Clinical skills for midwives workshops

The “Clinical Midwife Consultant, Birth Suites” is a clinical leadership role, incorporating quality improvement, strategic planning, education and research, and has now been in existence for 6 months. Promotion of the normal birth experience is at the heart of this position. It is important to identify ways in which midwives’ skills can be used to their full potential, thereby enhancing clinical practice to provide both optimal outcomes for women and professional fulfilment to midwives.

The gestation
Six specific skills were identified by midwives as areas where they wished to develop or refresh their skills. Some were fundamental skills; vaginal examination, episiotomy and palpation. Others were skills traditionally the domain of obstetricians; artificial rupture of the membranes, application of fetal scalp electrodes and speculum examinations.

The birth
A series of 1½ hour workshops were run every afternoon during the month of August. These workshops consisted of a short presentation outlining topics such as midwifery responsibilities, indications, risks and advantages, with a strong practical component using mannequins.

The workshops were facilitated by me, the clinical facilitators and the birth suite educator. We are proud to be the first group fully utilising the Clinical Skills Room.

Skills such as ARM, FSE and speculum examination have a competency assessment attached.

The workshops are informed by current evidence and relevant references have been made available in the Birth Suites and Pregnancy Assessment Centre. The PowerPoint presentations that are extensions of these workshops are installed on BS and PAC Desktops to promote self-directed learning. These are more comprehensive than the short presentations at the workshops and are meant to appeal to staff whether expert or novice.

The outcome
Evaluation of the program is so far very positive. We intend to run the workshops again in 2 months time to meet the needs of those midwives who missed out this time around. We hope in the future to be able to accommodate junior medical staff and promote collegial learning with their midwife colleagues. We also intend to conduct a peer review after one year to determine midwives’ attitudes, opinions and experiences of this kind of program.

I would like to extend thanks to Birth Suite Educator, Maxine Reid, and Clinical Facilitators Catie Bortolot, Fiona McLardie-Hore, Belinda Barnes and Angela Muir for making these work shops possible and to all of the midwives who have participated with enthusiasm.

Karen Moffatt

EDITORIAL

In this issue of the Clinical Practice Review Newsletter we report not only on the physical development of our new hospital in Parkville but also on the continuing development of improved services on our current site. This is a continuous ongoing process. The development of new clinical skills in midwifery practice is covered in Karen Moffatt’s piece, while Ross Pagano describes a more comprehensive service for women with vulvar disorders. This clinic will have greater capacity for service teaching and research. Lisa Begg reports on the evolution of an evidence based guideline to improve the process of induction of labour. All these endeavours are a result of a lot of innovative work by teams of people with the hope of achieving improvements in the care of women.

The challenge is to subsequently demonstrate such an improvement. On a more macro scale, Andrea Garrett summarises the new NH&MRC guidelines for screening for cervical cancer that have been introduced and adopted by the RWH. A lot of evidenced based improvement going on.

Leslie Reti
The Clinical Practice Improvement Unit (CPiU) Advisory Group identified induction of labour (IOL) as a major clinical risk management issue at the RWTH. The existing IOL protocols are out of date, and omit key guidance on particular aspects of care. The CPiU decided to review the available literature, audit IOL practice and update IOL resources. A new CPG for IOL has been produced by the CPiU and will commence on Monday the 2nd of October, 2006.

This article summarises the literature review findings and audit findings that were used to inform the new CPG and associated Procedures.

**Literature review**

During the literature search, recently revised IOL guidelines from The Royal College of Obstetricians and Gynaecologists (RCOG) and Society of Obstetricians and Gynaecologists Canada (SOGC) were identified and considered robust.

