



# THE SINGAPORE FAMILY PHYSICIAN

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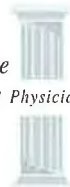
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## The 5 Cs of continuing care

Tan CB

Continuing care is an integral part of family practice. Patients with chronic conditions e.g. hypertension, diabetes, asthma, heart disease are seen by Family Physicians for follow up and continuing care. Family Physicians need to possess the relevant knowledge and skills in managing such patients. Many clinical practice guidelines are also set up for an evidence-based approach in their management. Although the management of these conditions are very different, the principles of good management are the same - The 5 Cs approach.

**Control** - The management of chronic conditions revolves around control of the disease. Family Physicians need to ensure optimal control of these conditions through lifestyle modifications, therapeutics and the utilisation of other medical services e.g. specialists, dieticians, physiotherapists etc. In some conditions, control is defined by a value e.g. hypertension - blood pressure less than 140/90 mmHg, or diabetes - normal HbA1c levels. Whereas in others, it is defined clinically e.g. osteoarthritis - control of joint pains and mobility.

**Compliance** - Patient compliance plays an important role in the control of these conditions. Patient factors (e.g. knowledge, expectations and attitudes of the patient, cultural differences, patient's response to treatment), drug factors (e.g. choice of drug, side effects, adverse reactions, dosing schedule) and doctor factors (e.g. inadequate explanation, ignorance of drug side effects, doctor's motivation) affect the patient's compliance. Family Physicians must pay attention to the factors affecting patient compliance.

**Counselling** - Effective patient counselling is essential in providing the patient with knowledge and skills so that he/she can play an active role in the management of the disease condition. Effective communication and empathy is needed in effective counselling so as to facilitate behavioural and attitudinal changes in the patient.

**Complications** - In many chronic conditions, despite disease control, patient's compliance and patient self-care, complications do develop. The family physician should be vigilant and screen for such complications as part of the continuing care of the patient. Complications would include disease as well as treatment complications. These complications usually would require early intervention and the expertise of our specialist colleagues.

**Customization** - Last but not least do not fit different size pegs into a square hole. Not all patients are the same. Customisation is necessary in developing the management plan and the treatment goals. A holistic approach is necessary, taking into considerations the patient's needs and expectations, home and social circumstances, to achieve better clinical outcome and patient satisfaction.

With advances in medical science and increase in life expectancy, the family physician is increasingly facing more patients with more complex medical problems. Continuing care will continue to take the central stage of family practice. Family physicians need to constantly upgrade themselves and adopt the principles of good clinical care.

*Dr Tan Chee Beng*  
Honorary Editor

## Issues Affecting Family Practice

*Lim LH*

During the past month or so, many important decisions have been made that have an important bearing on Family Physicians/ GPs and on the medical fraternity at large.

Firstly, there has been the Minister of Health's announcement of the clustering of hospitals, national medical centers and polyclinics. Also, during the College Council's meeting with the Minister of Health, Mr. Lim Hng Kiang, on 15 October 1999, we explained and made suggestions on how Family Physicians can work with the Ministry to provide par excellent care to the population at large. Tied up with this, the College has sought the advice of the Minister on the new role and image that is needed for Family Physicians in the new Millennium.

We also discussed the upgrading of Family Doctors with the Minister and this has resulted in the setting up of the Graduate Diploma in Family Medicine Examination. In the future, this Diploma may be used as the yardstick for entering General Practice. The Diploma in Family Medicine course will be run by the College, together with the Graduate School of Medical Studies and the Ministry of Health. The College has drawn up the curriculum; it is a two-year part time course ending with an examination for the awarding of the Diploma. This Diploma course has been scheduled to start in July 2000.

Continuing Medical Education (CME) has been a hot topic of discussion during the year. It has been announced that the Singapore Medical Council will be launching the new Continuing Medical Education programme in January 2000. The new online CME system will be available to all registered doctors in Singapore.

No decision has been taken yet by the authorities as to when CME will be made compulsory, but I gather it will not be in the too distant future. The College has an active role to play in the new CME programme of the Singapore Medical Council. We will of course keep our members posted on this important programme.

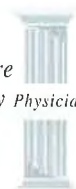
Practicing Family Physicians have been concerned that there is a recent trend towards restricting the use of new drugs to non-Family Physicians (Specialists). This issue was also discussed with the Minister of Health at the meeting on 15 October 1999, and at his suggestion, we have brought this matter up with the Medical Advisory Committee, the body that oversees the issuing and use of new drugs in Singapore. With such restrictions, the perception is created that Family Physicians are not competent enough to prescribe the use of drugs like Lamuvidine and Caverjet. Such restrictions also encourage the public to bypass the Family Physician and go directly and thus, inappropriately, to secondary and tertiary health care facilities, which is contrary to the Government's White Paper on Affordable Health Care. It also penalises patients who may benefit from the use of such medicines but cannot afford specialist care.

In our communication with the Medical Advisory Committee, the College Council has suggested that a more transparent system of evaluation be implemented. At the same time, we have assured the Medical Advisory Committee that if the new drugs and procedures require new skills and knowledge, then the College is most willing to conduct and develop the necessary courses. We believe that taking steps to ensure proper and correct use of new drugs and procedures is a more positive approach than restrictive use, which is negative in every respect.

The College assures its members that issues affecting the practice of Family Physicians will always be addressed and acted upon promptly.

**A/Professor Lim Lean Huat**  
*President*  
*17th Council (1999-2001)*





## Invited Articles

# Management Of Neck Pain and Radiculopathy

Tay BK

## Introduction

Neck pain and pain radiating down the upper limb are common complaints in patients over the age of 30 years. The common causes are non-specific neck pain (often as a result of postural or work-related causes), cervical spondylosis and cervical disc prolapse.

## Differential Diagnosis

The differential diagnosis for this symptom can be broadly divided into medical and surgical causes. Medical causes include the following conditions:-

1. Multiple sclerosis
2. Amyotrophic lateral sclerosis (motor neurone disease)
3. Polyradiculitis (from viral origin)
4. Neurologic amyotrophy (from an inflammatory or allergic origin)
5. Syringomyelia
6. Psychogenic disorders

The surgical causes include:-

1. Infective cervical spondylitis
2. Inflammatory (rheumatoid arthritis) - commonly presenting with C1 C2 subluxation
3. Trauma (fracture, dislocation, subluxation and whiplash injury)
4. Ossification of posterior longitudinal ligament (commonly seen in Japanese and Asian patients)
5. Spinal tumours (more often metastasis)
6. Thoracic outlet syndrome

It must be remembered that neck pain and radiculopathy can arise from causes in related areas away from the neck, and these include the following conditions:-

1. Shoulder problems (eg frozen shoulder or rotator cuff tendinitis)
2. Elbow problems (eg tennis elbow)

3. Intrathoracic disorders (eg ischaemic heart disease pleuritis and pancreatic tumour)
4. Abdominal problems (eg cholecystitis)
5. Peripheral nerve entrapment (eg median nerve in carpal tunnel syndrome)

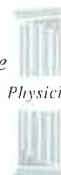
## Making the right diagnosis

To make the right diagnosis in a patient complaining of neck pain and pain radiating down the upper limb, it is important to be systematic and thorough in one's approach. The steps taken should proceed as follows:-

1. A complete clinical history and systemic review of cardiac, respiratory and abdominal events.
2. The clinical examination must include the neck (cervical spine) and the related areas as mentioned above. A careful neurological examination is essential.
3. The radiographic evaluation should include AP, lateral, oblique and occasional open-mouth views. It is important that the C7 and T1 junction is seen on the lateral view. Often the shoulder blocks the view and special techniques like the swimmer's view or pull down shoulders view is required. In the evaluation, disc space narrowing, osteophyte formation, vertebral subluxation, ossification, the posterior longitudinal ligament and destructive lesions must be looked for.
4. Specific imaging today involves CT scanning. Cervical myelography followed by CT scanning improves delineation of myelographic defects, showing disc herniation, osteophytes and neuroforaminal stenoses and is better able to demonstrate cord size and contour.

MRI is unsurpassed in its ability to examine the integrity of the spinal cord (although it is important to note that one-third of the normal population without neck or radicular pain have abnormal MRI findings, making the clinical correlation very important).

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## Invited Articles

5. Discogram, 3D imaging and MR spectroscopy (noninvasive means of measuring metabolic substrate) are occasionally indicated in specific instances.
6. EMG can confirm specific nerve root involvement.

### Non Surgical Treatment

Fortunately, most patients with neck pain and radiculopathy run a short, benign and self-limiting course, responding very well to non-surgical treatment. This treatment would include the following:-

1. Physical Therapy
  - a) Hot packs or Short Wave Diathermy
  - b) Ultrasonic Therapy
  - c) Electrotherapy (TENS)
  - d) Manipulation and mobilization
  - e) Collars and Braces
  - f) Neck exercises
2. Traction
3. Local injection of the painful spot with hydrocortisone and lignocaine
4. Neck school and ergonomics
5. NSAIDS (including the newer COX2 inhibitors) and muscle relaxants.

### Surgical Treatment

Surgical treatment may be required after failure of non-operative treatment. Often, it is offered to patients who have suffered 3 months of persistent or recurrent radicular pain despite conservative therapy. However, patients with severe unremitting pain may require earlier surgical intervention. It is also indicated in patients with progressive neurologic deficit or persistent neurologic deficit associated with radicular pain.

Surgical treatment is often in the form of anterior decompression and fusion such as with the

- a) Smith Robinson Technique (1954) or
- b) Cloward's Dorell Technique (1958)

The posterior approach in the form of laminectomy (removal of lamina) or laminoplasty (trap door opening of the lamina) is less often used.

Materials used for fusion include the time-tested bone allograft, none allograft or titanium mesh. More recently, fixation with implants have been used to stabilize the spine when more extensive decompression has been done and also to improve fusion rates.

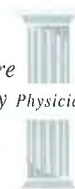
### Complications of Surgery

Unlike conservative treatment, surgical intervention provides dramatic improvement although it has its downside. Complications, while uncommon, can occur and include the following:-

1. Laryngeal nerve injury with hoarseness of voice. On the right side the recurrent laryngeal nerve is at risk and injury results in vocal cord paresis.
2. Sympathetic chain injury
3. Oesophageal injury - usually due to the sharp edge of the retractor used.
4. Vascular injury - this is rare but the carotid artery and the jugular vein are at risk.
5. Neurologic injuries - trauma to the spinal cord can result in devastating tetraplegia.
6. Complications from bone grafts
  - a) non-union
  - b) displacement of graft
  - c) donor site infection and pain
7. Complications can also arise from the use of implants and screws for internal fixation, and iatrogenic neurologic injury, loosening of implants, misplacement or placement of screws can all occur, although rarely.
8. Airway complication from compression of trachea by a haematoma.
9. Infection
10. Death can result from devastating spinal cord injury above C4 thus impairing respiration, or from airway obstruction that is not recognised and corrected in time. Fortunately, this is rare.

### Conclusion

Neck pain from radiculopathy is a very common complaint. Most patients respond adequately to conservative measures. For the few who require surgery, the results are gratifying but it is important to note that some of the complications, though rare, can be devastating.



## Invited Articles

# Update on the Management of Acne Vulgaris

Giam YC

## Summary

This article outlines how I manage a patient with Acne Vulgaris in my clinic. The clinical assessment is to

- i) see whether the acne lesions are inflamed or not, e.g. comedones,
- ii) the age of the patient, ranging from infantile, teenage to adult mature acne, after 27 years of age. Different causes occur at different ages, e.g. drug induced, or hyperandrogenism in the older women. In hyperandrogenism, laboratory workup is essential,
- iii) existence of scars, as an indicator of past severity.

The patient is educated on the clinical course and the pathological correlation, stressing on the potential to scar, in inflamed acne. Treatment is prolonged requiring 4 to 6 months of treatment.

For the doctors, tailoring the acne treatment to the patient requires a knowledge of the four factors of acne pathogenesis, namely: androgen, ductal hyperplasia, propiobacterium acnes and inflammation. The drugs selected for each stage should work on these factors. The ideal is topical agents without side effects. Mature acne is discussed with reference to causes and hormonal treatment. There are 4 types of scars in acne, and appropriate modalities of treatment is discussed. Finally, as a general practitioner, counselling of patient on side-effects of drugs, compliance, and anxieties is given.

**Keywords:** Acne vulgaris, retinoic acid, antibiotics, isotretinoin, hormonal control

## Introduction

Acne is an inflammatory disorder of the pilosebaceous unit, which can be severe, with a potential to scarring. Correct management of acne will prevent psychological distress, and the need for surgical management of scars later. A clear understanding of the pathogenesis of acne, and

the actions of the specific drugs, including knowledge of its appropriate use is basic. Causes of acne differ in varying ages, and such causes must be searched for.

## Clinico pathological correlation of acne

There are 4 main factors in the pathogenesis of acne:

- a) influence of androgens on sebaceous glands, which enlarge and lead to an increase of sebum production
- b) hyperkeratosis of the hair follicular duct, leading to narrowing and closure and accumulation of sebum in the glands, forming a comedone
- c) multiplication of *Propionibacterium acnes* in the sebaceous gland
- d) leaking due to sebaceous gland rupture, of an inflamed papule, and the free fatty acids released are very irritating into the dermis, produces inflammation, lymphocytes. Later masses of neutrophils form a pustule, progressing to nodules and cysts. These form scars.

## Clinical assessment and management of an acne patient

- a) history
- b) clinical features, and to rule out other causes eg. drugs, hyperandrogenism
- c) treatment of acne
- d) counselling

History: ask for the onset, as age of onset is important

- infantile acne: lasts till 1 year of age as testosterone levels in infants are high but fall off. If it persists, exclude congenital adrenal hyperplasia.
- severe acne at 27 years: exclude polycystic ovary disease
- a cushingnoid patient: exclude drugs

## Invited Articles

- steroids, others – eg. lithium phenytoin
- older, hirsute patient, exclude hyperandrogenism, adrenal tumour

In women, check if menstrual cycles are regular, any pre-menstrual exacerbation, hairs on legs, face, body.

To ask for family history.

clinical features: check if acne is non-inflamed (open and closed comedones) or inflamed papules, nodules and cysts, requiring intensive treatment and scars – ice-pick or undulating or punch out or keloidal scars. If the trunk is involved, it is more severe and requires a longer duration of treatment

Differential diagnosis: exclude steroid acne with monomorphic papules, especially pityrosporum folliculitis, gram negative folliculitis.

Pityrosporum folliculitis is best treated with exfoliants, anti-fungal cream eg. miconazole cream, and if severe, with oral itraconazole (200mg/day) for 3 weeks.

### Treatment

The ideal drug is preferably a topical agent, which acts on all the 4 factors in pathogenesis, and without side effects. It has yet to be found.

- Comedones: open and closed comedones. Use retinoid acid eg. tretinoin gels or cream at night. eg. Retin A, Stieva A 0.01, 0.025, 0.05 : concentration for 2 months. New creams are isotretinoin (Isotrex), adapalene (Differin gel). These are photosensitive. Macrocomedones are best expressed by lancing, followed by comedone extraction.
- Inflamed papules: topical treatment if patient dislikes oral drugs, or in pregnant women in first trimester. Use benzoyl peroxide, 2.5% to 5%, followed by topical erythromycin (T stat, S-mycin). A combination drug is called Benzamycin. This acts on the P. acnes and inflammation.

Multiple inflamed acne warrants oral antibiotics

for 4 to 6 months. The preferred choice is erythromycin (enteric coated) 500 mg b.d., or Doxycycline 100mg b.d. Both can cause gastrointestinal upset like nausea, vomiting and gastritis, which can be mistaken as appendicitis. In allergies to the above drugs, give co-trimoxazole. Most severe acne requires Minocycline 100mg b.d., but 2 side effects are pigmentation, and severe headaches from raised intracranial pressure, mimicking a meningitis. Other side effects are vaginal thrush, and bacterial resistance to these antibiotics.

