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Quickening:

The fetus in the second trimester

The Royal Australian and New Zealand College of Obstetricians and Gynaecologists

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Message from the President

Dr Ted Weaver
FRANZCOG

News in the last few weeks has detailed the outbreak of an increasing number of cases of swine influenza in Mexico and its rapid spread around the world. The news demonstrates yet again how the world seems to have shrunk and how we do indeed live in a global community.

It has also demonstrated the advances we have made in provision of safe public health, with regularly updated travel warnings, the rapid identification and sequencing of the new virus, mobilisation of antiviral therapeutic agents and effective quarantine measures. When the news of the outbreak occurred, RANZCOG was quick to release a press release highlighting the safety of influenza vaccines in pregnancy and the need for pregnant travellers to heed travel warnings.

This all highlights that although RANZCOG is an organisation spanning two south Pacific countries, we have to be aware of the world around us and the public health difficulties that may be a concern to the women under our care.

There can be virtually no one in the College community who is ignorant of the global financial crisis. RANZCOG, as a not for profit organisation, has suffered in the tough economic times in which we live. Income from College investments has dropped significantly and the College administration has had a significant challenge in framing a budget for approval by Council for the next financial year. For the last few years, in the good times, the College was able to run on marginally surplus budgets, and this year, after a comprehensive review of all College activities, and with appropriate pruning of programs, it seems that we will be able to have a balanced budget in a time when we are striving to deliver quality increased services to members.

As recently as ten years ago, a large proportion of the College's income was derived from subscriptions paid by College Fellows, Members and Diplomates. This proportion has been reduced in the last six years and subscriptions have usually only increased in line with changes in the Australian Consumer Price Index (CPI).

The most recent Income and Expenditure statement produced by the Finance Department indicates that the estimated result on operations is ahead of estimations, as a result of prudent management and a committed College staff. This result will, however, be more than offset by a sizeable reduction in the market value of investments.

Figures for the previous financial year provided a surplus on operations of $193,808 offset by a loss on investments of $570,875.

Subscriptions will be increased by five per cent for the financial year 2009-2010 and I have written a letter to all Fellows and Diplomates, outlining in detail why this has happened. Subscriptions for the 2009-2010 financial year have been set as follows:

- Fellows increased from $1640 to $1720 (excluding GST)
- Members increased from $480 to $500 (excluding GST)
- Diplomates increased from $235 to $245.

Areas in which budgets have been pruned are:

- Travel expenses (airlines are under pressure with reduced passenger numbers and are offering cheaper fares)
- Accommodation (hotels are in a similar position to airlines). It is important to point out that savings in travel and accommodation are heavily dependent on early bookings being made and Fellows taking advantage of corporate rates negotiated by College staff
- Teleconferences (use of dial in teleconferences rather than operator assisted)
- Postage savings have been made with all Trainees having College communications delivered by email. All Fellows should have a current email address by the end of 2009, and with the greater use of electronic communication, further savings on postage, as well as savings for other aspects of College business, are envisaged.

I think it is important to reassure all members of the College that we are in a sound financial position, but that position needs constant review. I would like to pay tribute to the College staff, particularly those involved in framing and managing budgets and expenditure, for their sound and prudent advice during what has been a difficult time for the College.

'I would ask that you consider joining the RANZCOG Research Foundation as a financial member if you have not already done so and contribute to this important area of College activity.'

The RANZCOG Research Foundation is the research arm of the College and supports scientific and clinical research in women's health through research fellowships, scholarships and travel grants. The Research Foundation currently administers and awards ten scholarships, with the funds of the Foundation receiving a major boost recently, after the generous bequest of the late Auguste John (Jack) Courier.

The Governor-General, the Honourable Quentin Bryce, has recently agreed to be chief patron for the fund.

Membership of the Research Foundation is open to all members of the RANZCOG and anyone with an interest in the aims and objectives of the Foundation. Despite this, only about 110 Fellows of the College are currently members of the Research Foundation. Given that research, especially clinical research, underpins advances in our specialty, it would help the Foundation if more Fellows were financial members. I would ask that you consider joining the RANZCOG Research Foundation as a financial member if you have not already done so and contribute to this important area of College activity.

At Council in November 2008, it was agreed that the Governance structure of the College was in sore need of review. This was because the current structure, with a Council elected with State and regional representation and meeting three times a year, was an increasingly cumbersome way to do business. A working party, under my chairmanship, was convened and it is due to report to the Executive Committee in June and the Council in July 2009.