**Question 1: Where the cervix is unfavourable, what is the most effective method of induction of labour, including the most effective protocol for the use of prostaglandins?**

The main findings, based on level 1 evidence include:

- Prostaglandins (PGE2) should be used in preference to oxytocin when IOL is undertaken in either nulliparous or multiparous women with intact membranes. This will result in reduced duration of labour and a reduced incidence of postpartum haemorrhage.
- Either PGE2 or oxytocin may be used when IOL is undertaken in nulliparous or multiparous women who have ruptured membranes, as they are equally effective.
- The maximum total dose of PGE2 gel is 4mg. Vaginal birth is very unlikely at doses above this level.
- The initial dose for primigravid women should be 2mg unless Bishop score >8.
- Administration of PGE2 gel should commence in the morning as this is preferred by women. In addition, a recently published Australian RCT has demonstrated a reduction in oxytocin infusion during labour and instrumental vaginal birth in nulliparous women with morning induction compared with evening, and a shorter induction-to-birth interval. There was no significant difference between the morning and evening induction groups in uterine hyperstimulation with changes in fetal heart rate, and the need for caesarean delivery.

**Question 2: What is the most effective protocol for the use of oxytocin for induction of labour?**

Oxytocin should not be started within six hours following administration of vaginal PGE2.

Protocol for delivery of oxytocin for IOL should:

- Specify and use the dose of oxytocin being delivered (milliunits per minute) in preference to the volume of fluid being infused (millilitres per minute).
- Be delivered through an infusion pump or via a syringe driver with a non-return valve.
- To reduce error, a standard dilution should always be used. Suggested standardised dilution and dose regimens is 30 iu in 500ml of normal saline; hence 1ml/hr = 1milliunits per minute.
- The high dose oxytocin regimen commencing at 6mU/min and increasing by 6 mU/min every 30 minutes results in shorter labours with no clinically significant increase in uterine hyperstimulation and caesarean section, and thus is preferred to low dose regimens.
- When the woman is experiencing 3 minute contractions (ie. established labour) the oxytocin infusion should remain at the dose to maintain the contraction at that interval.

**Question 3: Does the practice of induction of labour earlier than 42 weeks gestation result in improved maternal and perinatal outcomes in terms of:**

- Caesarean section
- Operative vaginal birth
- Perinatal mortality
- Neonatal admission to NICU
- Meconium aspiration syndrome

- An ultrasound to confirm gestation should be offered before 20 weeks gestation, as this reduces the need for induction of perceived prolonged pregnancy.
- Women with uncomplicated pregnancies should be offered IOL beyond 41 (completed) weeks gestation.
- From 42 weeks, women who decline IOL should be offered increased antenatal monitoring.
- Perinatal mortality is reduced by IOL at 41 (completed) weeks gestation compared with expectant management. The numbers needed to treat are at least 1000 inductions to prevent 1 perinatal death.
- The risk of meconium stained amniotic fluid is reduced, but that of meconium aspiration syndrome and of neonatal seizures is unaffected.
- IOL at 41 (completed) weeks gestation does not appear to increase the caesarean section rate when compared with
expectant management presumably related to trade-off between caesarean section for failure to progress with iOL versus caesarean section for fetal distress with expectant management.

- Options for evaluating fetal well-being include CTG with amniotic fluid volume assessment. No single method has been shown to be superior.

  **Doppler ultrasonography of the umbilical artery has no benefit in monitoring the post term fetus and is not recommended for this indication.**

- The pathophysiology of fetal distress in prolonged pregnancy is typically oligohydramnios that leads to compromised umbilical cord perfusion, rather than uteroplacental insufficiency. However, there is an over-representation of perinatal deaths in growth-restricted fetuses, and it is critical that pregnancies are assessed for fetal growth at term.

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**Literature review recommendations**

The following changes to the iOL process are recommended:

- Offering iOL for prolonged pregnancy from 41 (completed) weeks gestation rather than 42.
- Commencing induction of labour at 0700 hours for PGE2 or ARM / oxytocin.
- Adopting higher-dose oxytocin regimen.
- Administering 2mg of PGE2 to primigravid women as 1st dose unless Bishop score >8.

The evidence suggests that these changes will not increase the caesarean section rate, but unify the process of iOL, reduce iOL-delivery times significantly, and improve workloads for all areas involved in iOL.