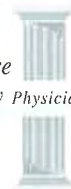
- Persistent, papular, nodulo-cystic acne, use isotretinoin (Roaccutane) at 0.5 mg/kg for 4 to 6 months. This gives excellent results, reduces scar formation, and gives a prolonged remission. Any severe acne requires 6 months of treatment.

A major side-effect of Isotretinoin is teratogenicity in pregnant women, causing the foetus to be deformed. Refrain from giving this to young married women, oral contraceptives are required. Other side-effects are liver dysfunction and raised blood lipids, dryness of the lips and eyes. The liver function test and fasting cholesterol and triglyceride is monitored. Lip balm, and sunblocks, moisturisers are prescribed. Other rare complications are pyogenic granulomas, musculoskeletal pains, bony cysts or sclerosis.

### Adjunct treatments

- Papules: 2 chemical peels with 50% alpha hydroxy acids, within a fortnightly interval, hastens recovery
- Nodules/cysts: intralesional triamcinolone 10mg/ml, or 0.02 ml each. Excess causes atrophy.
- Severe acne: a short course of prednisolone 10 – 20 mg/day in very inflamed acne
- Cysts: do not incise and drain, as a linear scar remains. Aspirate cyst and inject triamcinolone
- Pigmented acne: use azaleic acid
- Patients with eczema on the face: use a mild steroid lotion
- Patients with excoriated acne: add erythromycin gel





## Invited Articles

### Treatment of scars

There are 4 types of acne scars, ice pick, punch out, shallow and undulating, keloidal scars. For these, excision, carbon dioxide resurfacing lasers are helpful. Chemical peels with alphahydroxyacids 50% - 70%, and prolonged use of tretinoin creams could be tried, if patients decline surgery. Punch out scars could be improved with collagen injection, but needs repeated injections as the collagen is absorbed. Keloidal acne is flattened by repeated injection of intralesional steroids, of 10 mg/ml. A combination of these are required if patients have different types of scars.

### Why do acne treatments fail?

They fail for the following reasons:

1. Inadequate dosing and duration of treatment, eg. patient stops treatment
2. Side-effects of drugs and patient stops treatment themselves, eg. gastritis
3. Topical given, when systemic drugs are required, eg. beauticians treating severe acne with facials)
4. Non-compliance, eg. the patient complains of no time to take, or habitually forgets to take medication, especially in teenagers, eg with tetracycline, which is taken on an empty stomach and without food
5. Bacterial resistance to antibiotics, erythromycin.
6. Pregnancy – unable to take oral drugs.

### Mature onset acne

If the acne in a female is severe, sudden in onset, associated with hirsutism (face, body, legs) and has irregular menstrual cycles, it is best to investigate them for a hormonal cause like polycystic ovary disease, congenital adrenal hyperplasia, or ovarian tumour. Additional signs are Cushingoid facies and acanthosis nigricans. For such conditions, the patient should be referred to an endocrinological gynaecologist. A screening hormone profile includes serum DHEAS, dehydroepiandrosterone sulphate (raised in adrenal hyperplasia or tumours) total and free testosterone (raised in ovarian tumour) luteinizing: follicular stimulating hormone ratio (increased in polycystic ovarian disease).

However, many women with acne and normal serum levels of androgens are effectively treated with hormonal therapy. These women who benefit, present with persistent papules and nodules on the chin and neck, have premenstrual exacerbations, comedones on forehead and chin, and fail the multiple courses of antibiotics given.

Before giving oral contraceptives to block the ovarian and adrenal production of androgens, a breast and pelvic examination is required. Often hormone therapy provides an alternative treatment to isotretinoin (Roaccutane) in resistance cases. A useful combination is to use a third generation progestin (norgestimate with lowest intrinsic androgenic activity) and an estrogen. Though side effects may be increased risk of venous thromboembolism, the plus factor is the lowered risk of myocardial infarct.

Cyproterone acetate is a progestational antiandrogen that blocks the androgen receptor. It is combined at 2mg, with ethinyl estradiol (35mg) as Diane 35, in an oral contraceptive formulation, and can be used for 6 to 9 cycles.

Spironolactone is both an androgen receptor blocker and inhibitor of 5 alpha reductase (blocks conversion of testosterone to dihydrotestosterone which stimulate sebaceous glands). At 25 to 50 mg/day, it reduces sebum production and improves acne. Side effects are hyperkalaemia, irregular menses and risk to pregnant women, causing feminisation of male babies. Other hormonal drugs include flutamide, and gonadotrophin-releasing hormone agonists.

### Counselling in Acne

Patient education aids successful acne treatment, and is the most important part of your initial consultation. I give them the picture of the process of acne formation and write down the treatment needed at each stage. A strong rapport with patient helps compliance. Tell them it takes 2 to 4 months, and that you are not treating a disease but altering an oily state of their skin. They need to be told of side effects of medications ordered, and many of the over the counter products which may be irritating.

## Invited Articles

### Guideline of Acne Treatment

Comedones :	Retin A 0.01 gel, Retin A or Stieva A/Airol gel/cream : 0.025 – 0.05% Isotrex/Isotretinoin gel 0.05%, Differin/adapalene gel 0.5% Azelaic acid
Facial wash:	Any antiseptic wash for oily skin: chlorhexidine, Neutrogena facial wash, Phisoderm, Phisohex, cyteal, oxywash, benzac wash
Papules:	Benzoyl peroxide 2.5% - 5% Antibiotic lotions : Erythromycin, dalacin Dalacin lotion is non-stinging, for sensitive skin Oral antibiotics : Doxycycline 100mg bd for 4 – 6 months : Tetracycline 500mg bd Erythromycin 500mg bd Minocin 100mg bd Bactrim ii/ii b.d.
Nodules :	Cysts : Isotretinoin/Roaccutane 0.5 mg/kg about 40 to 60mg/day For 4 to 6 months

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## Invited Articles

# Dog, Cat and Human Bites

Ooi BSS

## Introduction

Dog and cat bites are fairly common problems encountered in the emergency and general practice. There are no local figures as to how common this problem is in Singapore. To date there is an inadequate number of well-designed, large, prospective clinical studies addressing the specific treatment of dog and cat bite wounds. Current recommendations are often ill defined and controversial, especially regarding "prophylactic" antibiotics and wound closure decisions.

Human bites, although not as common as dog and cat bites, is a unique problem that a general practitioner should also be aware of. Which of the 3 bites, ie dog, cat or human bites do you think has the highest rate of wound infection?

This article reviews the epidemiology, bacteriology and presents recommendations based on clinical studies concerning local wound care, the use of antibiotics, tetanus prophylaxis and rabies postexposure prophylaxis.

## Dog and Cat Bites

### Epidemiology

Dog bites account for between 63-93% of reported animal bites in humans in contrast to 5-18% for cat bites. In the majority of cat and dog bites, the animal was a pet of the owner or someone they knew. Animal bites predominantly involve children. The mean age for dog bite victims are 13.4 years with 75% below 20 years, while cat bite victims are older with a mean age of 19.5 years (44% above 20 years).

Table 1 shows the common sites for dog and cat bites. Head and neck bites are more common in the younger age group.

Table 2 shows the types of dog and cat bites. Dogs have larger teeth and hence they cause tearing of tissues. In contrast, cats have fine, sharp teeth and weaker biting forces causing puncture wounds.

### Dog Bite Sites

• Extremities (UL/LL)	-	54% – 85%
• Head & Neck	-	15% – 27%
• Trunk	-	0% – 10%

### Cat Bite Sites

• Arm	-	} 60% – 67%
• Forearms	-	
• Hands	-	
• Head & Neck	-	15% – 20%
• Lower Extremities	-	10% – 13%
• Trunk	-	0% – 5%

Table 1 : Sites of Dog & Cat Bites

### Types of Dog Bites

• Lacerations	-	31% – 45%
• Puncture Wounds	-	13% – 34%
• Superficial abrasions	-	30% – 43%

### Types of Cat Bites

• Puncture wounds	-	57% – 86%
• Superficial abrasions	-	9% – 25%
• Lacerations	-	5% – 17%

Table 2 : Types of Dog & Cat Bites

## Bacteriology

The bacteriology for dog and cat bite wounds is complex. Wound infections do not usually result from the normal bacterial flora found on the patient's skin but rather from the organism inoculated into the depth of the wound by the animal's teeth. Aerobic bacteria are present in most wounds, and anaerobic bacteria in up to 40%.

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## Invited Articles

Table 3 shows the common types of organisms in dog and cat bite wounds. *Pasteurella multocida* is the commonest type of microorganisms in dog and cat bites. Cat bite wounds are predominantly due to *Pasteurella multocida*. The infection rate for dog bite wounds is 2-5% while the infection rate for cat bite wounds is higher at 50%.

Clinically, infection with this organism may manifest as sepsis with disseminated intravascular coagulation, acute renal failure, endocarditis, peripheral gangrene, and cardiopulmonary failure. The clinical picture may be more severe in patients immunocompromised by asplenia, alcoholism, chronic lung disease, or other immunosuppression,

Dog Bite	
• Aerobic	<i>Pasteurella multocida</i> $\alpha$ & $\beta$ -haemolytic streptococci <i>Staph. aureus</i> <i>Staph. epidermidis</i> <i>E. coli</i> <i>Moraxella sp.</i>  <i>Capnocytophaga canimorsus</i>
• Anaerobic	<i>Bacteroides sp.</i> <i>Fusobacterium sp.</i> <i>Actinomyces sp.</i> <i>Peptostreptococcus sp.</i>
Cat Bite	
• <i>Pasteurella multocida</i> :	70 – 90%

Table 3 : Common Micro-organisms in Dog and Cat Bite Wounds

Wound infections due to *P. multocida* are characterized by a rapidly developing and intense inflammatory reaction, with purulent drainage noted in less than 40% of patients. Fever, lymphangitis, or lymphadenopathy are seen in less than 20% of patients with wound infection due to *P. multocida*.

The infection develops within a few hours after the animal bite and is rarely seen 24 hours after the bite. Dog and cat bite wounds in which infection develops after 24 hours are more likely to contain *Staphylococcus* or *Streptococcus* sp.

*Capnocytophaga canimorsus*, formerly known as “dysgonic fermenter-2” (DF-2), is a fastidious, thin, gram-negative bacillus that has been associated with severe infection. It was first recognised as a human pathogen in 1976.

with fatality in 25% of cases. Penicillin is the drug of choice when infection with this organism is suspected and should be used prophylactically in high-risk individuals. This bacterium is usually sensitive to cephalosporins, tetracyclines, erythromycin, and clindamycin.

### Factors Affecting Risk of Infection

Table 4 shows the factors affecting the risk of infection in dog and cat bite wounds. As can be seen, puncture wounds have a higher risk of infection than larger and more extensive wounds. This explains why cat bite wounds which are more frequently puncture wounds, have a higher rate of infection than dog bite wounds. As face and scalp wounds have good vascular supply, they have a lower risk of infection even when closed by primary sutures.



Increased Risk in:	Decreased Risk in:
<ol style="list-style-type: none"> <li>1. Age &lt; 2yrs; &gt; 50yrs</li> <li>2. Diabetes mellitus</li> <li>3. Chronic alcoholism</li> <li>4. Immunosuppression</li> <li>5. Extremities</li> <li>6. Exposure &gt; 24hrs</li> <li>7. Puncture wounds (40% of all infections)</li> </ol>	<ol style="list-style-type: none"> <li>1. Face &amp; scalp wounds</li> <li>2. Larger &amp; more extensive wounds</li> </ol>

Table 4 : Factors affecting risk of infection in dog and cat bite wounds

## Treatment

Life-threatening injuries have to be excluded first when there is severe animal attack. However, most bite wounds are minor and are probably seen most commonly in the primary health care practice.

## Principles of Wound Care

### 1) Thorough evaluation of injury

Assess the wounds taking note of the following:

- location
- number
- type
- depth
- overt signs of infection

*As bite wounds are frequently punctures, they may be more extensive than they appear.*



Assess injuries of the deeper structures, ie:

- tendons
- joint spaces
- blood vessels
- nerves
- bones

*Local or regional anaesthesia and a proximal tourniquet should be used to facilitate wound exploration.*

### 2) Radiographs

X'rays should be done if there is considerable oedema and tenderness about the wound, or if bony penetration/foreign bodies are suspected.

The following can be noted on plain x'rays:

- fracture
- foreign body
- tooth
- subcutaneous emphysema. This could be due to necrotizing infections or air introduced during wound exploration.

### 3) Meticulous wound care

To achieve this, the following should be done:

- thorough cleansing
- debridement of devitalised tissues
- copious high-pressure irrigation with normal saline solution

### 4) Controversies with regards to primary closure

Historically, dog and cat bite wounds were not closed primarily (except for face and scalp). However, more recent literature supports primary closure after adequate wound preparation except for:

## Invited Articles

- puncture wounds (because they cannot be cleaned adequately)
- bite wounds with extensive crush injury
- wounds requiring considerable amount of debridement
- hand wounds (because of concerns about serious complications within the anatomy of hand should an infection occur).

*Delayed primary suture should be done for the latter 3 situations.*

### 5) Treatment of bite wounds to the hands

- thorough cleansing and irrigation
- debridement
- splinting with a bulky immobilization dressing
- elevation
- prophylactic antibiotics
- tetanus prophylaxis

### Antimicrobial Controversies

The choice of antibiotic and the route of administration in patients with dog and cat bites are sources of controversy and confusion. Fortunately, relatively inexpensive antibiotics usually result in a clinical outcome as good as that with newer, more expensive ones.

The first controversy involves whether to give or not to give antibiotics. In general, *antibiotics should be given* where the probability of infection is more than 5-10% ie

- dog and cat bites with full-thickness puncture
- hand wounds
- lower extremity wounds
- wounds requiring surgical debridement
- wounds involving joints, tendons, ligaments or fracture
- wounds in high-risk hosts

The second controversy involves the antibiotic choices and routes of administration. Take note that there is a 8% cross sensitivity between penicillin allergy with cephalosporins. Refer to Table 5 for this. Amoxicillin/clavulanic acid (Augmentin) is not recommended as the initial antibiotic for bite wounds because of its high

incidences of side effects and higher cost. Fluoroquinolones should not be given for animal bites because of their limited effectiveness in staphylococcal and streptococcal infections. Low risk patients with local cellulitis only and no deep structure involvement can be treated on an outpatient basis.

The following patients should be admitted for intravenous therapy and surgical consultation:

- lymphangitis
- lymphadenitis
- tenosynovitis
- septic arthritis
- systemic signs, eg fever

### Tetanus immunoprophylaxis

Dog and cat bite wounds are tetanus-prone wounds. Refer to Table 6 for tetanus immunisation schedule.

### Rabies immunoprophylaxis

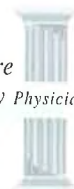
In general, local dogs and cats in Singapore are free of rabies. However, if a patient is bitten by a "foreign" dog or cat, the patient should be referred to the following places for rabies immunoprophylaxis:

The anti-rabies immunoglobulin is available at the Singapore General Hospital, Changi General Hospital (CGH) and Tan Tock Seng Hospital (TTSH) while the anti-rabies vaccine is available in CGH, TTSH and Mount Elizabeth Hospital. Immediate and thorough washing of all bite wounds and scratches with soap and water is perhaps the most effective measure for preventing rabies.

### **Human Bites**

#### **Epidemiology**

Frequently, the injury is not reported as a human bite. Therefore, when treating cuts, scratches and lacerations of scalp, dorsum of hand, or genitalia, consider the possibility of a human bite. The common *sites for human bites* are:



## Invited Articles

- upper extremities, especially the metacarpophalangeal joint (punch bite)
- head and neck, especially the lower lip, cheek, nose and ear
- genitals, ie the penis, scrotum, vulva and breasts

The common mechanisms of *injury* include bite and blow. The latter is problematic because skin retraction seals off contaminated wounds, further restricting free drainage.

