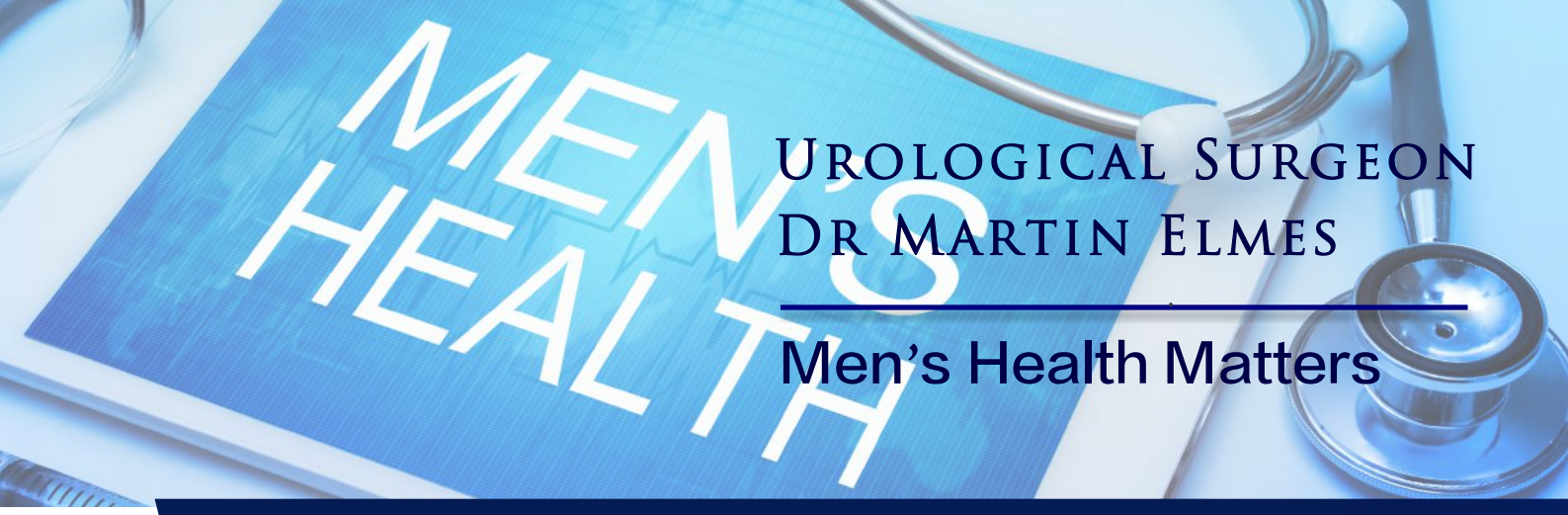


Urological Surgeon
Dr Martin Elmes

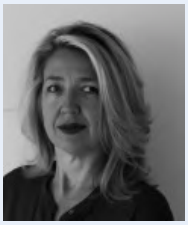
Men's Health Matters

ISSUE 2 | 2017

www.goldcoasturologist.com.au

WELCOME to the second edition of Men's Health Matters.
In this issue, Dr Elmes explores the common and growing health concern facing men today, **Prostate Cancer**. All you need to know about detection, diagnosis and treatment for your patients can be found in this issue. The 3D Imaging and navigation for prostate biopsy known as the **Artemis device** is also discussed by Dr Elmes and the enhancements this device is allowing for improved visuals, guidance and planning in biopsy site tracking. We also introduce you to our newest staff member, Stephanie Harms as Office Manager for Gold Coast Urologist.

IN THIS ISSUE OF MEN'S HEALTH MATTERS...



WE WELCOME our newest staff member, Stephanie Harms as Office Manager for Gold Coast Urologist. Stephanie has over 4 years experience in the medical field, previously having worked for specialist surgeons on the Gold Coast. We are thrilled to have Stephanie join our team and she looks forward to working with you and assisting you with the Urological care of your patients.