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**Implementation of new iOL resources**

The implementation of the revised RWH iOL CPG will commence on Monday the 2nd of October, 2006. It will be preceded by a Grand Round, workshops for areas including birth suites and PDCC, presentations at relevant clinical meetings and newsletters.

Ongoing monitoring is a crucial part of the implementation process. CPIU will circulate to relevant stakeholders (including birth suites and PDCC) ongoing monitoring data for:

- Gestation at birth for prolonged pregnancies
- IOL-birth interval
- Mode of birth.

Adherence to CPG / protocols will be subject to periodic audit.

This is a vital clinical project for RWH to improve clinical risk management and delivery of quality health care to our women which is evidence-based.

**Lisa Begg**

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**GRAND ROUND**

**Induction of Labour at the RWH**

**Presented by the CPIU**

**Wednesday 27th September 2006 1730hr**

**Kathleen Syme lecture theatre 1**
New screening guidelines to prevent cervical cancer

There are approximately 250,000 cervical cancer deaths each year worldwide. Australia has one of the lowest incidences of cervical cancer in the world (6.9 per 100,000 women) with a mortality rate of 1.7 per 100,000 women. This is largely attributed to the implementation of the National Cervical Screening Program in the late 1980’s.

The incidence of cervical cancer in Victoria is approximately 5 per 100,000 women. The majority of women suffer from squamous cell abnormalities (2.6 per 100,000 women – this is a decrease from 6.5 per 100,000 women in 1989). The incidence of glandular abnormalities has remained stable and is currently 1.8 per 100,000 women. The mortality rate from cervical cancer in Victoria is 1.3 per 100,000 women.

The National Cervical Screening Program aims to improve communication and education for both women and health professionals, establish the infrastructure to allow for a systematic approach to screening, facilitate women to participate in screening programs, improve quality control for smear taking and reporting of cervical pathology and institute an approach for follow up and management of screen detected abnormalities. 7-10% of women screened will require additional evaluation – either by colposcopy, biopsy or HPV testing.

The new guidelines

In 1994 Guidelines were published for the management of the asymptomatic woman with a PAP smear detected abnormality. These have recently been revised and came into effect in July 2006. The National Health and Medical Research Council, the National Cervical Screening Program and The Cancer Council all endorsed these new guidelines.

The guidelines aim to give medical practitioners evidence-based recommendations to better manage patients with an abnormal PAP smear. The guidelines specifically exclude symptomatic women. The Royal Australian and New Zealand College of Obstetricians and Gynaecologists have issued guidelines for those symptomatic women with intermenstrual or post coital bleeding.

Reporting of PAP smears falls into 5 main categories – Normal, Unsatisfactory, Low Grade Squamous abnormalities, High grade Squamous abnormalities and Glandular abnormalities. Guidelines are based on these categories as well as special clinical circumstances. The Guidelines are based on the best evidence available.

Unsatisfactory smears

Smear should be repeated in 6-12 weeks, with correction, where possible, of the reason for the unsatisfactory smear.

Low grade squamous abnormalities (LSIL)

Smear should be repeated in 12 months if reported as LSIL (encompassing HPV and CIN I). If the repeat smear is normal a further smear is required at 24 months. If the repeat smear is reported as LSIL or HSIL the woman should be referred for colposcopy. If the woman is aged 30 or greater then she can be offered immediate colposcopy or a repeat smear in 6 months.

If colposcopic assessment of a woman with LSIL is normal she is to be referred back to GP for 2 annual smears and then return to the normal two yearly screening if normal. If at colposcopic assessment a low-grade lesion is suspected, treatment is not recommended. These can be managed safely with annual smears for 2 years. If however, a high-grade lesion is suspected at colposcopy, a targeted biopsy should be performed and managed appropriately.