### Bacteriology

The human oral cavity is heavily populated with aerobic and anaerobic microorganisms. As a result, infections of human bites are common, probably more common than dog or cat bites.

The common organisms in human bite include:

- *Staph aureus*
- *Strep sp.*
- *Bacteroides*
- *Peptostreptococcus*
- Gram negative organisms eg.
  - *Proteus*
  - *Pseudomonas*
  - *E.coli*
  - *Klebsiella*
  - *Neisseria*
  - *Eikenella corrodens*. This is penicillinase-resistant. Hence Augmentin is useful in human bites.

### Treatment

The treatment of human bites is the same as in dog and cat bites. However, as infections of human bites are common, most human bite wounds are usually not closed primarily except for cosmetic purposes e.g. face and neck in females.

### Antibiotic Coverage

If the wound appears minor, antibiotics can be withheld. For more extensive wounds, penicillinase-resistant penicillin or broad spectrum second generation cephalosporins should be given. The following are guidelines on the use of antibiotics in human bites:

- Prophylaxis in uninfected bites:  
Oral Augmentin for 2-3 days
- Superficial infections:  
Oral Augmentin for 5-7 days
- Deeper infections:  
Admit for intravenous antibiotics

### Admission Criteria

Admission criteria are controversial. The recent recommendations are as follows:

Wounds seen within 24 hours which are infected or show only superficial infection may be treated as outpatient with follow-up within 24-48 hours. Patients should be admitted if:

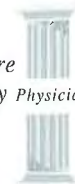
- Any degree of infection beyond limited local wound cellulitis
- Wound seen more than 24 hours after bite
- Immunocompromised patient
- Human bites of hands and genitalia

### Conclusion

Most dog and cat bites are minor wounds that require only local wound care as well as patient evaluation for tetanus and rabies postexposure immunoprophylaxis. For larger wounds, primary or delayed primary closure can be performed safely where indicated. When antibiotics are necessary, inexpensive penicillins or cephalosporins are adequate for initial therapy. Large-scale, prospective, controlled clinical studies are needed to define further role of prophylactic antibiotics for uninfected wounds. Human bite wounds have a high risk of getting infected. Penicillinase-resistant antibiotics are needed for treatment. Human bite wounds are not closed primarily except face and neck wounds in females.

### SUGGESTED READING

1. Dire DJ. Emergency management of dog and cat bite wounds. *Emerg Med Clin North Am* 1992;10(4):719-36
2. Wahl RP, Eggleston J, Edlich R. Puncture wounds and animal bites. In: Tintinalli JE, Krome LK, Ruiz E. *Emergency medicine. A comprehensive guide*. 4th ed. pg 320-1



## Invited Articles

### For infection developing within 24 hours of injury (*P. multocida*), give:

- ◆ **Non-high risk patients:**
  - Oral Penicillin V 500mg 6H or
  - Oral Amoxicillin 500mg 8H
- ◆ **High risk patients:**
  - Intial I/V or I/M Penicillin G 1.2 megaU (before initiating outpatient oral therapy).
- ◆ **Non-high risk penicillin-allergic (nonanaphylactic reaction) patients:**
  - 1<sup>st</sup> generation cephalosporin e.g. oral Cephalexin 500mg 6H
- ◆ **High risk penicillin-allergic patients:**
  - Intial I/V or I/M Cefazolin 1g in allergic patients
- ◆ **Patients allergic to both penicillin and cephalosporins:**
  - Oral Erythromycin 500mg 6H
  - Oral Tetracycline 500mg 6H

### For infection developing after 24 hours (*Staph & Strep*), give:

- i) Oral Cloxacillin 500mg 6H
- ii) Oral Cephalexin 500mg 6H

### For prophylaxis of uninfected wounds, give:

- Dog bites:* Oral Cloxacillin 500mg 6H x 3 days  
*Cat bites:* i) Oral Penicillin V 500mg 6H  
**OR** ii) Oral Amoxicillin 500mg 8H } x 3 days

Table 5: Choice of antibiotics

IMMUNISATION STATUS	TYPE OF WOUND			
	NON-TETANUS PRONE		TETANUS PRONE	
	ATT	HTIG	ATT	HTIG
Last of 3 dose course, or reinforcing dose within last 10 years	-ve	-ve	-ve <sup>a</sup>	-ve
Last of 3 dose course or reinforcing dose >10 years previously	+ve	-ve	+ve	+ve
Not immunised or immunisation status not known with certainty	+ve <sup>b</sup>	-ve	+ve <sup>b</sup>	+ve

Table 6 : Recommendations for Anti-Tetanus Prophylaxis

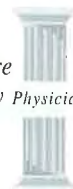
#### Key:

- a : unless if especially high risk of infection eg. manure contamination, give ATT if >5 years since last dose.
- b : 3 doses: stat, 6 weeks and 6 months
- ATT : Anti-tetanus toxoid
- HTIG : Human tetanus immunoglobulin

#### Note:

- I/M ATT 0.5mls } To be given on different arms
- I/M HTIG 250 U }
- Dog, cat and human bite wounds are considered tetanus prone wounds.





## Invited Articles

### The Overactive Bladder

Han HC

#### What is Overactive Bladder?

The overactive bladder is defined by The International Continence Society (ICS) as a disorder of bladder filling / storage in which involuntary bladder contractions are demonstrated while the patient is attempting to inhabit it. If the involuntary bladder contractions are secondary to a known neurologic disease, it is known as detrusor hyperreflexia. If it is not due to a known neurologic disease, it is known as detrusor instability<sup>1</sup>.

#### Incidence and Prevalence

The true prevalence, incidence and spontaneous regression rates of overactive bladder is still unknown because the condition cannot be diagnosed clinically. The overall prevalence in the general population is 10%. The incidence increases with age, especially after the age of 30<sup>2</sup>. It is much higher in elderly hospitalised or nursing home patients<sup>3</sup>. The prevalence of overactive bladder in women who present for evaluation of incontinence ranges from 10% to 55%<sup>4</sup>. It is the second most common cause of urinary incontinence in women after genuine stress incontinence.

#### Etiology

The causes of overactive bladder are tabulated in Table 1. The two factors known to produce involuntary contraction of the detrusor muscle are outflow obstruction and neurologic dysfunction. However, greater than 90% of women with overactive bladder appear to have no other recognisable pathology, which is known as idiopathic overactive bladder.

#### Clinical Features

The fundamental feature of an overactive bladder is that it contracts involuntarily. When the overactive bladder contracts involuntarily, urgency occurs. If urgency regularly occurs before the bladder is full, frequency occurs.

**Table 1 : Conditions possibly associated with overactive bladder**

- Idiopathic
- Neurologic disease
- Bladder Outlet Obstruction
  - ✓ Pelvic organ prolapse
  - ✓ Posturethorpey
- Psychosomatic disease
- Urine in proximal urethra
- Inflammation
- Previous pelvic surgery
- Orgasm
- Detrusor hyperreflexia with impaired contractility

If frequency occurs at night, nocturia occurs. If the patients is unable to resist the involuntary contraction, urge incontinence results. Thus, the typical clinical presentation involves urgency, frequency, nocturia and urge incontinence, with urgency being the cardinal symptom. Less common symptoms include bedwetting and voiding difficulty. Pain is not a common symptom.

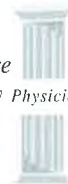
Motor urgency is the occurrence of these symptoms in the presence of uninhibited detrusor contraction. Sensory urgency is the occurrence of these symptoms secondary to a hypersensitive, yet stable bladder. Sensory urgency occurs in bladder irritate states, such as infection, urethra syndrome, interstitial cystitis and carcinoma in situ.

#### Physical Examination

General physical and neurological examinations should be performed. Anal sphincter tone and perennal sensation, as well as anal cutaneous and bulbocavernous reflex tests, are the most important aspects of the neurological examination.

Characteristically, idiopathic detrusor instability produces no physical signs that are parthognomonic for the disease.

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## Invited Articles

It is important to identify the presence or absence of the sign of urinary incontinence. If the incontinence occurs simultaneously with a rise in intra-abdominal pressure, as with coughing, it is most likely due to sphincteric weakness (Genuine Stress Incontinence). On the other hand, if it occurs shortly after the cough and is of a more prolonged nature, it is most likely due to an uninhibited bladder contraction precipitated by the cough.

### Investigations

The overactive bladder and stress urinary incontinence are widespread problems in the general population. Differentiating between the two is vital for selecting appropriate treatments. An initial evaluation should include an assessment of the patient's symptoms, detailed physical examination and urinalysis.

Once urinary tract infection has been excluded, it is possible to establish a working diagnosis based on the patient's description of symptoms. In cases where there is uncertainty regarding the diagnosis, advanced investigations should be carried out which include the following:

#### ◆ Urine Cytology

To rule out neoplasia. It is indicated in patients with chronic bladder irritative symptoms, particularly elderly patients and those with microscopic haematuria.

#### ◆ Frequency Volume Chart

A chart of the timing and volume of intake and output. Typically, a patient with overactive bladder will void different volumes of urine at different intervals, whereas patients with sensory urgency tend to void consistently small volumes at fairly regular intervals. Follow-up charts are also useful to provide evidence of a response to treatment.

#### ◆ Filling and Voiding Cystometry

Cystometry is the mainstay of investigation and is the only method of objectively diagnosing overactive bladder. In 1976, the first ICS report stated that in diagnosing overactive bladder, the contractions must be noted to exceed 15cm H<sub>2</sub>O on filling cystometry. ICS subsequently changed the definition to any rise in true detrusor pressure,

that is associated with symptoms. The rise in pressure may be phasic (Figures 1, 2 & 3) or constant (Figure 4). The latter situation is also termed as low compliance bladder which is sometimes secondary to conditions resulting in changes in the passive elastic properties of the bladder wall, such as interstitial or radiation cystitis. Testing should be performed with the patient in a sitting or erect position. Other provoking factors used are coughing, listening to running water, etc.

#### ◆ Ambulatory Urodynamics

In 10% of women with overactive bladder, a routine cystometry in a laboratory setting cannot elicit detrusor contractions. Ambulatory urodynamics is then indicated. The bladder is monitored on a continuous basis over 4 hours during which the women is allowed to carry on her own activities. The cystometrogram is then analysed and uninhibited contractions are elicited.

#### ◆ Electromyography

It gives information only on activity of the external striated urethral sphincter muscles. It is used to diagnose detrusor-external sphincter dysynergia, which is a rare condition and occurs only in patients with neurologic disease. It adds little to the evaluation and management of neurologically intact women.

#### ◆ Bethanecol Supersensitivity Test

Bethanecol chloride, has acetylcholine-like activity and acts on the postganglionic parasympathetic effector cells to enhance contractility of the bladder. It has minimal effect on a normal bladder. In an overactive bladder, detrusor contractions can be demonstrated after the administration. 2.5mg of bethanecol chloride is administered subcutaneously, and the cystometrogram is repeated 30 minutes later.

#### ◆ Cystoscopy

It is indicated in patients with microscopic haematuria and abnormal urine cytology, or when the diagnosis is in doubt and when other conditions, such as interstitial cystitis, need to be ruled out. It can be performed under local anaesthesia.

**Figure 1 : Phasic involuntary detrusor contraction**

Pdet  
20 cmH<sub>2</sub>O/Div

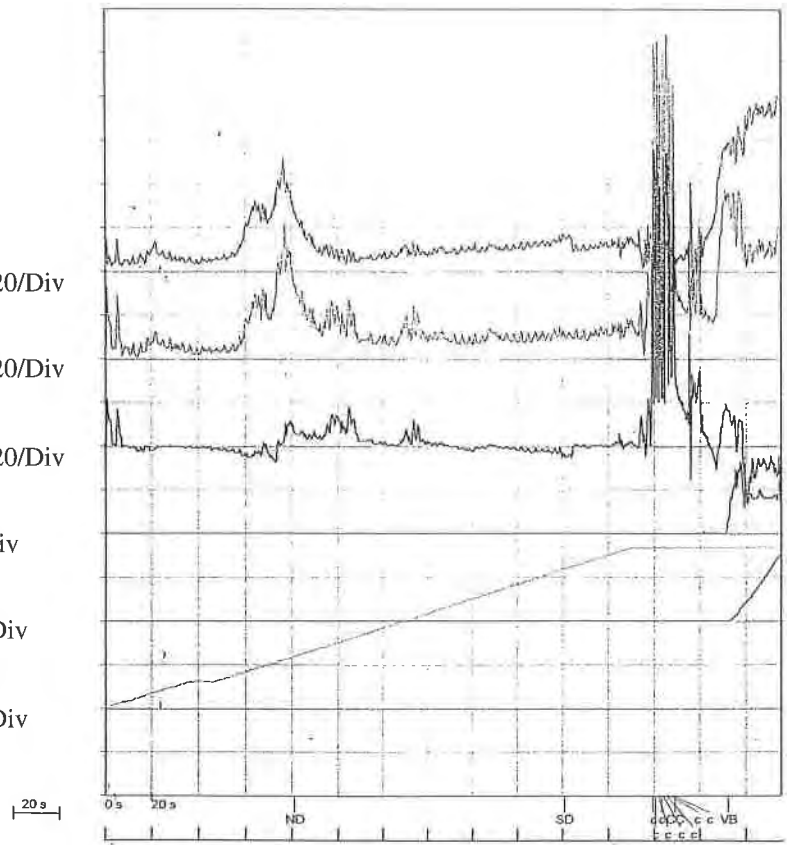
Pves  
20 cmH<sub>2</sub>O/Div

Pabd  
20 cmH<sub>2</sub>O/Div

Qura  
5 ml/s/Div

Vura  
100 ml/Div

Vinfus  
100 ml/Div



**Figure 2 : Phasic involuntary detrusor contractions that return to baseline and cough-provoked steady rise in detrusor pressure**

