

HOSPITAL IN THE HOME TREATS UTI'S

JUNE/JULY 2008

by Dr John Wallace

Hospital in the Home is suitable for patients who are well enough to be at home but require treatment which would otherwise require admission to a hospital ward. Urinary tract infections can frequently fit into this category - usually after initial investigations and commencement of treatment in the emergency department or in hospital.

Clearly the patient must be haemodynamically stable, able to tolerate oral fluids satisfactorily and be well enough to be managed at home. It is usual to require that a suitable carer be available at home. The demands on a carer will vary depending on the patient's age and condition.

The other group that are suitable for Hospital in the Home are stable nursing home patients who are better managed in their usual environment. Regular care is provided by nursing home staff with the intravenous therapy provided by HITH staff.

Most antibiotics can be given through Hospital in the Home but with a maximum of two planned nurse visits per day. Once a day antibiotics such as ceftriaxone and gentamicin are ideal but others can be given as continuous 24 hour infusions either by Baxter infusors or by CADD pump. Ampicillin is problematic due to its short shelf life (2 days) after preparation - so cannot be kept in stock. Infusors can only be ordered from Baxter on working days and require prior notice to Pharmacy but we stock infusors with saline only which can be loaded with antibiotic in the hospital until Baxter can supply them preloaded.

Antibiotics available by infusor include benzylpenicillin, flucloxacillin, cephalothin, cephalosporin, ticarcillin/clavulanate, piperacillin/tazobactam, ceftazidime, meropenem, ertapenem, teicoplanin, amikacin, tobramycin and vancomycin. They are available in different doses - usually the same total 24 hour dose as would otherwise be given in divided doses. Some will require delivery by a central vein - usually a PICC line which can be arranged through the radiology department.

A typical patient with pyelonephritis would be seen in the emergency department, investigated with bloods and urine cultures and renal ultrasound and after consultation with a urologist may be admitted there

HITH - MEDICAL TEAM

DR SUHAN BASKAR
DR PAUL HUMPHERY
DR CLAUDIA LOPEZ
DR CHANDI PERERA
DR CHRISTEL ROMANO
DR JOHN WALLACE

NURSING UNIT MANAGER:
STEVE SPICE



HOSPITAL IN THE HOME - HITH

The San's Hospital in the Home (HITH) program allows patients access to the San's medical and nursing services in the privacy and comfort of their own home. Patients are treated at home before being discharged back to their general practitioner. For queries call HITH Medical Director, Dr Suhan Baskar on 9487 9111.



DIRECTOR: DR SUHAN BASKAR
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Previously Assistant Lecturer Monash University Department of Community Health and General Practice.
Emergency medicine experience SAH Hospital. 10 Years clinical experience in general practice.

overnight or to a ward for 24 hours and transferred to Hospital in the Home for the remainder of their treatment, usually with follow - up by the urologist in rooms after discharge. Patients who are well enough to be at home usually prefer to be there rather than in hospital. Beds are freed for those who need them.

Remember that enterococci are not sensitive to cephalosporins and infections will require treatment with a penicillin or vancomycin - an important fact often forgotten.

Dr John Wallace

HITH and SAH Emergency Care

CASE STUDY

An 18 year old female, unwell for one week presented with urinary symptoms, fever and back pain; MSU by GP grew *Enterobacter cloacae* sensitive to Norfloxacin and Trimethoprim. She started on the latter but she continued to deteriorate. Presented to EC, clinically stable, tender in the left loin, blood work unremarkable apart from slightly increased CRP. Family history of Polycystic kidneys. Renal U/S showed 6 cysts in L kidney, one with fluid in it. This did not fulfil the criteria for Polycystic kidney syndrome. She was referred to HITH with the diagnosis of UTI/Pyelonephritis and she was treated at home with a combination of daily Gentamicin and oral Ciprofloxacin, to treat a potentially infected renal cyst.

She required daily visits from HITH RN's and 4 visits by HITH doctors, she was D/C on oral Ciprofloxacin and after 6 days of intravenous antibiotics she was referred to renal medicine.