High grade squamous abnormality (HSIL)

Any woman with possible HSIL or HSIL (encompassing CIN II and CIN III) must be referred for colposcopy. If an invasive component is suggested they should be referred to a gynaecologist with expertise in colposcopic evaluation of a malignancy or to a gynaecological oncologist. If an invasive lesion is found, referral should be made to a gynaecological oncology unit. At colposcopy a directed biopsy should be performed to histologically confirm the lesion. Treatment modalities include ablation, loop electro-excisional procedures and cone biopsy – there is no superior method.

Ablation should only be considered if the transformation zone is seen in its entirety, there is no suspicion of an invasive lesion and there is no glandular lesion present. Cone biopsy is indicated if the transformation zone is not fully visualised, there is suspicion of invasion, or if there is a glandular lesion also present. Once treated for a high grade lesion the woman is seen at 6 months for a PAP smear and colposcopy and again at 12 and 24 months for PAP smear, colposcopy and HPV testing.

Glandular abnormality

All women with a glandular lesion need referral to a gynaecologist experienced in colposcopic evaluation of suspected malignancies or a gynaecological oncologist. A cone biopsy is the “gold standard” for treatment of any glandular lesion. Hysterectomy (after cone biopsy) should be offered to women diagnosed with adenocarcinoma in situ (AIS) once childbearing has been
The new vulvar disorders clinic opens

The Vulvar Disorders Clinic was originally set up in Special Clinics on the 5th floor RWH in 1999 as a response to the need for a clinic dedicated exclusively to the management of women with vulvovaginal disorders. The clinic was originally established as a multidisciplinary clinic, staffed by myself, a gynaecologist, and Tanja Bohl, a dermatologist. As a cost cutting exercise and in order to expand the size of the clinic without having to employ extra ancillary staff, the clinic was soon “privatized” and moved to my private consulting rooms on the 10th floor. Here, clinic patients were seen by Tanja or myself, (often both of us together), biopsies taken, treatment given at no cost to the patient and all documented in their RWH hospital notes. Medical and nursing practitioners in training sometimes attended the clinic in an observer capacity.

Because of an increasing demand for attendance at the clinic, longer waiting times for appointments and Tanja Bohl’s resignation (for health reasons), it was time to review the functioning of the clinic. As of the 21st August 2006, the “new” Vulvar Disorders Clinic has been relocated in Special Clinics on the 5th floor of the Rita Harris Wing, in the Colposcopy Clinic every Thursday afternoon. This will be an expanded multidisciplinary clinic along the lines of similar clinics overseas as this is the only way that patients with these disorders can obtain best management. The clinic will be staffed by myself, gynaecologist-in-charge, Drs. Anne Howard and Belinda Walsh, dermatologists, Dr. Chloe Loveridge, sexual counselor, Helena Frawley, a physiotherapist with a special interest in vulvar pain disorders and biofeedback, a gynaecology registrar and a dermatology registrar from the RMH. There will be a monthly operating session and a monthly clinicopathology session will be organized to discuss difficult cases.

Apart from the delivery of expert management to both inpatients and outpatients with vulvar disorders, one of the main roles of such a clinic is to provide a facility for teaching any practitioner, either medical or nursing, who is interested in learning more about these disorders. It is most important that anyone involved in the delivery of women’s health is at least familiar with the range of common vulvar disorders and how they can impact on a woman’s health and wellbeing. Anyone interested will be welcome to attend both the clinic and operating sessions as an observer and this will be encouraged particularly amongst junior staff.

With the increased awareness of vulvovaginal disorders and dyspareunia issues in the popular press (see the September edition of GOOD MEDICINE where the RWH clinic gets a good mention), it is obvious that there is going to be an appropriate increased demand for such a multidisciplinary clinic in the future. Women suffering from these disorders which can have a huge impact on quality of life, sexual enjoyment and relationships, deserve to be managed in an environment devoted exclusively to them, with professionals from different backgrounds able to provide the most up to date information and treatment modalities available. Such a clinic can also provide enormous clinical data for further research and study. Thus it is timely that our Vulvar Disorders Clinic continues to expand its horizons to meet this challenge.