The 57th Annual Clinical Meeting of the American College of Obstetrics and Gynecology (ACOG) was held in Chicago from 1 to 6 May 2009. The scale of the meeting was much greater than our annual scientific meetings with over 5000 delegates. It was noteworthy for the active involvement of AOCOG Fellows, both current and retired, trainees and medical students with an interest in a career in obstetrics and gynaecology. I attended the meeting on behalf of RANZCOG, to try to foster links between our College and our American colleagues. They were very welcoming and I had fruitful discussions with both the outgoing President, Dr Douglas Kirkpatrick, and the incoming President, Dr Gerald Joseph. Dr Joseph indicated he was keen to forge closer links with RANZCOG to the mutual benefit of both organisations and was interested in attending the November Council meeting in Melbourne. I noted a number of things that we could consider adopting for our ASMs and have passed them on to the Continuing Professional Development Committee for their consideration.

The Federal Treasurer, Wayne Swan, introduced the budget on 12/5/09. There were a number of items in it that concerned aspects of obstetric and gynaecological practice. These included:

- Capping of the Medicare Safety Net for various obstetric and IVF item numbers.
- Access to both the Medicare and Pharmaceutical Benefits schedules for midwives with advanced portfolio status working within collaborative models of care. This change will take effect from 1 November 2010.
- Access to professional indemnity for midwives working outside hospital practice from 1 November 2010.

In speaking with the Health Minister, Hon Nicola Roxon, about the changes, she expressed the hope that the College and its Fellows could work collaboratively with other maternity care providers to maintain the safe maternity system that Australia currently enjoys. The changes to the Medicare Safety Net could well cause an increase in out of pocket expenses, reduction in care choices and hardship for women having both obstetric and IVF care. I think it is essential that we advocate for our patients with politicians and inform them of difficulties patients may have with the Government's changes.

Clearly, there is a lot of work to be done in reaching agreement with our midwifery colleagues and Government about what constitutes acceptable collaborative models of care, and what systems of care will work in both public and private practice. I have already had discussions with our NASOG colleagues about the Safety Net changes; and with Avant Medical Protection about potential medico-legal issues arising within collaborative care models.

Council has recently endorsed new Referral Guidelines for maternity care and these are available for your perusal in the Women's Health section of the College website. The Executive Committee is currently developing a Principles of Collaboration document and I would hope we can produce a suitable document that will be able to be endorsed by our midwifery colleagues in the near future. The many facets of providing effective collaborative care are shaping up to be an area of intense College activity in the next year.

The National Training and Accreditation Scheme (NRAS) is still under consideration by Government. It seems that progress is being made and that the Government is softening its stance on having a ministerial committee possessing powers of accreditation. If adopted, this would be a significant risk to both the independence of the profession and to standards of practice. The College, both independently and through the Committee of Presidents of Medical Colleges (CPMC), have campaigned hard against these provisions.

As ever, there are many issues which concern the College, such as the formation of a National Training Agency; legislation in the Northern Territory to require mandatory reporting of sexual activity in children under the age of 16; lack of teachers for Master of Medicine O and G trainees at the Fiji and Papua New Guinea schools of medicine; and the need to review Advanced Training within the College. These are but a few of the issues that are concerning the College and I do think it important to realise that these *O&G* columns present only a snapshot of some of the College's current activities. I would urge you to keep up to date with what is happening at the College by reading College communications, visiting the *College Connexion* webpage and talking to your representatives on Council. Your feedback is important in informing our responses to the many complex issues we currently face.

Message from the CEO

Dr Peter White
Chief Executive Officer

The writing of this column for an edition of *O&G* themed around issues associated with the mid-trimester of pregnancy occurs in the middle third of the year, as crisp Autumn days signal the end of a financial year that has, possibly and hopefully, seen the first glimpses of some stability returning to financial markets and systems.

At a personal level, my family watches as one of our closest friends and her partner experiences the joy and hope of living exactly what it is like to be in the middle of this period of pregnancy, as discussed in the Winter edition of *O&G*. I marvel at the miracle experienced by RANZCOG members on a daily basis, while also being aware of the inherent uncertainties.