Dr Claudia Lopez

San Hospital in the Home

UPDATE ON THE TREATMENT OF INCONTINENCE

by Dr Bruce Farnsworth

One of the features of incontinence as a medical condition that sets it apart from other medical diseases is the fact that a large number of completely different treatments are available. This tells us that the symptom or sign of incontinence is not a diagnosis in itself. We need a clear diagnosis in order to choose the correct treatment so it is little wonder that there are some patients who respond poorly to treatment when there is no definite diagnosis.

DIAGNOSIS

Most patients with pure stress incontinence can be treated based on a thorough clinical history and examination. Urodynamic testing and imaging is helpful to clarify complicated cases. Conservative management is still preferred to surgery in the first instance and nowadays we use electromagnetic induction therapy (known as "The Chair") as well as specialized physiotherapy.

CONSERVATIVE TREATMENT

The Wave Brilliance or Neocontrol chair is a new weapon in the fight against pelvic muscle weakness. Muscle atrophy following nerve damage is commonplace following childbirth or surgery and cannot be easily reversed. The Wave Brilliance chair provides a means to restore function to damaged and dormant nerves and muscles. Physiotherapy is also effective.

SURGERY

The surgical management of incontinence has undergone a revolution in the last 10 years and Australian doctors were at the forefront of these developments. The first tension free suburethral sling in the world was performed by Peter Petros in Perth in 1986. The Intravaginal Sling (IVS) was designed and initially manufactured in Australia. It was superseded by the Tension Free Vaginal Tape (TVT) which was launched in Australia in 1998. Both these slings were based on the same theory and both were very successful in treating incontinence.

The TVT soon became the most popular suburethral sling around the world but it has also had some problems. The TVT has a very sharp metal tip. Insertion involves a retropubic needle passage which could lead to bladder, bowel or vascular damage.

The elastic nature of the TVT tape has caused a higher level of voiding difficulty than similar non - elastic tapes provided by other companies. In 2004 Ethicon released another sling: the TVT - Obturator (TVT - O). This device passes a sling through the obturator foramen from the inside vaginal incision to the outside, emerging in the groin. It gives support to the urethra rather than elevation and creates a "sub urethral hammock" for the urethra to rest on. The Monarc Device (American Medical Systems) is another transobturator sling which creates the same "hammock" support but this time the passage of the needle is from outside to inside.

In a similar way the SPARC device (American Medical Systems) was introduced to do the same job as a TVT sling and is virtually identical other than the needle is passed down from above i.e., from the abdomen to the vagina.

As you can imagine doctors tend to argue the case for one type of sling over another. Now there are over 50 slings available for this purpose around the world all of them similar in some way to the original.

Never satisfied, the medical appliance manufacturers strive for the ultimate incontinence solution and this research has led to the development of the "mini sling". Believe it or not there are already at least 6 mini - slings on the market around the world.

The TVT Secur was launched in 2006 and was the first mini - sling available in Australia. More recently a new mini - sling (MiniArc) has been launched by American Medical Systems. 4 of these new slings have been performed in the last few months and to date all have been successful. Because there is no external incision and no passage of a needle through the patient's muscles there is minimal pain.

HOW TO KNOW WHAT SLING TO USE ?

Different slings have proven to be helpful in different circumstances. In general the most popular slings in uncomplicated cases are the transobturator slings (Monarc and TVT - O) but a traditional retropubic sling is thought to be best in those women who have

undergone previous surgery or have poor urethral function. Dr Farnsworth has recently undergone training in Spain to use the new TOA Adjustable sling (A.M.I. GmbH) which can be tightened or loosened for up to 5 days after surgery. This is particularly helpful in the management of those very difficult patients who have already undergone a number of unsuccessful procedures.

In uncomplicated patients the new mini - slings, especially the MiniArc show great promise.

WHAT ARE THE OTHER TYPES OF TREATMENT AVAILABLE?

Urgency incontinence can occur alone or in combination with stress incontinence. It may be exacerbated by surgery and it may be a very difficult problem to treat. Options include medications such as Oxytrol, Vesicare or Ditropan. There are a number of electrical devices which generate a signal to try and overcome this problem. Botox injections into the wall of the bladder may be helpful but they tend only to last for 12 - 18 months.