Pdet  
20 cmH<sub>2</sub>O/Div

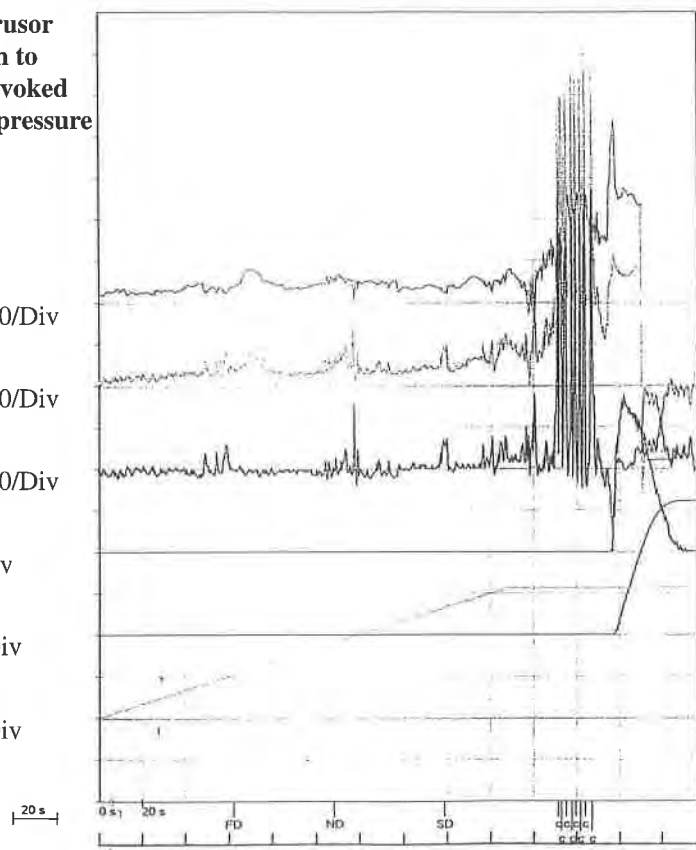
Pves  
20 cmH<sub>2</sub>O/Div

Pabd  
20 cmH<sub>2</sub>O/Div

Qura  
5 ml/s/Div

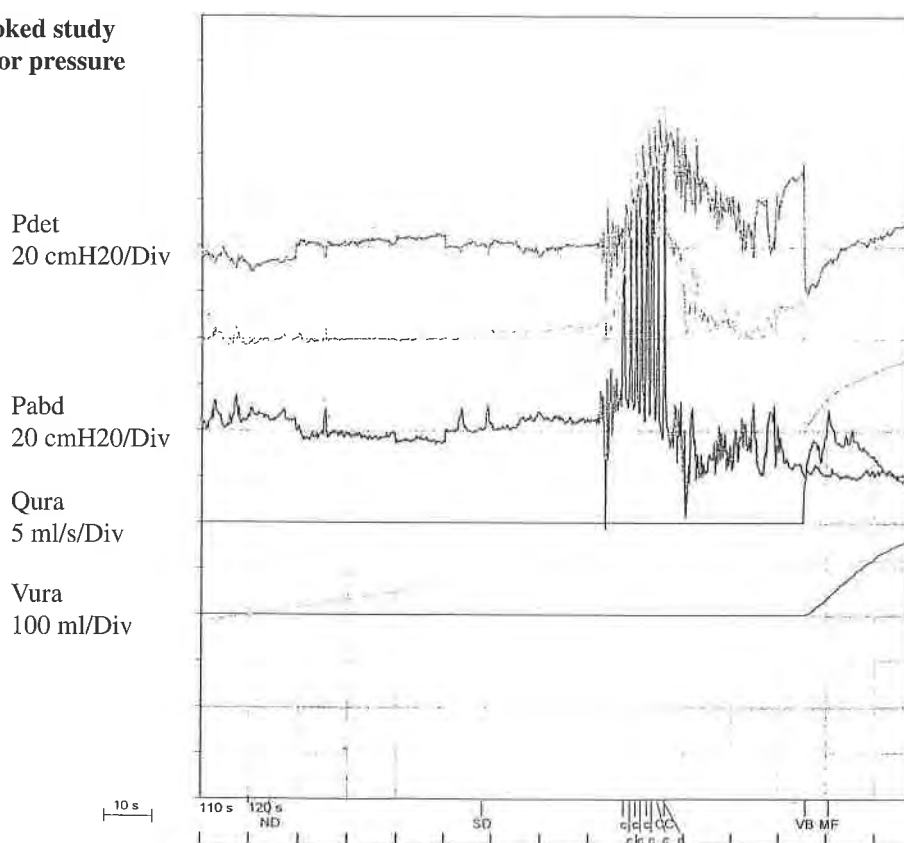
Vura  
100 ml/Div

Vinfus  
100 ml/Div

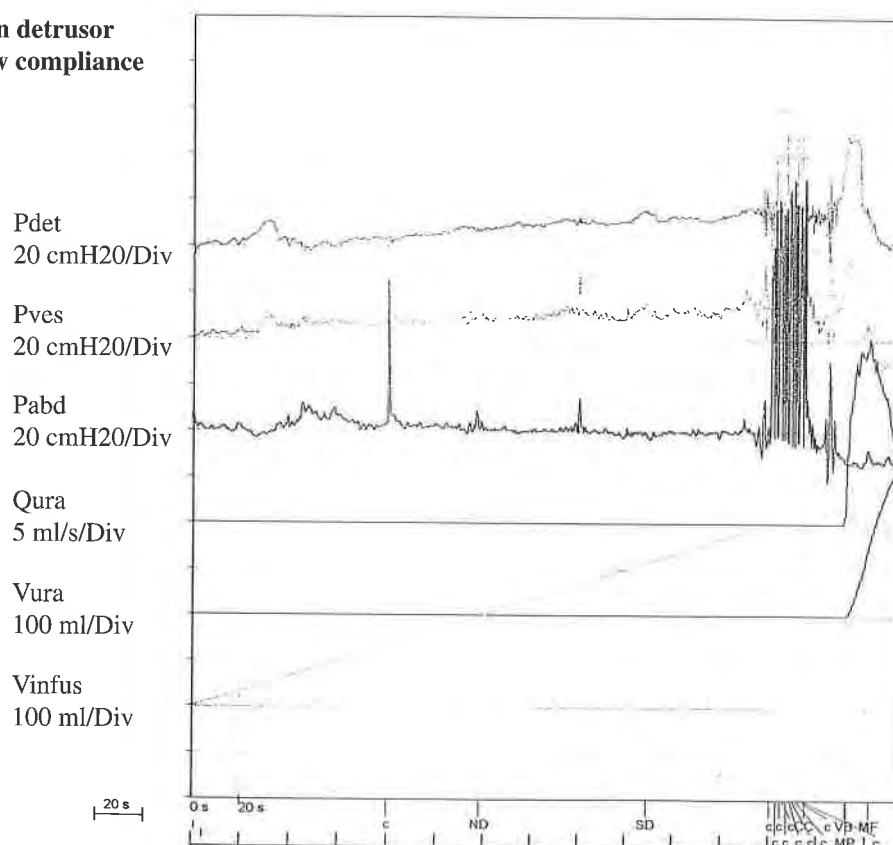


## Invited Articles

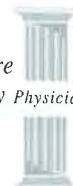
**Figure 3 : Cough-provoked study  
rise in detrusor pressure**



**Figure 4 : Steady rise in detrusor  
pressure (low compliance  
bladder).**







## Management

Incomplete understanding of the causes of overactive bladder has led to several diverse treatment plans. Comparison of various methods is difficult because of differences in patient population, methods of diagnosis, cystometric techniques and follow-up protocols. The management of overactive bladder is separated into surgical and non-surgical modalities (Table 2).

**Table 2 : Treatment methods for overactive bladder**

- ❖ **Non surgical methods**
  - Bladder retraining
  - Biofeedback
  - Functional Electrical Stimulation
  - Drug therapy
- ❖ **Surgical methods**
  - Bladder distension
  - Phenol injections
  - Selective sacral blockade
  - Sacral neurectomy
  - Transvaginal resection of inferior hypogastric pelvic nerve plexus
  - Bladder transection
  - Augmentation cystoplasty
  - Urinary diversion

- ◆ **Bladder retraining drills**  
It institutes a programme of scheduled voiding with progressive increases in the interval between each void. Conscious efforts by the women to delay voiding are used to suppress sensory stimuli to re-establish cortical control over an uninhibited bladder, thus re-establishing a normal voiding pattern. The cure rates of 80% have been reported.<sup>5,6,7</sup> A 12 week treatment program is anticipated.
- ◆ **Functional Electrical Stimulation**  
It stimulates the afferent limb of the pudendal reflex arc, resulting in an increase in pelvic floor and urethral striated muscle contractility, and reflex inhibition of detrusor contractility. The main difficulty is patient acceptance of intravaginal or transrectal

stimulation. Patients must wear these devices for several hours each day. Many patients reject this for psychologic or aesthetic reasons. The cure rates of 29 - 50% have been reported.<sup>8,9</sup>

### ◆ Biofeedback

Biofeedback is a form of patient re-education in which a closed feedback loop is created so that one or more of her normally unconscious physiologic processes are made accessible to her by auditory, visual or tactile signals. Cystometry is explained to the patient. An audible signal is used to let the patient know that her bladder pressure is rising. The bladder is repeatedly filled while the patient attempts to inhibit detrusor contractions. Individual treatment sessions are approximately 1 hour and are repeated weekly for up to 8 weeks. The success rate was reported at 81%<sup>10</sup>. Patients need to be highly motivated.

### ◆ Drug Therapy

It is the most common mode of treatment in patients with overactive bladder. However, the response is often unpredictable and side effects are common with effective doses. In general, drugs improve detrusor instability by inhibiting the contractile activity of the bladder. It can be broadly classified into anticholinergic drugs, musculotropic drugs, calcium channel blockers and tricyclic antidepressants. The maximum dose is usually determined by patient tolerance to the side effects.

### Anticholinergic agents

#### • Propantheline bromide

It was the treatment of choice for many years.<sup>11</sup> The dose is 15 to 30 mg orally three to four times a day. Side effects are those of parasympathetic blockage: dry mouth, constipation, tachycardia and transient blurring of vision. It should be used with caution in patients with significant cardiac dysrhythmias.



## Invited Articles

### Musculotropic agents

Smooth muscle relaxant drugs. It includes Oxybutynin chloride (Ditropan), flavoxate hydrochloride (Urispas), and dicyclomine hydrochloride. Recently, a new drug Tolterodine (Detrusitol) has been launched.

- **Oxybutynin chloride (Ditropan):**

It is probably the most effective drug before the launch of the Tolterodine. It possesses strong musculotropic, antispasmodic, and local antihistaminic properties. It is prescribed in a dose of 2.5mg to 10 mg one to four times daily. It reduces the amplitude and frequency of detrusor contractions and increases cystometric bladder capacity. The side effects include dry mouth, constipation, blurred vision and dizziness, which can be unbearable and force some patients to discontinue its use. Symptomatic improvement can be seen in about two third of patients.<sup>12</sup>

- **Tolterodine (Detrusitol):**

It is a competitive, specific muscarinic receptor antagonist with selectivity for the urinary bladder over salivary glands. It causes a 20% or more reduction in frequency of micturition and 45% reduction in incontinence episodes.<sup>13</sup> The recommended dose is 1-2mg twice daily. Because of bladder selectivity, it has less systemic effects, particularly dry mouth as compared to oxybutynin. In most patients, there is no need to dose titrate, unlike oxybutynin, because of its excellent tolerability profile.

- **Flavoxate hydrochloride:**

Published data does not support its effectiveness.

- **Dicyclomine hydrochloride:**

It has fewer side effects, but is considerably less effective than oxybutynin chloride.

### Tricyclic antidepressant

- **Imipramine hydrochloride:**

It improves bladder storage significantly. It appears to improve bladder hypertonicity or compliance rather than uninhibited

contractions. It is useful in patients with enuresis. It has anticholinergic, antihistaminic and local anaesthetic properties. It also increases bladder outlet resistance. It is therefore also effective in patients with combined stress incontinence and detrusor instability. The side effects are anticholinergic, as well as tremor and fatigue. It can also cause orthostatic hypotension.<sup>11</sup>

### Calcium channel blocker

- **Terodiline hydrochloride:**

It increases bladder capacity and volume and decreases symptoms of urgency and frequency. Treatment leads to decrease in voiding frequency, incontinence episodes and urgency, and an increase in voided volume.<sup>14</sup> The dose is 25 to 50 mg per day in divided doses. Side effects include dry mouth, visual blurring, dizziness, and specific calcium antagonistic effects such as headache, ankle swelling, tremor or jitteriness.

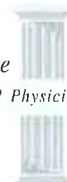
### Synthetic Vasopressin

- **DDAVP:**

It decreases urine production. It is given in a dose of 20 - 40 mg intranasally as a spray or snuff at bed time. It is helpful in patients with troublesome nocturnal urinary symptoms. It reduces night time voids and bedwetting episodes. It is contraindicated in patients with hypertension, ischaemic heart disease or congestive heart failure.

### Important points to remember in drug therapy:

1. Each drug should be given for at least 6 weeks before deeming it a failure, as the onset of benefit may be delayed.
2. Each drug must be titrated, based on subjective response and its side effects.
3. If one drug is not beneficial, it is worth trying other drugs with different modes of action or combining drugs.
4. Placebo effects are high and may be as high as in 50% of patients; and



## Invited Articles

5. Overactive bladder is a relapsing and remitting condition.

### ◆ Surgical Treatment

When conservative management fails to control overactive bladder, surgery may be indicated. Procedures include bladder distension, subtrigonal injection of phenol, selective sacral blockades, selective sacral neurectomy, transvaginal denervation of the bladder, bladder transection, augmentation cystoplasty and urinary diversion.

- Bladder distension involves stretching the bladder under epidural anaesthesia for 2 hours, in four half-hour periods with a short break between each. Recent reports have shown the success rate of only about 10%. The only complication reported is bladder rupture, which occurs in about 52% of cases.<sup>15</sup>
- Transvaginal infiltration of the pelvic plexus with phenol had a response rate of 29%. However, all relapsed during the 22-month follow up period.<sup>16</sup>
- Selective blockade of the sacral pelvic nerves involved the injection of a local anaesthetic into the foramina of sacral segment S3. However, few studies on this procedure have reported variable results.<sup>17</sup>
- Selective sacral neurectomy is a neurosurgical procedure that involved identification of the sacral root, usually S3 root is divided bilaterally. Studies have shown good results but on small numbers of patients.<sup>18</sup>
- Transvesical partial denervation of the bladder involved the resection of the inferior hypogastric pelvic nerve plexus. The success rate is reported in 50-80% of patients.<sup>19</sup>
- Bladder transection involved complete transection of the bladder above the trigone and ureteric orifices and division of all inferior lateral communications. Subjective cure rate of 74% was reported at 1 year follow-up.<sup>20</sup>

- Augmentation cystoplasty is used for resistant cases of detrusor instability. The bladder is bisected almost completely and a patch of gut, usually ileum is sewn in place. The operation often cures the symptoms of detrusor instability but results in inefficient voiding.<sup>21</sup>
- Urinary diversion is used as a last resort for those women with severe symptoms in whom all other methods of treatment have failed.

### Mixed Incontinence

Overactive bladder can coexist with genuine stress incontinence in up to 30% of patients. Medical management reduces the need for surgical intervention. If patients fail medical management, bladder neck surgery is recommended.<sup>22</sup> However, the patients should understand that the post-operative course of detrusor instability is somewhat unpredictable. They may need to continue medical management for overactive bladder post-operatively.

### Conclusion

Overactive bladder is common condition. The symptoms are multiple and are always troublesome and embarrassing. It is important to elicit the patient's main complaints and aim treatment accordingly. Although complete, indefinite cure is rare, the majority of patients can achieve a significant reduction of their symptoms and improve the quality of life.

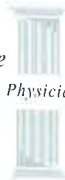
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## Points of view

# Down Syndrome Screening – Where is the Truth on Patient Care?

Lai FM

## Introduction

Down Syndrome is the commonest congenital birth defect. In Singapore, the expected natural incidence of Down Syndrome is between 1 in 558 to 1 in 692 livebirths (1.4 to 1.8 per 1000 livebirths). There has been an exponential increase in the medical literature on antenatal screening for Down Syndrome in recent years using maternal serum screening and antenatal ultrasound scans.

## The aim of antenatal screening for Down Syndrome

There are 2 philosophies of Down Syndrome screening. The first, from a population screening point of view, aims to identify a subgroup of mothers at higher risk of Down Syndrome. This selection is based on the probability of the population group as a whole taking into account the cost-benefits to society.

Most obstetricians in Singapore offer prenatal diagnosis to mothers aged 35 years or older at delivery. This cut-off was adopted from the United Kingdom and this was based purely on economic considerations. It was calculated that the resource savings from this screening policy was more than the cost of screening if mothers 35 years and older at delivery were offered amniocentesis. Based on this proposed age cut-off, 5 percent of the maternal population in the United Kingdom would proceed to amniocentesis and this would diagnose a third of the Down Syndrome Pregnancies.<sup>1</sup>

The other philosophy of screening is centered on the mother's perspective. It aims to provide an individualized, and more accurate, probability risk of Down Syndrome for the mother. This risk is based on her age and is usually modified by added biochemical and/or biophysical information. The 32<sup>nd</sup> RCOG study group on screening for Down Syndrome stated that screening for Down Syndrome is the provision of information for individual(s), on which a decision can be based concerning further care of their pregnancy.

## Demographics of maternities in Singapore

The number of deliveries has been steadily decreasing in the past decade. While the total fertility rate has fallen, the age-specific fertility rate for mothers 30 years and older on the other hand has increased. Women delay childbirth and this is evident from the fact the median age of mothers has risen from 28.0 years in 1985 to 30.5 years in 1997. Over the same period, the percentage of mothers 35 years and older had increased from 8.3% in 1985 to 16.8% in 1997<sup>2</sup>. In contrast, the proportion of mothers 35 years or older at delivery in the United Kingdom is 19.2% and that in the USA is 12.2%.

