



## Robotic surgery

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Operating Suite

*Peter Mac* 

## Robotic Surgery

- First Academic Pilot Program in Victoria's Public Health System
- First case July 2010
- Completed 95 operations- 11/2011
  - Localized prostate cancer- Prostatectomy
  - Partial nephrectomy
  - Rectal procedures e.g. Anterior Resections

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## Prostate Cancer: Risk Factors

- AGE
  - 1:11 Australian men will develop prostate cancer by 70
- Genetic tendencies- family history
- Long term - high levels of testosterone
- High saturated fat diet

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## Epidemiology

- Incidence rate: 4680
- Peak incidence-60-74 years, 1,978
  - 1: 11 Australian men will develop prostate cancer by 70
- Mortality rate- 2005 737 men

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## The Prostate

- Below bladder
- Smooth plum sized
- Surrounds urethra
  - Leakage
- Surrounding nerves
  - Erections
- Ejaculation
  - Dry orgasm
  - Uro-orgasmia
- Length

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## Clinical Features of Prostate Cancer

- Waking frequently at night to urinate
- Sudden or urgent need to urinate
- Difficulty in starting to urinate
- Slow flow of urine and difficulty in stopping
- Discomfort when urinating
- Painful ejaculation
- Blood in the urine or semen
- Decrease in libido (sex urge)
- Reduced ability to get an erection
- Asymptomatic (PSA detected)

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## Investigations

- Prostate Specific Antigen  
PSA ( simple blood test)

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## Investigations

Digital  
Rectal  
Examination (DRE)

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## Investigations:

Trans Rectal Ultrasound  
guided biopsy (TRUSP)

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## Treatment Options for Prostate Cancer

- Watch and wait
- TRUSP (targeted biopsy)
- Brachytherapy (HDR) with needle implantation and External beam
- Seed implants
- TURP
- Hormone Therapy/ Orchiectomy
- Open Radical prostatectomy
- RALP

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## Benefits for the patient

- Excellent cancer control rates
- Less blood loss and fewer complications
- Shorter hospitalization – most go home the next day
- Reduced pain
- Less risk of infection e.g. respiratory infection

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The logo for Peter Mac, featuring the name 'Peter Mac' in a blue script font and 'iir' in red block letters to the right.

## Benefits for the patient

- Less risk of stricture
- Quicker return to normal activity
- Reduced risk of incontinence and impotence
- Less scarring than traditional open surgery

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## Post-op considerations

- Facial swelling
- Swelling around eyes and conjunctiva
- Shoulder tip pain
- Penile tip pain
- Wind pain
- Haematoma
- Urine leak at anastomosis

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## Da Vinci S HD surgical system

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## Touch screen Monitor Tab Menu

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## Telestration



activate



enable view  
for surgeon in  
stereo viewer



erase

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## Scope Configuration

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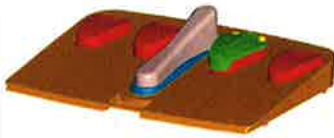
## Camera Arm

- LED provides visual clues Regarding the operational state of the arm
- Cannula mount

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## Footswitch Panel

- Bipolar footswitch pedal
- Pedal is raised and angled



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## Matching Grips

Slightly move the master grips or master roll

Close the grips until the tips of the grips match the tips of the instrument being controlled



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## Using Digital Zoom



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## Benefits for surgeon



- Surgeon sits at a console in the corner of the operating theatre away from the patient
- Surgeon has 3-D images of the patient's inner organs
- Able to reach deep inside the body with the telescope and instruments
- Utilises hand and foot controls
- Able to perform extremely precise and delicate surgery through tiny incisions



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## Robotic surgery

### Advantages

- Overcome obstacles of laparoscopic surgery
- Increased dexterity
- Telestration

### Disadvantages

- New technology
- Redesign of surgical procedures to utilise robotic arms
- Cost
- Size of the equipment – footprint

Peter Mair



Peter Mair

Easy!!!



