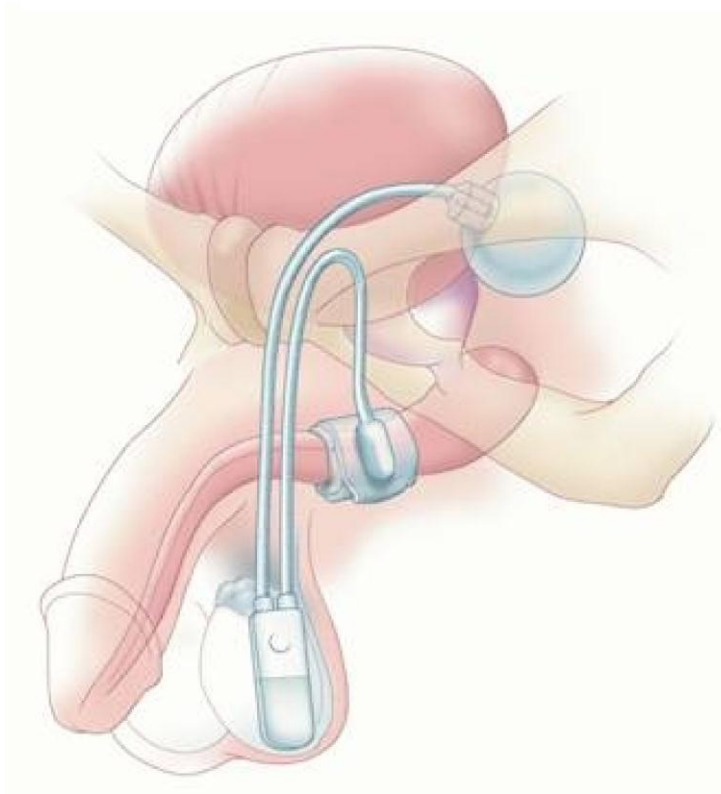
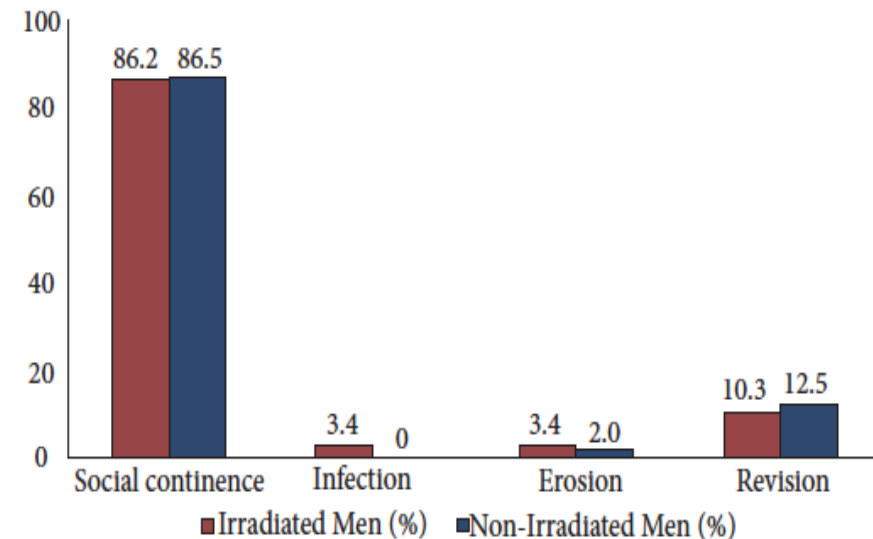


Fig. 2 Outcomes of AUS implantation.



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