## Down syndrome pregnancies in Singapore 1993 to 1997

Based on national data collected by the National Birth Defects Registry established since 1993, the number of Down Syndrome livebirths had decreased steadily from 60 livebirths in 1993 to 46 livebirths in 1997 (Table 1). This is reflected as a decrease in the Down Syndrome livebirth rates from 1.19/1000 livebirths in 1993 to 0.97/1000 livebirths in 1997. This rate is, however, confounded by abortions performed after prenatal diagnosis of Down Syndrome. However, adding the number of abortions for Down Syndrome to the number of Down Syndrome livebirths would not give the expected number of Down Syndrome livebirths at term. It is known that about a quarter of Down Syndrome pregnancies miscarry between second trimester and term. Hence, adjusting for these 2 factors, the expected Down Syndrome livebirth rate in the absence of induced abortions would be between 1.4 and 1.8/1000 livebirths.

Figure 1 shows the proportion of Down Syndrome abortions and livebirths in younger and older mothers in Singapore from 1993 to 1997. The Proportion of mothers 35 years and older from 1993 to 1997 was between 15 and 17%. It can be seen that 50 to 60% of Down Syndrome pregnancies occurred in mother 35 years or older.

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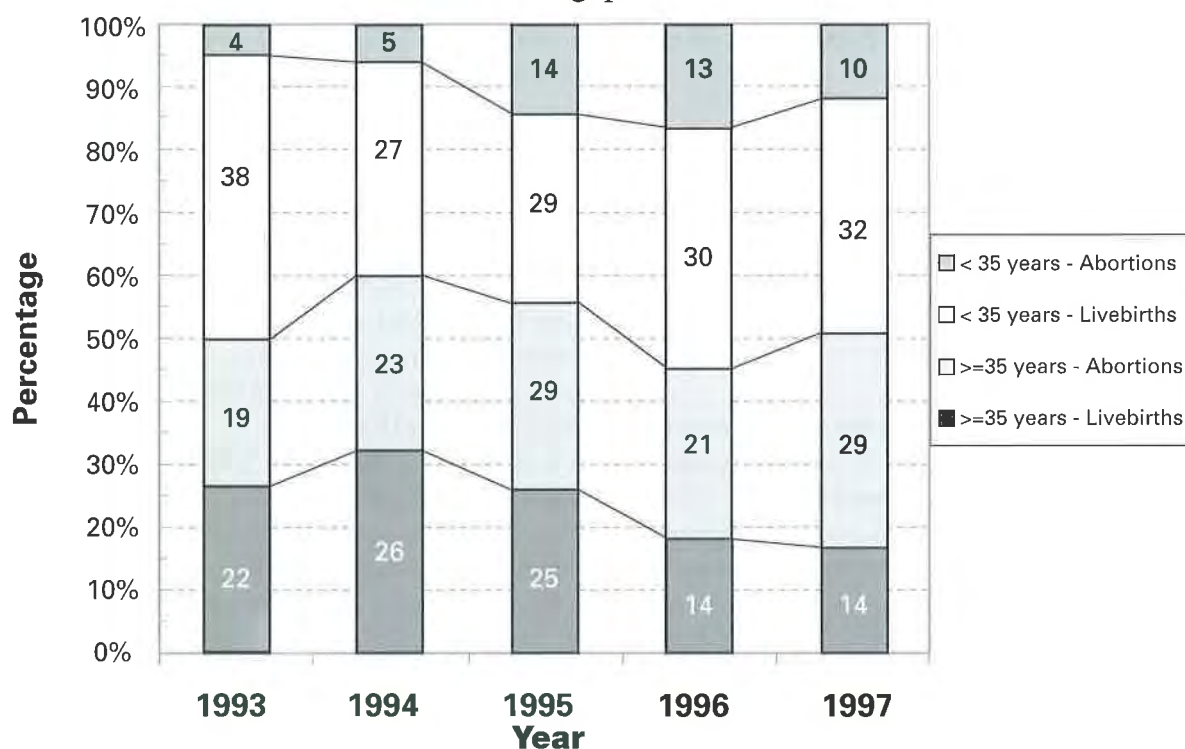
## Points of view

Table 1

	1993	1994	1995	1996	1997
Down Syndrome Livebirth	60	53	54	44	46
Down Syndrome Stillbirth	2	1	0	0	0
Down Syndrome Abortuses	23	28	43	34	39
Total	85	82	97	78	85
Maternities	50221	49549	48631	48576	47332
Down Syndrome/1000 livebirths	1.19472	1.06965	1.1104	0.9058	0.97186
Expected Down Syndrome/1000 livebirths in absence of induced abortions	1.5	1.5	1.8	1.4	1.6

Figure 1

### Proportion of Down Syndrome pregnancies in older mothers in Singapore 1993 - 1997

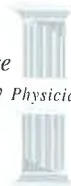


If all mothers 35 year or older in Singapore went for amniocentesis, then for an amniocentesis rate of 15-17% we would detect 50-60% of Down Syndrome pregnancies. In theory, if all these had been antenatally diagnosed and were aborted, there would not be any livebirths in this group of older mothers. In practice, about a half to a third of Down Syndrome pregnancies in older mothers resulted in Down Syndrome livebirths. It follows that the amniocentesis rate in older mothers is probably only between 50 to 60%. The possible factors influencing the uptake of amniocentesis are elaborated below.

Also significant is the small but increasing proportion of abortions for Down Syndrome pregnancies in younger mothers over the years. This is likely to be due to antenatal ultrasound screening or serum screening<sup>3</sup>.

### Factors influencing uptake of amniocentesis

There are many factors that influence the decision of the mother or the couple to decide for an amniocentesis. The most important factor being her/their attitude towards termination of an



## Points of view

affected pregnancy. In those for whom termination is an option, the following factors in risk communication have been found to affect the uptake of amniocentesis. It has been shown that perceived risk rather than actual risk influences the uptake of amniocentesis<sup>4</sup>.

The first factor is representativeness. For example, the parents may be more alarmed by the finding of an ultrasound marker, than by serum abnormality with the same risk, because a scan abnormality seems more representative of Down Syndrome. They are able to see the abnormality on the ultrasound scan.

*Availability.* A woman with prior contact with an affected child is likely to perceive her risk as much greater than other mothers with the same risk as she can easily imagine such an outcome. For example, a risk of 1 in 100 that the baby has Down Syndrome seems worse than a 99% chance that the baby is not affected. It is probably the same reason that mothers in the health service industry are more concerned about obstetric complications and congenital fetal abnormalities during their own pregnancies.

*Anchoring.* If patients have suffered a problem themselves, or had a previous affected child (e.g. spina bifida), availability typically leads them to overestimate the risk of recurrence. They then anchor to this high risk even when given a negative screening test result.

### Avoiding bias in counselling mothers

The following points are helpful in avoiding bias in counselling mothers in a non-directive manner for a prenatal diagnostic procedure.

1. Give people time. In pregnancy, advancing gestational age often introduces time pressure on making a major decision.
2. Avoid presenting risk in semi-quantitative ways. Avoid expressions such as common, rare, unlikely etc which are not value neutral (even when numeric risks are used). Semi-quantitative words appear to carry a directive message. Parents chose termination if the risk

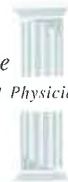
word implied a "high" risk and chose to continue if it implied a "low" one.

3. Frame risks both ways. To minimise anchoring and availability, risks should be presented both as the risk of the bad outcome and as that of the good outcome. For example a 1 in 250 risk of Down Syndrome should be presented as a 249 in 250 chance that the fetus does not have Down Syndrome. Similarly a miscarriage risk of 1% should also be presented as 99% chance that it would not cause miscarriage.
4. Set risk in context. Parents often have little idea of the background risk of adverse pregnancy without the test they have a baseline risk of a similar size. Similarly with risks of abnormality, parents frequently do not realise that the overall risk of significant congenital abnormality in the general population is around 2%.
5. Present risk pictorially where possible, for example marking risk by filling in squares of graph paper is easily done and many people find it useful.

### Weighing the risks

In Down Syndrome screening, the mother or couple is faced with the following dilemma; that of balancing the given risk estimate of Down Syndrome versus the risk of fetal loss from an invasive procedure needed to confirm the presence or absence of Down Syndrome.

The maternal risk of Down Syndrome is known to be highly correlated with maternal age. In estimating the maternal age-specific risk of Down Syndrome livebirth, Cuckle et al<sup>5</sup> combined 8 large published surveys of Down Syndrome livebirths in European women conducted before the introduction of antenatal diagnosis in the late 1970s. There were 4528 Down Syndrome livebirths in over 5 million unaffected pregnancies. A regression curve was then derived from the data. This age-specific risk algorithm has been re-analysed based on the completeness of ascertainment of the various surveys and later



## Points of view

models show higher rates than those originally published<sup>6,7</sup>. Hence, using later regression models, for a mother aged 35 years at delivery, her risk of Down Syndrome livebirth is estimated to be 1 in 267 to 280 rather than 1 in 384.

Although there have been some studies which suggest some racial variation in the maternal age-specific risk, under-ascertainment of Down Syndrome pregnancies in the population from incomplete collection or identification remains a major confounding factor which results in falsely low Down Syndrome livebirth rates.

The age-related risk is used in calculating the test-specific risk in many serum screening programs and is incorporated in some antenatal ultrasound programs which provide Down Syndrome risk assessments. Such programs use the multivariate analysis model where the post-test risk is the age-specific risk multiplied by the likelihood ratio. The latter is the relative frequency of that particular test value (if quantitative) or presence of abnormality (if qualitative) appearing in Down Syndrome pregnancies relative to normal pregnancies. The accuracy of the likelihood ratio is dependent on what is being measured.

For quantitative measurements e.g. serum analytes<sup>8</sup> or nuchal translucency, these can be modeled statistically and the accuracy and precision of these measurements would depend on quality control measures. For certain qualitative measurements, the main example being antenatal ultrasound, some type of abnormalities such as ventriculo-septal defect or omphalocele are known to increase the risks significantly. For other qualitative measurements such as ultrasound demonstration of fetal chroid plexus cyst, pyelectasis or ventriculomegaly, the quantum of increased risk is less clear. Large numbers would be needed to accurately derive the likelihood ratio. An additional difficulty is that the accuracy of antenatal ultrasound is operator dependent and to some extent, patient dependent.

The commonest prenatal diagnostic procedure in Singapore is amniocentesis. Although the procedural associated fetal loss rate has been shown to be operator dependent, fetal loss rates from amniocentesis is likely to be lower than

either chorionic villous sampling or fetal blood sampling. The largest prospective study on mid-trimester amniocentesis carried out in 4606 low risk mothers aged 25-34 years randomised into amniocentesis and non-amniocentesis groups showed an excess difference of 1% between the two, attributable to amniocentesis<sup>9</sup>. The 95% confidence interval was 0.3% to 1.5% (i.e. a procedural associated fetal loss rate of between 1 in 66 to 1 in 333 amniocentesis). In providing loss rates from amniocentesis it is important to have local figures which are comparable.

## Conclusions

It should be emphasized that the success of counselling should not be defined by the detection and termination of a fetus with Down Syndrome. Rather, it is the extent to which the individual personal choice has been facilitated.

People need risk information to make informed decisions and this will often alter their decisions. Ill-informed women may accept any offered test by default, so-called compliant behaviour. Evidence suggests that information in general does not make people more anxious.

Accurate risk figures are crucial in order for mothers or couples to make an informed decision. In counselling mothers/ couples on these risks, this should be provided in a non-biased manner in order to avoid directive counselling.

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## Points of view

# New Frontiers in Obstetric Anesthesia and Analgesia

Sia THA

## Introduction

The introduction of new concepts and improved changes in recent years has made obstetric anesthesia a specialty that epitomizes the institution of evidence based medicine. Concerted research spanning the latter quarter of the 20<sup>th</sup> century in this field has enhanced patient safety and comfort. The topic of labor pain relief features eminently as a subject of much intrigue and controversy, hence, an impetus for many endeavors to unravel its mysteries. On this occasion, a conservative approach, which highlights the implications of our own research, is adopted. Additionally, recent evidence pertaining to issues of public health concerns, such as the impact of regional analgesia on the wellbeing of the mother and infant, are described.

## Spinal narcotics

The shift towards the use of spinal (subarachnoid) narcotics for induction of labor analgesia represents one of the most important landmarks in obstetric anesthesia during the last decade. This is commonly administered as part of the combined spinal epidural technique; the narcotic agent is injected into the subarachnoid space via a fine spinal needle as the epidural catheter is also inserted at the same sitting for subsequent "top-up" analgesia. There are many purported advantages associated with the use of spinal narcotics in comparison with the traditional local anesthetic-based epidural approach. The use of fat-soluble narcotics (such as fentanyl and sufentanil), enhances maternal satisfaction by virtue of its near immediate, uniformly reliable pain relief regardless of the stage of labor. Admittedly, respiratory depression is an exceedingly rare but sinister complication of higher doses of spinal narcotics in labor. Our research on dose-response relationship of spinal narcotics provided some insight to this end. We demonstrated that halving the commonly used dose of 10µg sufentanil plus 2.5mg bupivacaine minimized the incidence of side effects, including

sedation (commonly deemed as a precursor of respiratory depression).<sup>1</sup> The lack of undue compromise in the quality of analgesia with this new regimen will hopefully convince others to reduce the dose of spinal narcotics for induction of labor analgesia.

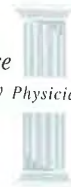
## "Walking epidural" analgesia

This seemingly oxymoronic phenomenon is perhaps the most visible spin off of spinal narcotics, used as part of the combined spinal epidural technique (CSE) for labor pain relief. The ability to mobilize freely after CSE is afforded by the near immediate sensory selective analgesia devoid of lower limb motor block. The preservation of mobility renders a positive impact on maternal satisfaction even though the true clinical benefits of the act of walking have remained unclear. Recent evidence hints at the likelihood of a faster rate of cervical dilatation and a lower rate of instrumental delivery with CSE in comparison with conventional epidural analgesia.<sup>2,3</sup> On the contrary, the salutary effects of walking per se on the indices of obstetric outcome are largely unsubstantiated.<sup>4</sup> Nevertheless, adverse effects associated with walking during labor are even harder to prove. Moreover, our experience with CSE also confirmed that only a minority of the parturients desired to walk once pain was attenuated, most preferred to remain in bed once they become comfortable. Those who eventually walked did so only once after CSE with spinal sufentanil.<sup>5</sup> That notwithstanding, the option to ambulate during labor is a feasible one after CSE, barring medical and logistic (including manpower and monitoring) constraints.

## Other Adjuvants in CSE:

The quest to prolong the analgesic effect of the initial spinal dose of the CSE technique stemmed from the perceived practical advantage

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## Points of view

of diminishing the need for subsequent epidural top-up analgesia and as a corollary, the potential of improving cost effectiveness by obviating the need for additional drugs and equipment. This has led to the exploration into the use of new adjuvants such as clonidine and rekindled interests in older alternatives such as epinephrine. The objective of producing some 6 hours of analgesia (the median duration after the induction of CSE or epidural analgesia before delivery ensues in our institution) is certainly out of reach of all the dose combinations known to date. Indeed, most of them fall short of producing optimal analgesia for even 3 hours before side effects become increasingly unacceptable. Our own encounter with spinal clonidine, an  $\alpha_2$  agonist, confirms that a low dose could prolong the duration of spinal *sufentanil* plus *bupivacaine* combination although its clinical significance is questionable. Other novel agents, such as spinal *neostigmine*, have also been used, but only with mixed success. However, it is premature to rule out the possibility of a multimodal spinal approach or a 'slow release' concoction that may eventually approximate the ideal.