At a College level, the President in his column writes of many aspects currently on the 'organisational radar'. The economic uncertainty, evolving clarification of relevant government policy directions and initiatives and a desire to move the College forward with a focus on improvement in a prudently managed way make for challenging, yet satisfying times. In order to remain relevant in the eyes of stakeholders, including the public and Government, organisations such as RANZCOG that play a significant role in providing for the public must be aware of the expectations upon them in modern society and consider both their attitudes and actions in the context of those expectations. This is a further challenge for the College on top of delivering what is traditionally considered its 'core business' and one that is incumbent on the leaders of the organisation to consider. The appropriateness of governance arrangements is one factor that demands consideration at this time, with a need for inclusiveness, balanced with the capacity to be able to conduct the necessary business of the College in a timely manner, of significance.

At an operational level, the year has already seen much occur, with many initiatives also at varying stages of gestation. I wish here to mention three things specifically; one that has been concluded following a somewhat lengthy gestation, another that involves multiple aspects at varying stages of development, and another that is nearing the stage where it will have to find its feet in the world of College activities, and for which its founders have considerable hopes.

The RANZCOG 2009 Annual Scientific Meeting was held in Auckland, New Zealand, in the last week of March, in conjunction with the 21st Congress of the Asia and Oceania Federation of Obstetrics and Gynaecology (AOFOG). The meeting attracted in excess of one thousand delegates, and, judging by impressions gleaned throughout the meeting and initial data from attendee evaluations received subsequent to the event, was extremely well received by those attending. My thanks go to all involved in the organisation of the meeting, including College members, College staff, the conference organisers and Convention Management Services Limited, for the significant amount of work and commitment that went into ensuring the success of the event.

The meeting was held immediately following the 8th Biennial Congress of the Pacific Society for Reproductive Health (PSRH), an organisation with whom RANZCOG has significant ties; ties that extend to the College providing support to the Society to enable the establishment and operation of PSRH's secretariat in New Zealand. This meeting was also extremely well attended and my congratulations go to all involved.

In all, the combination of societies involved (RANZCOG, AOFOG and PSRH), represents a significant number of countries across a sizeable portion of the globe. I am confident that all attendees benefited from the opportunities provided to learn something from each other, whether that be in the form of new science and/or new techniques, or in some different form, such as new appreciations of the situations faced by some professionals in delivering healthcare in an under-resourced part of the world.

'In order to remain relevant in the eyes of stakeholders, including the public and Government, organisations such as RANZCOG that play a significant role in providing for the public must be aware of the expectations upon them in modern society and consider both their attitudes and actions in the context of those expectations.'

As everyone is aware, part of delivering education, training and membership services in today's world is an appreciation of ways in which Information and Communications Technology (ICT) can be utilised to enhance that delivery. The College has taken the step of providing all Trainees in the MRANZCOG and FRANZCOG training program with a College-based email address, an initiative intended to produce a more certain and efficient mechanism of communication between the College and Trainees, and is increasingly looking to expand its use of ICT, both in relation to administrative and educational functions. Other College initiatives involving an ICT focus include the trial (involving some 70 participants) of a new CPD program format for Fellows that incorporates a web-based facility, the impending launch of a web-based survey to enable the College to establish some consistent data related to the O and G workforce, and the launch of *Trainee Connect*, a suite of online tools and learning resources designed to better assist Trainees with their learning through peer networking and connectivity opportunities. The College Flexible Learning Program, currently being expanded and revised on an ongoing basis to incorporate enhanced functionality and features, is one component now incorporated into the package known as *Trainee Connect*.

The qualifications held by College Diplomates, the DRANZCOG and the DRANZCOG Advanced, have for a considerable period been overseen by the Joint Consultative Committee on Obstetrics

(JCCO), a tripartite committee involving RANZCOG, RACGP and ACRRM. The Presidents of RANZCOG, ACRRM and RACGP have signed a Memorandum of Understanding to establish a Conjoint Committee, hosted by RANZCOG, which will replace the JCCO and oversee all aspects of the DRANZCOG, DRANZCOG Advanced and any other similar qualifications involving the three bodies. The new Conjoint Committee for the Diploma of Obstetrics and Gynaecology (CCDOG) will strengthen the governance arrangements relating to the Diploma qualifications, with all functions of administering the qualifications now being undertaken through RANZCOG.

The Conjoint Committee consists of three components; an Executive and two subcommittees, all of which have representation from the three colleges. The CCDOG Executive is the group that makes recommendations to the RANZCOG Council and/or Executive, having itself received recommendations from the two subcommittees. It is, in effect, the group that oversees the functions of the Conjoint Committee. One of the two subcommittees will deal with matters relating to Education and Assessment, and one will deal with matters relating to Training, Accreditation and Recertification. Amongst the first tasks of the Education and Assessment Subcommittee will be the development of new curricula for the DRANZCOG and DRANZCOG Advanced, an initiative that will involve consultation with a range of stakeholders to ensure that any revised programs are as relevant and accessible as possible.