Whatever the cause of a patient's incontinence it is important to consider all the possible options for treatment and low risk conservative measures must be the logical first choice.



DR BRUCE FARNSWORTH

MB BS (Sydney), FRCOG (London), FRANZCOG

Dr Farnsworth graduated from the University of Sydney in 1981 before undertaking his Specialist Training at Westmead Hospital. After a year at the Royal United Hospital in Bath in the UK he developed a Regional Urodynamic Service and Gynaecology Practice on the New South Wales Mid North Coast between 1989 and 1998 before establishing the Centre for Pelvic Reconstructive Surgery at the San. Published in the fields of prolapse and incontinence, he is the current Vice President of the Association of Ambulatory Vaginal and Incontinence Surgeons and a Joint Editor of the International Journal of Pelviperineology. Phone 9473 8555

LATEST DEVELOPMENTS IN PROSTATE CANCER SCREENING AND PSA.

by Dr Manish I. Patel

Prostate cancer is the second leading cause of death in men in Australia. As the population ages the incidence of prostate cancer will surely rise. The guidelines for screening for prostate cancer in Australia are controversial and the guidelines for determining an abnormal PSA are continuously changing as new research comes to light. This review is aimed at clarifying some of the controversies and updating general practitioners on the latest developments with PSA.

WHAT ARE THE PROS AND CONS OF PROSTATE CANCER SCREENING?

Controversy exists because two ongoing randomised trials of prostate cancer screening still have a number of years before they report whether screening saves lives. In the mean time, epidemiologists and governments aiming to reduce costs do not recommend it. However cancer organisations such as the American Urological Organisation do advocate screening, based on the fact that PSA screening does detect cancers at a much earlier stage. There is also randomised trial evidence that surgical treatment of early prostate cancer reduces prostate cancer mortality by about half. A major problem with screening however is that a large number (between 30 - 50%) of prostate cancers detected are small and indolent and do not need treatment. Unfortunately the majority of these men ultimately do have treatment. Table 1 outlines what men need to know about the pros and cons of PSA screening before deciding to have it.

Table 1. What to tell a man when he asks about Prostate Cancer testing

PROS	CONS
The test is simple to administer	False positives can cause anxiety
Reassurance with negative results	Small indolent cancers may be OVER treated
Detects Cancers earlier	
Surgery of early prostate cancer improves survival	
Cheaper to screen than breast cancer	

THE DIGITAL RECTAL EXAM (DRE):

This is a very important part of screening. One in 7 men with prostate cancer will have a normal PSA but abnormal DRE. An abnormal DRE in the presence of an abnormal PSA will also increase the risk of prostate cancer on biopsy by greater than twofold.

WHAT IS PSA?

Prostatic Specific Antigen is a glycoprotein produced by benign and malignant prostatic cells. Its function is to liquefy semen in the ejaculate. Some PSA circulates in the blood stream. As production of PSA is not specific for prostate cancer, diseases of the prostate such as prostatitis, UTI or BPH can be the cause of elevated levels in the blood stream. Trauma to the prostate such as recent vigorous bicycle riding or ejaculation within 12 hours of the blood collection can also cause a mild

elevation. PSA testing in a man also has an approximate 14% variability on a day to day basis.

PSA LEVELS AND RISK OF PROSTATE CANCER:

There is no clear cut - point in PSA levels below which a man has minimal risk of cancer and above it, has a high risk. In the early 1990s a cut - point of 4.0ng/ml was used. The specificity of this test was poor (38%) and the sensitivity was unclear as men with PSA below 4.0ng/ml were not biopsied.

AGE SPECIFIC PSA RANGES:

It was later appreciated that PSA levels increased as men aged (as a result of BPH) and it was proposed that age specific PSA cut - points be used to decrease the number of unnecessary biopsies (Table 2). The cut points used are the 95% percentile of the general population in the age group meaning 5% of the population are abnormal by definition. The cut - points have not been selected based on a risk of prostate cancer in that population. In fact although the average PSA increases with age, so does his risk for prostate cancer and using the age specific PSA actually DECREASES the sensitivity (% of cancers present that were detected) compared to a 4.0ng/ml cut - point by 11.2%.