### Ropivacaine and Parturient Controlled Epidural Analgesia

Bupivacaine is, traditionally, the most commonly used local anesthetic agent for obstetric epidural pain relief. However, its propensity for causing cardiotoxicity had prompted much research on agents with a more favorable safety profile. As the offspring of this movement, ropivacaine premiered in the obstetric scene with much aplomb, owing to its much reputed motor sparing and reduced cardiotoxic effects. However, the former credit has not been consistently substantiated for epidural labor analgesia employing a continuous infusion or intermittent top-up technique. These techniques possess the inherent difficulty in managing the vast interparturient variation of analgesic requirement, resulting in physicians occasionally applying a 'blunderbuss' approach in order to achieve adequate analgesia for the majority, at the expense of increasing motor block for some. Our experience shows that, to a certain extent, parturient controlled epidural approach (PCEA) could minimize drug usage and side effects,

principally, lower limb muscle weakness.<sup>6</sup> A properly programmed PCEA regimen boasts of the ability of 'customizing' the degree of pain relief in accordance with the progress of labor. Allowing the mother to push the button for pain relief embodies the culture of medical consumerism as women derive the psychological advantage of being more in 'control' of the birthing process. Our closer examination of the PCEA modality also revealed that for a constant mass, the concentration of ropivacaine held a direct relationship with the degree of motor block.<sup>7</sup> Hence, suitably lower concentrations are recommended to reduce the extent of muscle weakness, which is commonly thought to be contributory to instrumental delivery and other negative repercussions of epidural pain relief.

### Epidural analgesia and public health concerns

We are living in an era inundated with much debate, which sometimes threatens the acceptance of epidural blocks for labor pain relief. The allegation linking escalating Cesarean section rates to epidural analgesia has been largely dispelled by investigations of greater scientific value. Similarly the accusation that epidural analgesia possibly courts neonatal sepsis has on rigorous evaluation, appeared to be a myth.<sup>8</sup> A greater understanding has emerged with regard to the adverse effects of pain which are potentially reversible by properly administered epidural analgesia. This will, hopefully, encourage further research on effective labor analgesia; pain relief must never be withheld based on unfounded fear.

### Conclusion

The ideal mode of labor analgesia remains elusive. Further research into existing methods (e.g. CSE, PCEA with ropivacaine or levo-bupivacaine) may provide some of the answers. Other novel approaches (including continuous spinal analgesia, lumbar sympathetic block and even intravenous self-administered short-acting narcotics) may one day help us uncover the truth about effective labor analgesia, an important bastion for humanity at the dawn of the new millennium.

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## Quiz

### Test Your Eye-Q (No. 9)

### A Painful Red Eye Following Cataract Surgery

Au Eong KG\*, Yip CC\*\*

A 85-year-old woman complained of severe pain, redness and decreased vision in her left eye for a duration of 5 days following a cataract extraction and intraocular lens implantation in the same eye. Figure 1 shows her left eye.

#### Questions

1. What does Figure 1 show?
2. What is the likely diagnosis?
3. What are the common organisms responsible for this condition?
4. What further complications may arise if this condition is left untreated?
5. What is the appropriate management?



Figure 1

#### Answers

1. Figure 1 shows a severely inflamed left eye with eyelid swelling, conjunctival injection, purulent discharge and corneal opacity.
2. The patient has post-operative infective endophthalmitis.
3. The most common organism responsible for infective endophthalmitis following cataract surgery is *Staphylococcus epidermidis*. Other common organisms include *Staphylococcus aureus* and streptococcal species (except pneumococcus, which is not a common cause). Less common organisms include gram-negative bacteria (e.g. *Pseudomonas*, *Proteus*, *Haemophilus influenzae*, *Klebsiella*) and anaerobes.
4. The infection may spread to involve the sclera (*panophthalmitis*), orbit (*orbital cellulitis*) and the central nervous system (e.g. *cavernous sinus thrombosis*).
5. This is an ophthalmic emergency requiring prompt treatment by an ophthalmologist. The appropriate management includes a vitreous tap or vitreous biopsy for culture and sensitivity, intravitreal antibiotic injection, subconjunctival antibiotic injection and intensive topical fortified antibiotic eyedrops. The usefulness of intravenous antibiotics has not been proven. Selected eyes may benefit from pars plana vitrectomy, especially if the visual acuity on presentation is perception of light or worse.

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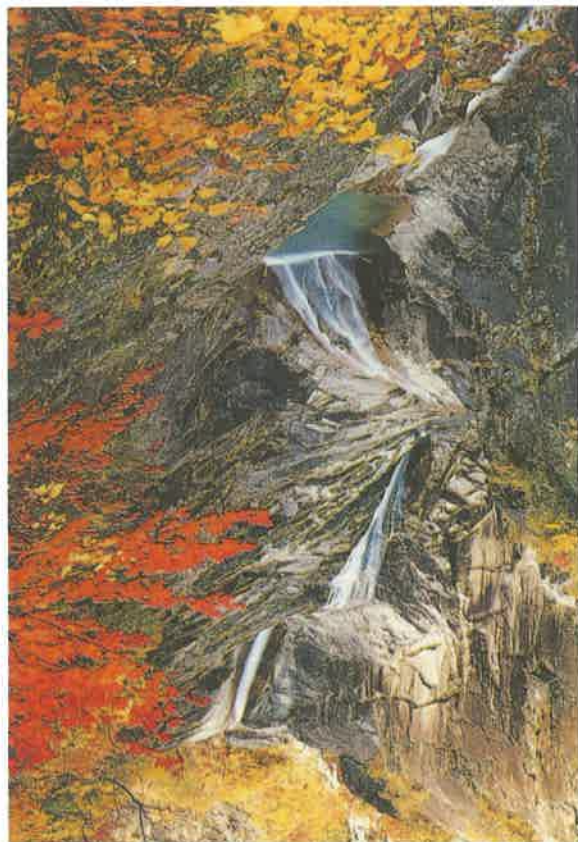
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## A Point Of Digression

### The Waterfall Series - Part II

Tan NC

#### Oryon and Piryong Waterfalls in Korea



The maple forest at Mount Sorak was set ablaze in a riot of colours by nature each October with opulent display of its autumn foliage. The multi-pinnate leaves painted the sombre mountains in kaleidoscopic hues of crimson, orange and yellow. Its fame was universal, attracting both foreign and local visitors. It was here that I decided to spend part of my honeymoon with my wife.

The autumn sun welcomed us as we set foot on the trail up the Chonbuldong Valley. There were throngs of climbers ahead of us on the granite pathway that was interspersed with wooden steps and railings to facilitate the ascent. The soothing sound of falling water was never far from us as the pathway ran parallel to the mountain stream descending from the distant peaks.

At one stage, we paused to admire the colourful maple trees whose roots adhered tightly to the craggy cliffs. A few steps above, a foreigner attempted to pluck a tangerine-coloured maple leaf from a nearby branch, perhaps for souvenir, and she was scoffed at by a civic-minded Korean man. Embarrassed, she moved off in a hurry.

Our next stop was the Oryon Fall. True to its Korean name, the waterfall resembled five interconnected filaments of water descending in various directions. The water writhed its way down the crevasses between the wrinkled boulders, like aquatic straw in twists and turns.

Further up, we met a fellow Singaporean lady who was on her way down from the Piryong Fall. "... all the way up here only to see a waterfall that seemed to flow out from a tap!" was her complaint.

Certainly no "flying dragon" as its name suggested, the Piryong Fall was a flume of water gliding down a huge granite funnel into an emerald pool beneath. Framed by the autumn foliage, the waterfall was picturesque and unique in its character. Perhaps the Singaporean lady could be less disappointed if she did not harbour such high expectations and to appreciate the beauty of each waterfall in its own setting.

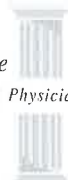
By now, the sun had deserted us. We abandoned our plan to ascend further as darkness gradually enveloped the valley.

#### Chonjeyon And Chonjiyon Waterfalls

The marble intaglio portrayed six nubile fairies enjoying their baths at the pools beneath the Chonjeyon waterfall. One was washing her hair and another was playing the "pipah" whilst immersed in the water. Another fairy was shown flying down from the heaven to join her sisters. "A picture was worth a thousand words". The English and Korean narrations on either side of the panels seemed redundant.

Dr Tan Ngiap Chuan  
MBBS  
Queenstown Polyclinic  
Ministry of Health





## A Point Of Digression



Not far away was the arched Angel Bridge whose wrought iron figurines were another interpretation of the same legend. The story was well known to the residents of Cheju Island. The seven fairies secretly descended from heaven without the knowledge of the Heavenly Emperor, being attracted to bathe in the pristine Chonjeyon Fall. This legend was exploited by the local tourist authority which built these superfluous structures to bolster the tourist industry on this volcanic island.



Not satisfied with the distant view of the waterfall from the Angel Bridge, we decided to get down to the gorge for a closer look. The descending path was lined with vegetation which remained green in October on Cheju Island, unlike the glorious autumn foliage on the Korean peninsula. Along the way, we caught glimpses of the waterfall from

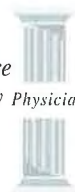
various angles. The view at the bottom of the gorge was superb. The handsome waterfall hung like a silky tapestry from the basaltic promontory. Fed by the mountain streams from the extinct volcano of Hallasan, the sapphire pool beneath the fall was indeed inviting. I was sure it was an unanimous decision for the fairies to bathe in this pool.

Next, we had the opportunity to visit Chonjeyon's less famous but equally popular cousin, the Chonjiyon Fall in the neighbouring town of Sogwipo. Apart from the two names which were the cause of much confusion, Chonjiyon Fall also bore a close resemblance to its taller cousin. The water plummeted from a precipitous cliff, hurling up sprays that provided constant nourishment to the clusters of ferns on its craggy surface. The torrents were strangely concentrated on the right.

A huge boulder in a strategic location in front of the waterfall naturally became a photo studio. Visitors, including Korean honeymooners in traditional attire, queued to have their photos taken on this prime spot. Several senior Korean ladies, however, refused to obey this etiquette. They elbowed their way to the front of the queue to capture their "priority shots". We should respect these senior citizens, shouldn't we?

## Sagil Waterfall in Malaysia





The rain started to splatter when we reached the jungle huts on our way to the Sagil waterfall. We sought refuge in a zinc-roofed shelter, lamenting the curse of the legendary Princess of Gunong Ledang.

The sky was diaphanous for the last two hours as our entourage of five travelled along the North-South Expressway from Johore to Tangkak before turning into the town of Sagil towards Gunong Ledang. Our destination was the waterfall at the foothills of this 1276 m high mountain, which was better known as Mount Ophir.

As the heavily laden clouds and the rain dimmed the surrounding forest, we surrendered to the elements of nature and retreated to the Gunong Ledang Resort.

The next morning, we were greeted with bright sunshine when we made another ascent to the waterfall. The curse seemed to be dispelled with the mercy of the princess. At an elevation of 500 metres above sea level, the crisp air was invigorating to the lungs.

At the lowest level, the waterfall consisted of several cascades that hopped from one rocky ledge to another, connected by a string of pools. The cascades were crowded with merry picnickers during the weekend.

We left the crowds alone and proceeded to the next stage where the waterfall slid 30 metres down a bare granite slope. The water veered down a zig-zag course over boulders deeply furrowed by years of erosion.

At the hub of this waterfall was a rocky platform which looked out onto the distant rubber plantations through an aperture framed by the forest. With a background watery orchestra, it was a perfect spot for a picnic.

Not far away, a fully attired Malay couple, sat on the ledge in the midst of the waterfall, oblivious to our presence. The waterfall proved to be irresistible to us too; both How Hong and I soon immersed in this natural jacuzzi. 'In Rome, do what the Romans do', we remained clad in our T-shirts. This was a silly attempt to shield ourselves against the chilly torrents. Regrettably, I had to abandon this cold shower barely 15 minutes later. Unlike How Hong, the lack of bodily insulation was truly my disadvantage.

I rejoined my wife and friends who were contented to soak up this relaxing ambience on the platform. We satisfied our tummies with Loacker biscuits as our eyes feasted on the nonchalant butterflies fluttering in the surrounding forest. The fizzy fruit juice, chilled by the waterfall, was a sparkling finale.





# THE COLLEGE MIRROR

Combined Issues: No 3 Jul - Sep 1999  
No 4 Oct - Dec 1999  
MITA(P) No 385/03/99

The last quarter of 1999 has been a period of significant milestones in the College's activities. This combined issue of the College Mirror (No 3 and No 4 1999) covers exciting news and events that have taken place in the last few months.

One of the highlights was the visit by the Minister of Health, Mr Lim Hng Kiang, to the College in October. He was keen to learn about the work, role and functions of the College and was very supportive of the College's plans to contribute to primary care in Singapore by developing and taking the discipline of Family Medicine forward and to a higher plane by introducing a Graduate Diploma in Family Medicine to be the basic vocational requirement for all principal family doctors. More details about the Minister's visit and the diploma course can be found on pages M2 and pages M15 respectively.

October '99 was an important month for those candidates who took the Master of Medicine (Family Medicine) Examination. Congratulations to the 25 trainees who passed. The Class of '99 can be found on pages M13.

## FROM THE EDITOR'S DESK

Another landmark decision was reached at the Extraordinary General Meeting (EGM) on 24 September 1999, when the House voted for the College to spearhead the move to set up an independent Department of Family Medicine at the National University of Singapore. See the report on pages M10.

In the weekend immediately after the EGM, all the plans and preparations of the Organising Committee came to fruition when the College hosted its 7<sup>th</sup> Scientific Conference and 8<sup>th</sup> Meditech Exhibition on 25-26 September 1999. The theme of the conference was ***Family Medicine: Facing Demographic Change***. Some personal reflections of the event are found on pages M4-M6.

At the Opening Ceremony of the conference, the College took the opportunity to honour some distinguished people who have contributed to the College and to Family Medicine in their own way. The *Albert and Mary Lim Award*, the College's highest accolade, was awarded to Dr Arthur Tan Chin Lock and Dr Richard Ng Mong Hoo. An *Honorary Fellowship* of the College was awarded to A/Professor Chee Yam Cheng.

Finally, it is always a pleasure to welcome new members to the College page M17 and to share news of happy events (page M17).

Wishing you all a Happy New Year in 2000.

■ Yvonne Chung

## Minister's Visit

### Minister's Visit to the College

The Minister of Health, Mr Lim Hng Kiang, visited the College on 15 October 1999. He was accompanied by Mr Chan Soo Sen (Parliamentary Secretary), Mr Moses Lee (Permanent Secretary, Health), Mr Willie Tan (Deputy Secretary), Dr Chen Ai Ju (Director of Medical Services), Dr Lam Sian Lian (Deputy Director of Medical Services, Professional Service and Development), Dr Ling Sing Lin (Deputy Director of Medical Services, Public Health), and Dr Mimi Choong (Director, Policy and Planning).



*The Minister (centre) and his team.*



*The Minister with a smile, signing the visitors' book.*

The College Council had very a useful discussion with the Minister and his team on the recently announced health care reforms in relation to the health care clustering and what this means for the GP/ Family Physician. The Council also emphasised to the Minister its role in Continuing Medical Education. The College offered to continue to be the accreditor of CME programmes for primary care doctors, a task it has been performing for the last six years since 1993. By continuing with this role, the College will maximise the use of talent in the profession to accredit appropriate CME through awarding more points to those programmes that are more useful and relevant to the work of the GP/ Family Physician.

The Council also highlighted to the Minister its aim to raise the standard of practice of the Family Physician by implementing a Graduate Diploma in Family Practice (see announcement on page M18), to be launched in mid 2000. The College is working closely with the Graduate School of Medical Studies, NUS, to train doctors in general practice who do not hold the MMed (Family Medicine) degree. In this way, the general standard of the Family Physician will be raised to at least Diploma of Family Medicine level.