As always, these are forward-looking and exciting times for RANZCOG. The emphasis for all involved is in ensuring the College continues to grow and to remain relevant with respect to all involved, first and foremost its members. This is a task being addressed by a significant number of people. As always, I am pleased to be among that group.

Quickening

Prof Caroline de Costa
FRANZCOG

Quickening! A delightfully evocative word to describe those first fluttery sensations so aptly illustrated on our cover. Said to be the cause of that enigmatic smile on the face of the *Mona Lisa* (right), a theory enhanced by the slight bump beneath the lady's garments, quickening was, until the early 20th century, the defining event for the diagnosis of pregnancy. Even today, with the availability of ultrasound scans and commercial tests that with two blue lines prosaically confirm elevated levels of ß-hCG before a missed period, that first physical appreciation by the mother of the presence of new life within her can still be a magical moment.

Quickening therefore seems an appropriate title for our issue on the second trimester of pregnancy. For many women the mid-trimester is a time of physical and emotional content. The nausea of the first three months has usually disappeared, the abdomen is swelling gracefully, the discomforts of later months have not yet become apparent, and the pregnancy can be disclosed and discussed with family and friends. The second trimester is also the time of the 18 to 20-week morphology scan that with 3D and 4D imaging can greatly enhance a couple's involvement with their child-to-be and reassure the majority of parents of the physical normality of that child. In this issue of *O&G*, Amy Mellor provides an overview of all the tests routinely offered in the second trimester.

Mona Lisa (La Gioconda) by Leonardo Da Vinci.

'Even today, with the availability of ultrasound scans and commercial tests that with two blue lines prosaically confirm elevated levels of ß-hCG before a missed period, that first physical appreciation by the mother of the presence of new life within her can still be a magical moment.'

However, for some parents, this stage of pregnancy can bring great anxiety and distress. Screening and diagnostic tests for Down syndrome and other trisomies are widely offered to pregnant women in Australia and likely soon to become universal. Some women will discover that the fetus they are carrying has chromosomal anomalies. Morphology scans can unexpectedly reveal major structural abnormalities in the fetus. Definite diagnoses can often not be made until close to the time of potential viability.

Many women, and their partners, who have theses diagnoses imparted to them will have little knowledge of the biology and implications of a diagnosis of Down syndrome, and their doctors, both GPs and obstetricians, may be equally unprepared. Antenatal diagnosis of Down syndrome and the possibility of termination of the pregnancy have been available to women for more than 30 years, but were introduced with little discussion of the ethical aspects of the testing. A recent review article in *The Lancet* pointed out 'the benefits of preventive healthcare and improved education for people with Down syndrome and their communities. Increasingly, adults with Down syndrome are working and have greater independence. The idea used to justify prenatal screening, that Down syndrome is a net economic burden, is not necessarily true.' Life expectancy has improved 'from nine to 12 years in the 1950s to at least 50 to 60 years today'.[1] To update readers' knowledge of the current outlook for Down syndrome children and their families, we have included the excellent clinical article by Scott Dunlop and Chris Halloway's moving account of how his daughter Erinn has enriched their family life. Cliff Saunders has contributed a well-nuanced discussion of the ethics of screening for Down syndrome and other chromosomal anomalies; and Sue Fleming outlines what can happen when a sex chromosome anomaly compatible with normal physical and intellectual development is discovered.

The extensive use of ultrasound in the second trimester is not without its pitfalls and its critics. Janet Vaughan, Michael Bethune and Lachlan de Crespigny take up various aspects of this topic. The birth or threatened birth of a very preterm infant is another infrequent but important mid-trimester event; management of such cases is thoughtfully dealt with by Antonio De Paoli, while Chern Lo provides an update on the role of the incompetent cervix in second trimester delivery.

In addition, we have in our usual sections on women's health and medico-legal matters items that we hope will quicken your interest and enthusiasm for this edition of *O&G*. Thank you to the many contributors who have given their time and expertise to write for us.