Ross Pagano

completed because of the difficulty of reliable cytological follow up.

Special circumstances
Pregnancy, immunosuppressed women and women exposed to diethylstilboestrol (DES) in utero deserve special mention.

Pregnancy – LSIL should be managed as for non-pregnant women. HSIL should be referred for colposcopy. There is rarely a need for biopsy or treatment in a pregnant woman, unless invasive malignancy is suspected.

Immunosuppressed women – Any screen-detected abnormality should be referred for colposcopy and assessment made by an experienced colposcopist. The cervix, vagina, vulva, perineum and perianal regions need evaluation. Treatment should be excisional. Follow up is annual and indefinite.

DES exposure – These women should be offered annual screening and colposcopy which should continue indefinitely. Any abnormality detected should be referred to an experienced colposcopist.

Summary

The guidelines can be simplified further. Any woman with an unsatisfactory smear requires a repeat smear in 6-12 weeks. Any woman with a possible LSIL or LSIL requires repeat cytology in 12 months. Any possible HSIL or proven HSIL requires referral for colposcopy. Any glandular lesion requires referral for colposcopy.

The Dysplasia unit at the Royal Women’s Hospital manages all women with screen-detected abnormalities from PAP smears taken at any of the gynaecology clinics within the hospital. Referrals are also taken from local doctors and gynaecologists within Victoria.

Sources – Victorian Cervical Cytology Registry 2005 Statistical Report
NHMRC Guidelines 2006

Andrea Garrett
As the design development phase of the new Women’s Hospital project draws to a close, it has been timely that we reflect back at the design principles that were developed to ensure that they have been met.

We have had an extensive user group process, which started with a community consultation and development of our model of care. From these forums a series of core principles and design guidelines were subsequently developed. The design program then continued through an extensive departmental user group process over the past twelve to fifteen months. More recently we have refined the design during a “mock-up” stage whereby key rooms were fitted out in the Tracy Maund Museum. Staff were given the opportunity to come and review the proposed layout and suggest any modifications. This has given us all the opportunity to convert two-dimensional drawings into real life size layouts.

Every element of the hospital design has been chosen with regard to respecting women’s privacy, being family friendly with improved visitor facilities and taking into consideration women’s religious and cultural needs. It will accommodate modern technology and research facilities and provide a supportive work environment for our staff both now and in the future that will enhance the care provided to our patients.

The interior design reflects a homelike environment with plush carpets, natural finishes and incorporating a sense of space and light ensuring a warm and welcoming feel.

For all the latest news on the new Women’s project visit – www.rwhp.com.au The website features community news, architectural images, a webcam for up to the minute construction images and all the latest project updates.

Lisa Dunlop
Serotonin syndrome

Serotonin (5-HT), a monoamine neurotransmitter, plays an important role in the regulation of mood, appetite, emesis, sleep and sexuality. Therefore many disorders such as depression, migraine and anxiety may be managed by altering the concentration of serotonin in the body.

Serotonin syndrome results from hyper-stimulation of serotonin receptors and can be induced by administration of drugs that increase physiologic serotonin concentrations. The onset of serotonin syndrome is relatively rapid and can occur within minutes or a few hours following a drug interaction.

Risks of precipitating serotonin syndrome occurs when:
- a high dose (or overdose) of a serotonergic drug is used,
- multiple serotonergic drugs are used together,
- changing anti-depressants with an inadequate washout period between changeovers.

Mild to moderate serotonin syndrome is generally self-limiting and resolves within 72 hours after cessation of the offending drugs. Severe cases are potentially life threatening and medical treatment might be required. There are many drugs that can elevate serotonin levels in the body (Table 2).