*left to right  
Dr Arthur Tan (Vice President),  
A/Prof Lim Lean Huat (President),  
Mr Lim Hng Kiang (Minister of Health),  
Dr Alfred Loh (Immediate Past President),  
Mr Chan Soo Sen (Parliamentary Secretary, Ministry of Health),  
Dr Tan See Leng (Council Member)*

## **Minister's Visit**

The Minister was very supportive of this move and encouraged the College to play its part in educating the public to adopt the family doctor concept by registering and seeing a dedicated GP/Family Physician. As reported by the media on his Parliamentary Speech, the Minister stated the "we want Singaporeans to have a long-term relationship with family doctors...with family doctors managing his care, he will be sure that whatever is needed is done without wasting resources". He continued to state that the family doctor "...should continue his upgrading, both through continuing medical education and also through a masters or postgraduate diploma course.

Over time, a larger proportion of the more than 1,500 GPS in private practice will be more highly trained, and thus be able to give better service. They can be the back bone of the healthcare system" (Straits Times, 19 Nov 99, page 74, "Family doctors need to upgrade skills, too").

The Council also raised other important issues with the Minister, such as a noticeable trend in the restrictive practices of particular new drugs to non -Family Physicians. Read about this and other issues affecting family practice in the President's Column in this issue of the Singapore Physician Journal.

■ Yvonne Chung

## News From The College

### 7<sup>th</sup> Scientific Conference Reflections of an Organising Committee Chairman

"Me, organise a conference? You must be kidding!" was my first response when the College Council asked me to organise the 7<sup>th</sup> Scientific Conference. I have never organised anything of this scale before. Memories of previous WONCA conferences that I have attended overseas came to my mind, and the task seemed even more daunting then. However, with naive bravado, I took up the job.

We did not have much time. If the conference were to be held in June-July 1999, there was less than a year to plan. The first task was getting a group of 'volunteers' to be in the Organising Committee. Friends, colleagues and fellow council members were roped in. Those with or without experience in organising conferences were welcomed.

The first dates that were first decided, turned out to be bad because there was another major conference going on the same weekend. This, we found out only after some initial planning,

including booking the conference premises and banquet venue. More headaches! Everything had to be changed! Finally, the dates of 25-26 September 1999 were chosen.



What would be the theme? Elderly care seemed important enough and it seemed to be the current challenge facing Family Physicians. How should we phrase it? Many suggestions came forth. Some were catchy, some too long, some too short and some plain silly. We finally decided on '**Family Medicine: Facing Demographic Change**' to reflect the challenges brought on by the aging population.



*Dr Lee Suan Yew putting his point across to the audience*



*Council and guests in their gowns, on the way to the opening ceremony*

Planning the scientific programme was easier. There was never a shortage of topics which we thought were relevant and important to GPs. The problem was trying to fit them all into the one and a half-day programme.

Slowly but surely, good news in the form of sponsorships came. A few major pharmaceutical companies were keen to be part of the conference and showed their support with monetary sponsorships.



## News From The College



*Dr Lee Mun Tuck (topless) - the "demonstration model" for the musculo-skeletal workshop*

Things began to fall into place. The date was drawing near, and our anxiety levels rose. Last minute changes to the programme had to be made, and letters to various speakers were sent frantically to apologise for the changes. It seemed like we would never get to print the conference booklets on time, but somehow, through the long hours and hard work of the administrative staff, we were ready for the big day.

What can we do to make future conferences more attractive and useful? We all know the limitations

of didactic lectures. Why not have more interactive sessions? Does the organising committee know what is useful for GPs or do they know what it is that GPs really want? Maybe we should do a survey on the needs of the GP community before planning the next conference. Will I do it again? "Hmm..."

■ Dr Kwan Yew Seng  
Chairman  
Organising Committee  
7<sup>th</sup> Scientific Conference 1999

## News From The College

### 8<sup>th</sup> Meditech Exhibition 1999



Mr Chan Soo Sen (2<sup>nd</sup> right) cutting the ribbon to officially open the 8<sup>th</sup> Meditech Exhibition



Mr Chan Soo Sen trying his hand at diathermy

The 8th Meditech Exhibition was held on 25-26 September 1999 in conjunction with the College's 7th Scientific Conference. The exhibition was a resounding success judging from the support of the sponsors as well as the turnout. Mr Chan Soo Sen, Parliamentary Secretary, Ministry of Health, opened the exhibition amidst much fanfare and went round to each and every one of the exhibition booths to learn more about their products and services and to show his appreciation for their support.

1. Tanabe Seiyaku Singapore Pte Ltd
2. Freeway Medical Company
3. Novartis (Singapore) Pte Ltd (2 booths)
4. Janssen-Cilag
5. Smitech (Asia) Pte Ltd
6. United Medical Protection
7. Eli Lilly Asia Pacific Pte Ltd
8. Bluestone Medical Equipment
9. Glaxo Wellcome Pte Ltd

The delegates and participants, including Mr Chan were treated to a delicious buffet as well as a whole barrage of newly launched drug information and medical equipment. The participants also tried out the latest in body mass

index measurement with distribution of body fluids and fat in one single report. Also present were companies marketing ultrasound machines, surgitron and epiglu for fuss free skin adhesion without suturing. We would like to thank the exhibitors who took part in the weekend of activities, they are:



Delegates enjoying their tea break at the 8<sup>th</sup> Meditech Exhibition



Dr Tan Cheng Bock (left) finding out his body mass index measurement

■ Dr Tan See Leng  
Chairman  
8th Meditech Exhibition 1999

## News From The College

### The Albert and Mary Lim Award

The Albert and Mary Lim Award is the College's highest accolade in recognition and appreciation of the recipient's outstanding contribution, support and services to the College.

#### History of the award

Dr Albert Lim Liat Juay was born on 15 October 1890. He went to school at George Watson's in Edinburgh, Scotland, and later to Edinburgh University where he studied Medicine. After graduating he proceeded to obtain his MD in Haematology.

On returning to Singapore, Dr Albert Lim went into private practice. He treated his patients with meticulous care and practised holistic medicine, a term that was yet to be coined. Despite his very heavy clinical workload, he found time to serve on the Municipal Commission, the Singapore University Court and various Hospital Boards. When the Pacific War broke out, he was instrumental in setting up the first blood transfusion blood unit in Singapore.

It would not have been possible for Dr Albert Lim to have accomplished so much without the support of his wife Mary. Mary brought up their four daughters: Margaret Lim Toan Keng, Lim Toan Kiaw, Patricia Lim Toan Lien, Lim Toan Yang and a son, Jerry Lim Kian Tho, who all graduated in Medicine.

Dr Albert Lim passed away in 1970 at the age of 80 years and Mary Lim passed away four years later, also at the age of 80 years. Four days before she died, she was given a birthday card by one of her children. The card read:



The late Dr Albert and Mrs Mary Lim

*We are never without courage  
With a mother's faith beside us,  
We are never without comfort  
With a mother's hand to guide us,  
We are never without laughter  
When we have her smile to cheer us,  
We are never far from heaven  
When a mother's love is near us*

In memory of their parents, the children instituted The Albert and Mary Lim Award.

This award was previously known as The Albert Lim Award which was first presented in 1974.

The College would like to thank the family members of the late Dr Albert and Mrs Mary Lim for their generosity in donating the funds to make this award possible.



Family members of the late Dr & Mrs Albert Lim

#### Recipients of the award

This year, two members of the College have been presented with this award: Dr Arthur Tan Chif Lock and Dr Richard Ng Mong Hoo.

Dr Arthur Tan Chin Lock has been an active member of the college since the 1980s. His first stint in the College Council started in 1987 when he was elected as Council Member. He has since served in the Council, without a break, as the College's Honorary Secretary in 1989-91, 1991-93 and 1995-97 and as the Honorary Treasurer in 1993-95 and 1997-99. Dr Tan is currently the College's Vice President for the term 1999-2001.



## News From The College

Dr Richard Ng Mong Hoo joined the College as an Associate Member in 1974 and was upgraded to an Ordinary member in 1976. Since 1989, Dr Ng has served, without a break in the College Council in the following capacities: Council Member 1989-91, 1991-93 and 1993-95; Honorary Treasurer in 1995-97; and Honorary Secretary on 1997-99. Dr Ng is the current Honorary Treasurer for the term 1999-2001.



Dr Arthur Tan (right) receiving The Albert and Mary Lim Award from A/Prof Lim Lean Huat, College President.

Perhaps Dr Ng's most outstanding contribution has been in the area of Continuing Medical Education. Working tirelessly as the Chairman of the College's CME Committee in addition to his Council Position, Dr Ng has been instrumental in improving the quality of CME and making CME relevant for GPs/ FPs.



Dr Richard Ng (right) receiving The Albert and Mary Lim Award from A/Prof Lim Lean Huat, College President.

■ Yvonne Chung

### Acknowledgement:

The author wishes to thank Dr and Mrs Wong Heck Sing for providing the historical facts for this article.

## Honorary Fellowship

Congratulations to A/Professor Chee Yam Cheng who has been awarded the Honorary Fellowship of the College of Family Physicians, Singapore, in recognition of his contribution to Family Medicine.

A/Prof Chee is Senior Physician and Head of the Department of General Medicine at the Tan Tock Seng Hospital, and is also currently serving his second term as Master of the Academy of Medicine. He has been long time friend of the College and a strong ally of Family Medicine.

Below is an excerpt from the citation given by Dr Lau Hong Choon, the College's Censor-in-Chief, in Professor Chee's honour:

*"His biggest contribution to the discipline was to make the rotational training of Family Medicine a reality when he was Director of Manpower at the Ministry of Health. He has done the work of the doctor and administrator – to take care of patients, not only personally, but also by proxy, and for posterity, through the institution of training hundreds of young doctors to be qualified Family Physicians. His key role in the tripartite relationship between the College, the Ministry of Health and the University has greatly helped the College draw up the structured training programme for Family Medicine. Hence, A/Prof Chee had the foresight and the used the weight of his influence to further the cause of the profession and the health of the nation in the important discipline of Family Medicine.*

*The College is proud to be associated with A/Prof Chee."*

The Honorary Fellowship was conferred upon A/Prof Chee on 25 September 1999.

■ Yvonne Chung



## News From The College

### 17<sup>th</sup> Sreenivasan Oration

The Sreenivasan Oration was established by the College in 1978 to perpetuate the memory of the late Dr Baratham Ramasamy Sreenivasan, the College's Founding President.

The Sreenivasan Oration symbolises the respect and honour that the College holds for its invited speakers. The distinguished list includes 5 Past Presidents of the College, one Past Honorary Editor of the College, five distinguished overseas speakers, a High Court judge, a Neurosurgeon, a cardiologist and two Professors from the National University of Singapore.

This year, we had the honour of inviting **Dr Tan Cheng Bock**, Member of Parliament for Ayer Rajah and a practising Family Physician to deliver the College's the 17th Sreenivasan Oration on "**Medicine and Politics – Do They Mix?**". The full text of his oration can be found in the Singapore Family Physician Journal, Vol 25, No 3 (July – Sept 1999).

Dr Tan gave a very personal account of how he entered politics, and how, as a young politician, he was "treated to a baptism of fire and woke up to the realisation that the politics and medicine are two different worlds ... Politics at times makes me mad and medicine keeps me sane".



*Dr Tan Cheng Bock delivering the 17<sup>th</sup> Sreenivasan Oration*

It was interesting to listen to Dr Tan as he described the way he juggled family life with politics and a busy medical practice for the last twenty years or so. The contrasting roles often created intra-personal conflicts and dilemmas that he had to resolve.

His final message was not one of deterrence for any would-be doctor-politicians in the audience, but one of encouragement to those who had the enthusiasm and passion to enter politics. In his words: "...If you do enter politics...be yourself and you can't go wrong".

■ Yvonne Chung



*Dr Lee Kheng Hock (2<sup>nd</sup> right) gowning up Dr Tan Cheng Bock (3<sup>rd</sup> right)*

## Extraordinary General Meeting

### The Setting Up of a Department of Family Medicine

An extraordinary general meeting was held at the College on the 24 September 1999. The agenda was to deliberate on three resolutions proposed by the 17th Council of the College. The proposed resolutions were:

#### Resolution 1

That the College initiates the move to set up a Department of Family Medicine at the National University of Singapore

#### Resolution 2

That the College spearheads the fund raising towards a target sum of S\$3million for the Endowment Fund for the Chair in Family Medicine.

#### Resolution 3

That a donation of S\$500,000 be made by the College from its existing funds to the proposed Endowment Fund for the Chair in Family Medicine.

During the meeting, the general body was informed that preliminary meetings and discussions have been carried out to explore the idea of setting up an independent Department of Family Medicine with its own Chair. The document proposing this idea had been submitted to the Vice-Chancellor of the National University of Singapore on 7 January 1999. This document had also been presented to the Dean of the Faculty of Medicine.

The College, since its inception in 1971, has made significant headway in getting Family Medicine recognised. As a distinct discipline, it means that there needs to be three essential components: 1) a distinct area of knowledge or syllabus; 2) assessment, and 3) research. An independent department would be a very logical vehicle to further develop Family Medicine and take it to new heights.

Dr Alfred Loh, the immediate Past-President, volunteered to chair the Fund Raising Committee which will have to raise the S\$3 million. He urged

the House to give its fullest support to the proposed transfer of the S\$500,000 to boost the fund raising effort.

Past President, Dr Koh Eng Kheng, supported the College's proposal and said that the General Practitioner/Family Physician is ultimately the one person who coordinates the care of the patient.

Past President, Dr Wong Heck Sing, said that the whole idea of the College was to train Family Physicians. An independent department is needed to continue and enhance the training of doctors in Family Medicine.

Past President, Dr Lee Suan Yew stated that this meeting was a very historical event. He was glad to see the high turn out of members to attend the EGM. He congratulated the College Council on making the bold and timely move to spearhead the setting up of an independent department. Dr Lee SY felt that Singapore is ready for such a department. He said that secondary medicine has progressed very well. There is now tertiary medicine and even talk of quaternary medicine. However, the fundamental basics still fall back to primary care as it is important and holistic. Therefore, the dream to have a department is the right direction for the College to take: "we dare to dream".

Dr Lee SY said that in the last 27 years, from a gathering of innocuous doctors, we have reached a level where there is a division of Family Medicine in the National University of Singapore, headed by A/Prof Goh Lee Gan who is very focussed, a great writer, speaker and leader. With people like A/Prof Goh LG, Dr Lee SY was confident that we can spearhead a department without a doubt.

Dr Lee SY's only reservation, however, was on Resolution 3 regarding the transfer of the S\$500,000 from the College's funds. Dr Lee SY fears that this may deplete the College's funds, especially if we take into account that the College has to pay commercial rent of some S\$6,500 per

## Extraordinary General Meeting

month as opposed to S\$1.00 per month previously. He proposed that the wording of Resolution 3 be amended so that the College is not tied down to giving S\$500,000, but instead, to transfer an amount that is **commensurate** with its ability to donate. He suggested that the clause should worded such that it is left as open as possible.

Dr A Loh explained that the figure of S\$500,000 was proposed by the Council to show the College's commitment to spearhead the move to establish the Family Medicine department. Secondly, the College has some S\$1.4 million, of which some S\$700,000 came from the Postgraduate Medical Library Fund. The remaining amount was accumulated over the years, starting with the seed money from the WONCA World Conference organised and hosted by the College in 1983. Dr Loh's point was that even if we transfer S\$500,000, the College will be able to source for other avenues of income. Eventually, when the Family Medicine Department is set up, Dr Loh hopes to see that the College is amongst the top donors. This transfer of S\$500,000 would be in line with the College's objective and mission that we have shown substantial commitment to the cause. If the College can raise S\$3 million, the government will give S\$9 million, as their policy is to match S\$3 for every S\$1 raised. This will give a total of S\$12 million.



Dr Lee Suan Yew, Past President, making a proposal to amend Resolution 3, with Dr Alfred Loh looking on.