Table 2. Age specific PSA ranges and medians

Age range (years)	PSA range (95th percentile) (ng/ml)	Median PSA (ng/ml)
40 - 49	0 - 2.5	0.7
50 - 59	0 - 3.5	0.9
60 - 69	0 - 4.5	1.2
70 - 79	0 - 6.5	1.4



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LOWERING THE CUT - POINT TO 2.5ng/ml:

As age specific PSA cut - points resulted in decreased sensitivity, a standard cut - point of 2.5ng/ml has been proposed. This strategy results in 24.5% increase in detected cancers compared to 4.0ng/ml cut - point, without any significant change in specificity. The majority of these cancers were clinically significant and this strategy also reduced the number of prostate cancers detected at a locally advanced stage. Another study from the USA where men with PSA levels below 4.0ng/ml were routinely biopsied, demonstrated that the risk of prostate cancer was actually a lot higher than expected (Table 3). Men with a PSA of between 2.1 - 3.0ng/ml had a 24% risk of harbouring prostate cancer.

Table 3. Likelihood of Prostate Cancer in men aged 55 or older⁴ with normal DRE.

PSA range (ng/ml)	Incidence of prostate cancer
0 - 0.5	6.6%
0.6 - 1.0	10.1%
1.1 - 2.0	17%
2.1 - 3.0	23.9%
3.1 - 4.0	26.9%

FREE TO TOTAL RATIO:

Prostate cancers are associated with a higher percentage of PSA being bound to circulating proteins in the serum. The lower the amount of free PSA, the higher the risk of prostate cancer. Caution should be exercised however, as having a ratio >25% does not exclude prostate cancer. Men with a PSA between 2.5 - 10.0ng/ml and a F/T ratio of 15% have a >25% risk of prostate cancer. Men with a F/T ratio of <10% have a 55% risk.

PSA VELOCITY AS A PREDICTOR OF PROSTATE CANCER:

Recent research has focused on the rate of rise of PSA as a predictor of cancer. PSA velocity needs to be calculated with a minimum of 3 PSA values, each at least 3 months apart. Studies show that benign prostates are associated with a median PSA velocity of 0.03ng/ml/yr compared to cancerous prostates which have a median PSA velocity of 0.4ng/ml/yr. PSA velocity is also prognostic, in that a velocity of > 2.0ng/ml/year has been shown to be associated with a high risk of death, even if the patient has treatment.

MEDIAN PSA AS A PREDICTOR OF PROSTATE CANCER:

The median PSA for various age groups are given in Table 2. A man with a PSA level above the median for his age group is at 8 - 14 times increased risk of developing cancer. This group needs to be watched carefully if they don't meet the criteria for urology referral.

ALGORITHM FOR PROSTATE CANCER TESTING:

There is no consensus on the correct algorithm for prostate cancer testing. Figure 1 outlines the procedures that I recommend.

CONCLUSION:

PSA testing is complicated and constantly changing. The algorithm separates men into

groups of; definite referral; suspicious (possible referral) and normal, based on their PSA, F/T ratio, PSA velocity and median PSA. Stratification of men into these categories will hopefully make their management easier.

NEWLY ACCREDITED DOCTORS.

The SAH Board of Directors has recently approved the following doctors to be added to our list of Accredited Medical Officers:

- Dr Vasco de Carvalho – ACAT Assessments
- Dr Kevin Chan – Respiratory Medicine
- Dr Simon Chan – Rehabilitation
- Dr Michael Elliott – ENT Surgery
- Dr Dominic Fitzgerald – Sleep Studies
- Dr Shish Lal – Ophthalmology
- Dr Amy Mclean – Respiratory Medicine
- Dr Allan Passmore – General Practitioner
- Dr James Ritchie – General Surgery
- Dr Michael Soo – General Surgery
- Dr Laurel Teoh – Sleep Studies
- Dr Niranjan Tillekeratne – Respiratory Medicine
- Dr Dennis Wang – Cardiology
- Dr Michael Wines – Urology

NEWS FROM THE SAN

GP CLINICAL ATTACHMENTS

GP Clinical Attachments are available in Urology, Orthopaedics and Cardiology. Contact Marilyn Algeo 9487-9400.