Table 1: Clinical features that confirm the diagnosis of serotonin syndrome

<table>
<thead>
<tr>
<th>Cognitive-Behavioral</th>
<th>Confusion / disorientaion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agitation / irritability</td>
</tr>
<tr>
<td></td>
<td>Coma / unresponsive</td>
</tr>
<tr>
<td>Neuromuscular</td>
<td>Myoclonus (sudden twitching of muscles)</td>
</tr>
<tr>
<td></td>
<td>Hyper-reflexia (exaggerated reflexes in deep tendon)</td>
</tr>
<tr>
<td></td>
<td>Muscle rigidity</td>
</tr>
<tr>
<td></td>
<td>Tremor</td>
</tr>
<tr>
<td>Autonomic Nervous System</td>
<td>Hyperthermia</td>
</tr>
<tr>
<td></td>
<td>Diaphoresis (sweating)</td>
</tr>
<tr>
<td></td>
<td>Sinus tachycardia</td>
</tr>
</tbody>
</table>

Table 2: Drugs that may contribute to the serotonin syndrome

<table>
<thead>
<tr>
<th>Drug</th>
<th>Mechanism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amphetamines</td>
<td>Increase 5-HT release and decrease reuptake</td>
</tr>
<tr>
<td>Buspirone</td>
<td>Partial serotonin agonist</td>
</tr>
<tr>
<td>Lithium</td>
<td>Unknown</td>
</tr>
<tr>
<td>LSD</td>
<td>Partial serotonin agonist</td>
</tr>
<tr>
<td>L-Tryptophan</td>
<td>Serotonin precursor</td>
</tr>
<tr>
<td>Mianserin</td>
<td>Tetracyclic antidepressant</td>
</tr>
<tr>
<td>Mirtazapine</td>
<td>5-HT receptor inhibitor</td>
</tr>
<tr>
<td>Pethidine</td>
<td>Serotonin agonist</td>
</tr>
<tr>
<td>Tramadol</td>
<td>Inhibit serotonin reuptake</td>
</tr>
<tr>
<td>St John’s Wort</td>
<td>Unknown</td>
</tr>
<tr>
<td>Venlafaxine</td>
<td>Inhibit serotonin and noradrenaline reuptake</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Drug Class</th>
<th>Mechanism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triptans (eg sumatriptan, naratriptan, zolmitrptan)</td>
<td>5-HT agonists</td>
</tr>
<tr>
<td>Monoamine oxidase inhibitors (MAOIs) (e.g. moclobemide, phenelzine, tranylcypromine)</td>
<td>Inhibit metabolism of 5-HT</td>
</tr>
<tr>
<td>Selective serotonin reuptake inhibitors (SSRIs) (e.g. sertraline, paroxetine, fluoxetine)</td>
<td>Inhibit serotonin reuptake</td>
</tr>
<tr>
<td>Tricyclic antidepressants (e.g. amtriptyline, dothiepin, doxepin)</td>
<td>Inhibit serotonin reuptake</td>
</tr>
<tr>
<td>Anorectics agents (e.g. sibutramine, phentermine)</td>
<td>Increase 5-HT release and decrease reuptake</td>
</tr>
</tbody>
</table>
Examples of drug interactions potentially leading to severe serotonin syndrome:

- co-administration of selective serotonin reuptake inhibitors and tramadol,
- co-administration of pethidine and MAOIs,
- co-administration of St. John’s wort and selective serotonin reuptake inhibitors.

**Remember**

It is important to be aware of the toxic potential of serotonin affecting drugs as serotonin syndrome may be life threatening. By carefully screening for drug interactions, any possible adverse events can be avoided.

**Reference:**


**Interesting finding**

Results from a recent study in humans showed for the first time that the co-administration of tropisetron or granisetron with paracetamol completely blocks the analgesic effect of paracetamol. The study supported the hypothesis that the mechanism of analgesic action of paracetamol is linked to serotonergic system.¹


**Nina Hsu**

Pre-registrar Pharmacist

**Molika In**

Pharmacist

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Please let the associate editors have your views on the contents of this newsletter, or any other matters involving clinical practice which may be of interest to our readers.