SNAPSHOT
WHAT YOU NEED TO KNOW ABOUT PROSTATE CANCER

- Each year around 20,000 new cases are diagnosed in Australia.
- About 4 in 10 cases of prostate cancer are found in men older than 65.
- Prostate cancer is an insidious disease. Symptoms and signs of prostate cancer are often only very late. Detecting prostate cancer early on is with PSA and a prostate examination, either of which could save your patients life.
- 40% are found in men under 65.

PSA TESTING POLICY SUMMARISED

50–70 y.o men – Prostate blood test (PSA) + Prostate exam (DRE) annually.

40–50 y.o men – Prostate blood test (PSA) + Prostate exam (DRE) single test.

- If PSA > 0.6 (median) OR if positive family history (prostate or breast) then annual testing should continue otherwise commence at 50 y.o.

Refer on when:
- PSA > age related cut off
- DRE abnormal
- PSA kenetics (i>0.4/yr rise if PSA < 4 OR >0.8/yr rise if PSA > 4)
- +/– F/T ratio

PROSTATE CANCER DIAGNOSIS AND TREATMENT

Most prostate cancers are first found during testing with a **prostate-specific antigen (PSA) blood test or prostate examination**. The PSA reading indicates how "active" a prostate is and their risk of having prostate cancer.

Dr Elmes utilises many specialised PSA tests – PSA age specific, PSA Kinetics (annual rise), Free/total PSA ratio, Prostate examination, Family history – prostate/breast/ovarian cancer, previous prostate biopsy results.

The actual **diagnosis** of prostate cancer can only be made with a prostate biopsy. There are many things that can be done to increase the chance of finding prostate cancer in an individual if it is present.

- **Multiparametric MRI Prostate:** a highly specialised radiological test that allows unparalled images of an individuals prostate, pelvic lymph nodes and neighbouring structures.
- **Computer targeted Artemis/Ultrasound fusion prostate biopsy:** Artemis is a device that allows biopsy site tracking with 3D ultrasound image and full colour model and fusion of real-time ultrasound with MRI.
- **PET PSMA:** A new PET molecular imaging technique using prostate-specific membrane antigen (PSMA) has demonstrated excellent sensitivity in detection of low volume metastatic PCa.

Once a diagnosis of prostate cancer has been made a decision needs to be made for the steps to take next for management and treatment. The decision will depend on a number of factors including:
- **Gleason score** – high (more aggressive), intermediate (Gleason 7), or low grade
- **Stage of the cancer** – localised in the prostate gland or spread to other parts of the body
- **Level of PSA** in the blood and the rate of change of PSA over time (velocity)
- **Age and general health**
- **Side-effects of treatment**
- **Personal preference**

WHAT ARE THE SYMPTOMS?
In the early stages, there are often no symptoms and the only way to suspect Prostate cancer is with an annual PSA and DRE. Prostate cancer may be accompanied by a variety of urinary symptoms, in the later stages;
- Frequency/urgency
- Hesitancy and other obstructive symptoms
- Macroscopic haematuria

However, often these are related to BPH.

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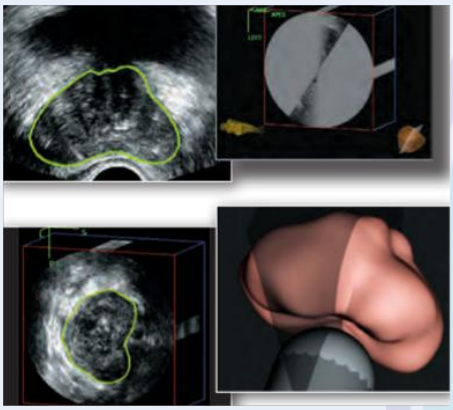
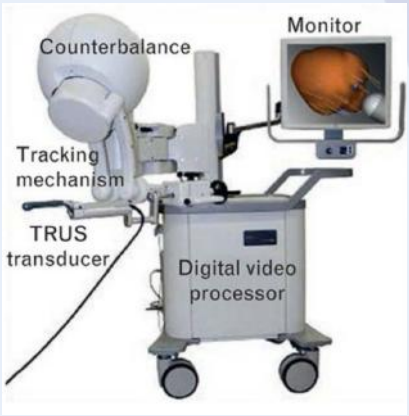
Introducing the **Artemis Device**

Artemis is a device that allows biopsy site tracking with 3D ultrasound image and full colour model and **fusion of real-time ultrasound with MRI**. The machine takes the MRI image and an ultrasound image and puts them together in 3-D model as pictured below.