JACARANDA LODGE ACCOMMODATION

Sydney Adventist Hospital's Jacaranda Lodge on the hospital campus offers subsidised accommodation for the temporary needs of patients, their relatives and carers of patients who are undergoing medical treatment at SAH or at any hospital or facility. In addition, overnight stays prior to or after surgery can ease some of the stress associated with pre or post hospital treatment. Contact Lurline 9487 9061.

SAN PATHOLOGY

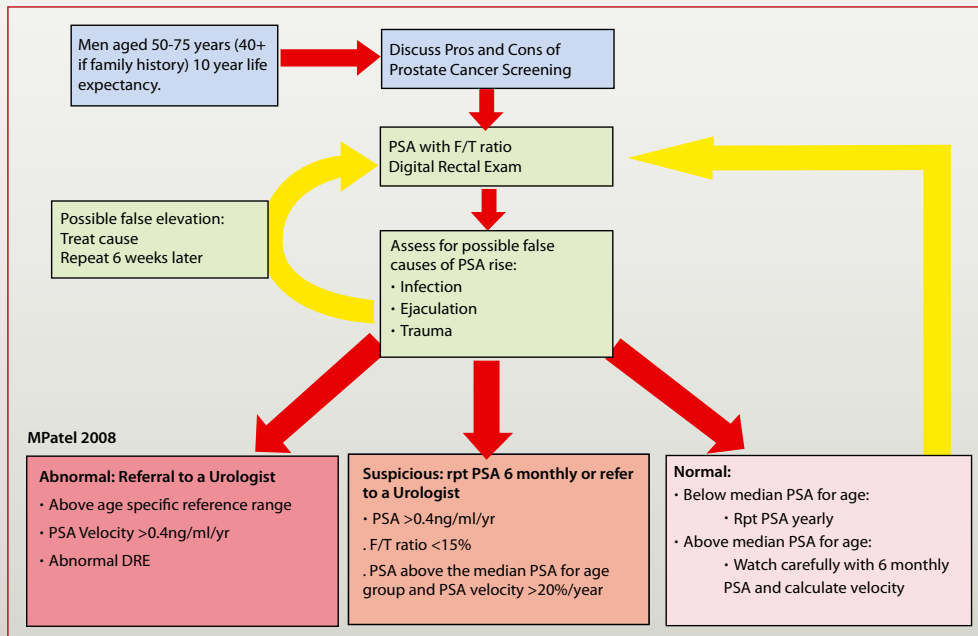
San Pathology offers home collection to ill or non-ambulatory patients. This includes residential aged care facilities and retirement villages.

Local Hospital area: 9487 9500.

Morisset area: 4973 5755 or 0414 950 664 for urgent requests.

Collections can be taken at the San Pathology Laboratory, the San Clinic, Wahroonga Specialist Centre or the St Ives, Hornsby, Turramurra, Morisset and Bonnells Bay collection rooms.

Fig 1. An Algorithm for Prostate Cancer Screening



JULY 2008

1	Tuesday	
2	Wednesday	
3	Thursday	
4	Friday	
5	Saturday	
6	Sunday	
7	Monday	
8	Tuesday	
9	Wednesday	
10	Thursday	
11	Friday	
12	Saturday	
13	Sunday	National Diabetes Week
14	Monday	
15	Tuesday	
16	Wednesday	
17	Thursday	
18	Friday	
19	Saturday	The Buzz Ball (Diabetes Australia)
20	Sunday	
21	Monday	
22	Tuesday	
23	Wednesday	
24	Thursday	
25	Friday	
26	Saturday	
27	Sunday	
28	Monday	
29	Tuesday	
30	Wednesday	SAH Cardiac GP Conference
31	Thursday	

GP CONFERENCES AND PUBLIC FORUMS

Organised free of charge for the benefit of local GP's or local residents as appropriate.

FORTHCOMING DATES INCLUDE:

24 JUNE 2008 - Emergency Care / Paediatrics GP Conference

30 JULY 2008 - Cardiac GP Conference

CALL 9487 9871 TO BOOK.