Various proposals came from the other members. The majority were supportive of Resolutions 1 and 2 but were similarly concerned about whether the College can afford to pay such a large sum of money as proposed in Resolution 3.

During the voting, Resolution 1 was passed unanimously with 38 votes in favour. Resolution 2 was passed with 37 votes in favour and 1 abstention.

Before voting on Resolution 3, Dr Lee

Suan Yew proposed to amend Resolution 3 to say the following:

**"That a donation commensurate with the means of the College be made to the proposed Endowment Fund for the Chair in Family Medicine."**

Dr Lee Suan Yew's proposal to amend Resolution 3 was seconded by Dr Soh Cheow Beng.

Dr Alfred Loh disagreed. He felt that the term *commensurate* is a flexible term that can be interpreted widely. The College has to "put its money where its mouth is" and the House must agree to a definite figure. Other members agreed that a definite sum should be stated to show commitment. Dr. Alfred Loh counter proposed with the following amendment:

**"That a donation of at least S\$250,000 be made by the College from its existing funds to the proposed Endowment Fund for the Chair in Family Medicine at the National University of Singapore."**

Dr Lee Suan Yew agreed to withdraw his proposal to amend Resolution 3 and seconded the amendment proposed by Dr Alfred Loh. The amended third resolution was passed with 30 votes in favour, 1 against and 2 abstentions.

With 2 resolutions passed and 1 amended, the College was steered towards a new and challenging goal in the new millennium. It looks forward to the support of its members, friends, and well wishers in achieving this goal.



All hands Up! Members voting on the resolutions

■ Ms Yvonne Chung  
Dr Lee Kheng Hock



## External Examiners' Visit

Every year, at the time of the Master of Medicine (Family Medicine) exam, it has been a tradition to invite the External Examiners to give a lecture to all Family Medicine trainees and GPs/Family Physicians. 1999 was no exception. The College had the pleasure of hosting Dr Neil Spike from Australia and Professor Nigel Stott from the UK. Both are no strangers to Singapore as they have previously been to Singapore as External Examiners. We took the opportunity to tap their knowledge and invited them to give a lecture on Continuing Professional Development (CPD).

Professor Nigel Stott, Professor of General Practice at the University of Wales College of Medicine, gave an overview of CPD in the UK.

Dr Neil Spike, Executive Director of Standards at the Royal Australian College of General Practitioners, gave his presentation from the IT perspective.

The lecture was well received and the audience had the opportunity to ask how doctors in Singapore could be encouraged to participate more in CPD and Continuing Medical Education.

Those who missed the lecture would be glad to know that a tape recording of the lecture is available from the College.

A tea reception was held after the event for all present.

■ Yvonne Chung



(standing left to right) Dr Alfred Loh, Dr Neil Spike, Mrs Mary Stott, A/Prof Goh Lee Gan.  
(seated) Professor Nigel Stott



## Class of '99 - MMed (Family Medicine) Graduates

The 1999 Master of Medicine (Family Medicine) Examination was held from 4 –10 October 1999. A total of 37 candidates sat for this very vigorous and challenging examination; 25 were successful.

Congratulations to the Class of '99, the graduates are as follows:

Dr Ang Choon Kiat  
Dr Chong Chun Hon  
Dr Hwang Chi Hong  
Dr Kan Siew Yoong  
Dr Kok Jaan Yang  
Dr Lee Peng Khow  
Dr Lee Siew Thye  
Dr Lew Yii Jen  
Dr Lim Hui Ling

Dr Lim Hwee Boon  
Dr Loke Kam Weng  
Dr Ong Jin Ai  
Dr Pang Sze Kang, Jonathan  
Dr Shiau Ee Leng  
Dr Siew Wei Fong  
Dr Soh Yew Chye, Albert  
Dr Tan Boon Yeow \*  
Dr Tan Kee Wang

Dr Tan Kok Leong  
Dr Tan Suan Leng, Elaine  
Dr Thai Huei Min, Vincent  
Dr Wong Yu Yi  
Dr Yeo Kwee Kee  
Dr Yew Woon Wah  
Dr Yong Oi Si, Elsie



*Standing left to right:*

*Drs Tan Kee Wang, Jonathan Pang, Loke Kam Weng, Ong Jin Ai, Vincent Thai, Wong Yu Yi, Elaine Tan, Siew Wei Fong, Shiau Ee Leng, Lim Hui Ling, Elsie Yong*

*Seated left to right: Tan Boon Yeow, A/Prof Goh Lee Gan, Yew Woon Wah*

*(Not in the photo: Drs Ang Choon Kiat, Chong Chun Hon, Hwang Chi Hong, Kang Siew Yoong, Kok Jaan Yang, Lee Peng Khow, Lee Siew Thye, Lew Yii Jen, Lim Hwee Boon, Albert Soh Yew Chye, Tan Kok Leong, Yeo Kwee Kee.)*

## FMTP

\* Congratulations to **Dr Tan Boon Yeow** who attained distinction in the exam and is awarded the *College of Family Physicians, Singapore, Gold Medal*.



*Dr Tan Boon Yeow (left) the College's Gold Medallist for attaining distinction in the MMed (Family Medicine) exams, pictured with A/Prof Lim Lean Huat, President of the College*

This latest batch of graduates brings the total of doctors with the MMed (FM) degree to 112 since the first exam was conducted in 1993.

In keeping with a recent College tradition, a congratulatory lunch was hosted by the College in the graduates' honour on 20 November 1999. It was an informal and enjoyable occasion for College Council Members, trainers, examiners and the successful candidates. Being the next echelon

of potential leaders in Family Medicine, the graduates were encouraged to participate in more College activities in the interest and future of Family Medicine and practice.



*Everyone enjoying a bite to eat*

Congratulations to Dr Lim Lean Huat, President of the College, who was accorded the title **Adjunct Associate Professor** in the Department of Community, Occupational and Family Medicine, National University of Singapore, with effect 1 August 1999.

## Graduate Diploma In Family Medicine

### In the pipeline...the Graduate Diploma in Family Medicine

#### Introduction

The vision and objective of the College of Family Physicians, Singapore, is to develop programmes for upgrading the whole of the primary care profession. It has already set in place for 10 years, a postgraduate course leading to the **Master of Medicine (Family Medicine)** (MMed(FM)). This is a tripartite programme with the Ministry of Health and the National University of Singapore, through the Department of Community, Occupational and Family Medicine and the Graduate School of Medical Studies.

The proposed Graduate Diploma in Family Medicine (Dip FM) would be the basic vocational requirement for principal family doctors. It is meant to compliment the MMed (FM) programme. With the Dip FM in place, a doctor can choose either to do the MMed (FM) as an express stream (MOH 3 years, PPS 2 years), or step-wise by doing the Diploma course first, followed by the MMed (FM). Some doctors may, of course, choose to be content with the Diploma.

For those who wish to do the MMed (FM) step-wise, the Dip FM will provide exemptions from some parts of the MMed (FM) course.

#### Course Objectives

The Graduate Diploma in Family Medicine is the College's strategy to train as many primary care doctors to a higher level to be able to meet the needs of the young child, the adolescent, the adult and the elderly.

At the end of the programme, the course participant should be able to:

- describe the knowledge base relevant to General Practice/ Family Medicine that has been detailed in the Graduate Diploma course;

- apply relevant clinical skills to approach and manage common problems encountered in General Practice/ Family Medicine;
- describe the care of chronic medical conditions (such as diabetes mellitus and hypertension) and the care of the elderly in Singapore; and
- meet the standards prescribed for the Graduate Diploma in Family Medicine.

#### Pre-Requisites for the Course Attendance

The candidate must possess

- a basic degree of the MBBS or equivalent qualification registrable with the Singapore Medical Council
- three years of full registration with the Singapore Medical Council

#### Course Syllabus

The course syllabus consists of:

- Family Medicine and Whole Person Medicine
- Disease Management
- Practice Management

#### Teaching Method

The course consists of:

- Distance-learning component and workshops
- Tutorials
- Clinical skills posting
- Skills workshops
- Examination



## Graduate Diploma In Family Medicine

### Entry Requirement for Examination

The following must be submitted one month before the examination

- Proof of at least one year of clinical experience in Family Medicine practice or acceptable equivalent (which may be before or during the course duration);
- The log-book recording a minimum attendance record of three-quarters of the sessions of every component of the two-year programme; and
- Satisfactory written records in the prescribed format of a one-week practice survey in the place of practice, with appropriate discussion.

### Examination

There are three parts to the examination

- MCQ examination based on FMTP
- Skills Assessment by OSCE (Objective Skills Clinical Examination)
- Oral interview based on a one-week practice survey and other FM topics

### Fees

The fees are still being finalised at the time of printing for the 2-year programme. It is envisaged that the fees will cover the cost for the log-book, 8 FMTP modules, tutorials, workshops and short skills courses. It will not include the examination fee. Fees for foreign candidates will be set at a later date.

■ Yvonne Chung

### New Arrivals

Congratulations to the recent new arrivals to members of the College:

Dr and Mrs Tan See Leng on the birth of their 3rd child, a boy, Josiah.

Dr and Mrs Lee Mun Tuck on the birth of their first child, a boy, Tristan.

Dr and Mrs Tan Ngiap Chuan on the birth of their first child, a girl, Clarissa.

Dr Lim Jen Pei and husband Dr Benjamin Tham on the birth of their first child, a boy, Tham Yong Hao, Marc.

Dr and Mrs Kwan Yew Seng on the birth of their second child, a girl, Julia.





## Welcome To New Members

### Welcome to new members

A very warm welcome to the following doctors who have joined the College between August – December 1999

#### Ordinary Members

Dr <b>Tay</b> Ee Guan	(Government Service)
Dr Jonathan <b>Lim</b>	(Private Practice)
Dr <b>Kuan</b> Mae Yee	(Private Practice)

#### Associate Members

Dr Calvin <b>Chan</b> Heang Kng	(Singapore Armed Forces)
Dr <b>Chan</b> Kok Yew	(Private Practice)
Dr <b>Chao</b> Wen Pin	(Government Service)
Dr <b>Chung</b> Wei Pyng	(Government Service)
Dr Lester <b>Leong</b> Chee Hao	(Government Service)
Dr <b>Lim</b> Heuk Yew	(Government Service)
Dr Malcolm <b>Lim</b> Chun Liat	(Private Service)
Dr <b>Low</b> Jin Kheng	(Private Practice)
Dr <b>Shiau</b> Ee Leng	(Government Service)
Dr Sonia <b>Haridas</b>	(Private Practice)
Dr <b>Tan</b> See Lin	(Private Practice)

#### Overseas Member

Dr Elizabeth Clare <b>Robin</b>	(UK)
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## Announcement

College of Family Physicians Singapore

### 4th Annual Surgical Update for Family Practice

4-5 March 2000

Galleria Ballroom  
Grand Copthorne Waterfront  
392 Havelock Road  
Singapore

## Programme

**Saturday, 4 March 2000**

**2.00pm – 9.00pm**

*(inclusive of afternoon tea & dinner)*

#### **SURGICAL ONCOLOGY**

**Scientific Chairman: Dr Hong Ga Sze**

- **Cancer Programmes in Singapore**
- **Genetics and Familial Aspects of Cancer**
- **Reconstructive Options in Surgical Oncology**  
Head and neck surgery  
Voice rehabilitation  
Breast surgery  
Colorectal surgery
- **New Technologies in Cancer Management**  
Minimally invasive breast biopsy  
Sentinel node biopsy  
Lasers and cancer  
Gene therapy
- **Conservation in Gynaecologic Surgery**
- **Cancer Screening Symposium**  
Breast cancer  
Colorectal cancer  
Cervical Cancer  
Lung Cancer  
Stomach Cancer  
Liver Cancer
- **Workshop Demonstrations (4 rotations)**
  - i) Suturing and dissection of lumps & bumps
  - ii) Mammograms, imaging & biopsies
  - iii) Gynaecological procedures
  - iv) Endoscopies

**Sunday, 5 March 2000**

**2.00pm – 5.00pm**

*(inclusive of afternoon tea)*

#### **GYNAECOLOGIC SURGERY**

**Scientific Chairman: Dr Tay Sun Kuie**

- **Advances in Infertility Treatment**  
Male Infertility  
Cloning
- **Advances in General Gynaecology**  
Management of female urinary incontinence  
Ectopic pregnancy and early pregnancy complications
- **Common Gynaecological Complaints and Office Procedures**  
Vaginal discharge and pruritis vulvae  
Post coital bleeding and cervical polyps  
IUCD and hormonal implants

The 4th Annual Surgical Update for Family Practice is accredited with **5 CME points**

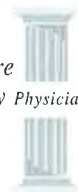
#### **Registration Fees**

Limited to 150 participants

<b>College Members</b>	<b>S\$60</b>
<b>Non-College Members &amp; Overseas Registrants</b>	<b>S\$90</b>

Fees include admission to all lectures, workshop demonstration session, 2 teas, and a dinner at the Grand Copthorne Waterfront Hotel. There will also be a selective trade exhibition.

For enquiries, please call the College Secretariat at Tel: **223 0606**.



## GUIDELINES AND INFORMATION FOR AUTHORS THE SINGAPORE FAMILY PHYSICIAN

Authors are invited to submit articles for publication in *The Singapore Family Physician* on the understanding that the work is original and that it has not been submitted or published elsewhere.

The following types of articles may be suitable for publication: case reports, original research, audits of patient care, protocols for patient or practice management and review articles.

### PRESENTATION ON THE MANUSCRIPT

#### The Whole Paper

- Normally the text should not exceed 2000 words and the number of illustrations should not exceed eight.
- Type throughout in upper and lower case using double spacing, with three centimetre margins all round. Number every page on the upper right hand corner, beginning with the title page as 1.
- Make all necessary corrections before submitting the final typescript. Headings and subheadings may be used in the text. Indicate the former by capitals, the latter in upper and lower case underlined.
- Arrange the manuscript in this order: (1) title page (2) summary (3) text (4) references (5) tables and (6) illustrations.
- Send 3 copies of all elements of the article: summary text, references, tables and illustrations. The author should retain a personal copy.
- Their accuracy must be checked before submission.
- All articles are subject to editing.

#### The Title Page

- The title should be short and clear.
- Include on the title page first name, qualifications, present appointments, type and place of practice of each contributor.
- Include name, address and telephone number of the author to whom correspondence should be sent.
- Insert at the bottom: name and address of institution from which the work originated.

#### The Summary

- The summary should state the purpose of and give the main argument or findings.
- Limit words as follows: 100 words for major articles; 50 words for case reports.
- Add at the end of summary an alphabet listing of up to 8 keywords which are useful for article indexing and retrieval.

#### The Text

The text should have the following sequence:

- **Introduction:** State clearly the purpose of the article.
- **Materials and methods:** Describe the selection of the subjects clearly. Give references to established methods, including statistical methods; provide references and brief descriptions of methods that have been published but are not well known. Describe new or substantially modified methods, giving reasons for using them and evaluate their limitations. Include numbers of observations and the statistical significance of the findings where appropriate.

Drugs must be referred to generically; all the usual trade names may be included in parentheses.

Dosages should be quoted in metric units.

Laboratory values should be in SI units with traditional unit in parentheses.

Do not use patients' names, initials or hospital numbers.

- **Results:** Present results in logical sequence in the text, table and illustrations.
- **Disk & Electronic Production:** If your article is accepted for publication, we may invite you to supply a copy on a 3.5 inch disk, using Microsoft Word software.

#### Correspondence & Enquiries should be addressed to :

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#### Circulation

*The Singapore Family Physician* is published quarterly. It is circulated to all Fellows, Diplomate Members, Ordinary Members and Associate Members of the College of Family Physicians Singapore, and to private and institutional subscribers.

The journal is also circulated to all relevant government, professional, medical and academic organisations in Singapore, sister Colleges overseas and to the World Organization of National Colleges and Academies of General Practitioners/Family Physicians (WONCA).



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