It precisely pinpoints where the needles go so biopsies are not blind as they have been in the past. In addition, Artemis enhances active surveillance because it records exactly where the biopsy was taken from.

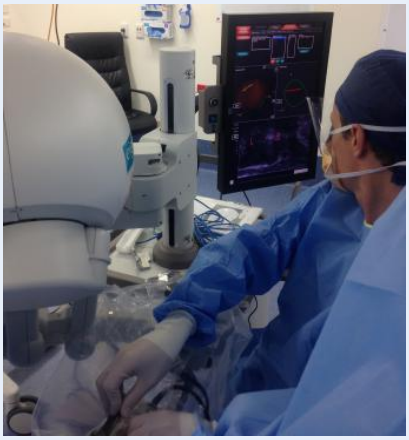
Artemis semi-automatically computes gland volume and boundaries. This enhances tissue structure visualisation for improved planning and guidance.



The Artemis device

Artemis provides several imaging enhancements to standard 2D ultrasound:

- Greatly increases the ability to examine the prostate for abnormalities or suspicious areas which may need sampling
- Advanced needle navigation and tracking
- Sophisticated recording of actual biopsy sites sampled; sites can be revisited at any time
- View and overlay previous prostate gland volumes and biopsy locations



Dr Elmes operating with the Artemis device

Q&A with Dr Elmes

Q1. What is the better option for prostate biopsies, Transperineal or Transrectal? and Why?

Biopsies of your patient's prostate can be taken either across the skin, Transperineal prostate biopsy or via the rectum, Transrectal prostate biopsy. There is a significant risk of severe life threatening infection with Transrectal biopsies and as a result I only perform Transperineal prostate biopsies.

Transperineal biopsy of your prostate is a superior procedure especially if you have a lesion in a particular region (anterior) of your prostate, or if you have a larger prostate.

Advantages of Transperineal Prostate Mapping Biopsy

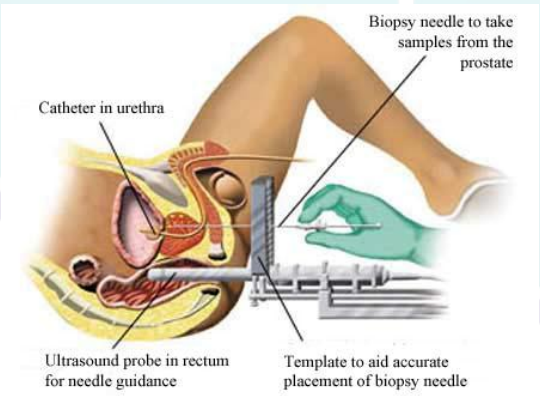
- **Increased prostate coverage**
- **Increased accuracy**
- **Less chance of requiring a second biopsy**
- **Less risk of serious infection (<0.5%)**

Q2. How is a Transperineal Biopsy performed?

Using an ultrasound probe positioned in the rectum, I take samples of the prostate through the perineum (skin). This technique completely removes the risk of potentially life threatening infections that are quite common with older style biopsy techniques (Transrectal). Excellent imaging is obtained by an ultrasound probe passed into the rectum.

Biopsy needles are passed parallel to the long axis of the prostate, allowing access to all aspects of the gland. This approach has the potential for improved sampling, particularly in men who have had a previous negative TRUS biopsy but whose PSA continues to rise.

Between 12 and 24 biopsies are taken, tailored to the size of your prostate. This allows for a more accurate and reliable test in many cases and the chances of requiring a second biopsy are less. The risk of serious infection in lower (<0.5%) as the perineal skin may be cleaned with antiseptic before the biopsies are taken.



Transperineal biopsy

To further improve accuracy the Artemis MRI/US fusion targeted biopsy machine is used allowing unparalleled precision and further minimising the likelihood of:

- Delayed diagnosis
- Recurrent biopsies

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