Reference

1. Morris K. Shift in priorities for Down syndrome research needed. *Lancet* 2008; 372 (9641): 791-92.

Routine antenatal screening

Dr Amy Mellor
FRANZCOG

A screening test is defined as one that is targeted at an asymptomatic population to improve the health of that population by the early detection of disease. The World Health Organisation's Principles of Screening include the ability to detect the disease in the asymptomatic phase; availability of a test with high sensitivity and specificity; an available treatment for the condition and evidence of improved outcome with treatment; acceptability of the test to the population; and cost-efficiency.[1]

Several screening tests are currently performed throughout the course of a normal pregnancy. The following is an overview of the background and evidence base behind these investigations.

The antenatal screen

Tests performed at the first antenatal visit, in conjunction with a detailed history and physical examination, aim to detect early any variations from normal such that potential adverse sequelae to the mother or her fetus can be avoided or minimised. These should be undertaken with the woman's informed consent, after adequate explanation of the implications, limitations and consequences of the investigations. Current RANZCOG recommendations for tests to be performed antenatally on all women include:

- blood group and antibody screen
- full blood picture
- rubella antibody status
- syphilis serology
- hepatitis B serology
- hepatitis C serology
- HIV serology
- urine culture[2].

An article published in the *Medical Journal of Australia* in 2002 addressing the uniformity of antenatal screening throughout Australia concluded that while recommendations for syphilis testing were consistent and evidence-based, guidelines for screening of HIV and Hepatitis C were highly variable. It found that antenatal care recommendations vary widely throughout Australia and are not always consistent with national policies or research evidence.[3]

Blood group and antibody screen

There is little doubt regarding the valuable role of blood group and antibody screening at initial presentation, with repeat screening at 28 weeks for rhesus negative women.[4] A positive antibody screen suggests the fetus is at risk for haemolytic disease and that further diagnostic measures are required. The value of repeat screening of rhesus positive women to detect other antibodies is less clear and the RANZCOG guidelines recommend this be done 'at the discretion of the clinician'.[2]

Full blood picture

Iron deficiency anaemia in pregnancy poses increased risk to both mother and fetus, while severe anaemia (Hb<7g/dL) is associated with increased maternal mortality. All women should be screened at booking for anaemia (Hb<11g/dL), with further investigation into the cause as indicated. Iron deficient women should be advised iron supplementation of 30 to120mg per day until the anaemia is corrected.[5] Prophylactic iron supplementation in pregnancy is more controversial. The *Cochrane database* shows no improvement in fetal or maternal outcomes using this approach. Selective treatment of iron deficiency anaemia in women who can have their haemoglobin status followed up is preferable to the routine use of iron.[6]

Rubella antibody status

The rubella virus causes a self-limiting infection in most adult hosts but, during pregnancy, can result in spontaneous miscarriage, growth restriction and fetal death. Features of congenital rubella syndrome include deafness, cataracts, cardiac malformations and neurological impairment. As there is no antenatal treatment available, prevention of maternal infection is the best strategy to avoid these outcomes.[7] The incidence of rubella infection, including congenital rubella, has fallen by 99.6 per cent since the introduction of the rubella vaccine.[8] Ideally, all susceptible women would be vaccinated pre-pregnancy (and avoid conception for one month post-vaccination). Women found to be susceptible in pregnancy should be warned against contact with anyone possibly infected and be offered vaccination after delivery. Postpartum vaccination programs have been shown to significantly reduce rubella susceptibility in seronegative women in subsequent pregnancies.[7]

Syphilis serology

Transplacental infection with treponema pallidum is associated with several adverse outcomes such as preterm birth, low birth weight, perinatal death, congenital anomalies and active congenital syphilis. The risk of these outcomes can be almost completely eliminated by universal early antenatal screening and appropriate antibiotic therapy.[9] Despite its low yield, the United States Centres for Disease Control and Prevention recommend that all pregnant women be screened, as the cost and morbidity of testing is low and the benefit of detection and treatment high for both mother and child. Repeat serology in high-risk populations at 28 weeks and again at delivery is recommended and reinforced in the RANZCOG guidelines.[9,2] Testing should be performed with a specific treponema

pallidum assay, as the non-specific assays are less likely to detect latent infection.[2]

Hepatitis B serology

There are more than 350 million hepatitis B virus (HBV) carriers worldwide, of whom one million die annually from liver disease. In Australia and New Zealand, the carrier rate is between 0.1 and 2.0 per cent. The incidence of progression from acute to chronic infection is highest with perinatally acquired infection, at a rate of around 90 per cent.[10] The opportunity to provide almost complete protection against perinatally acquired infection makes antenatal identification of HBV carriers critical. Testing for surface antigen should be performed at booking in all women and repeated in high risk groups. Neonates of seropositive mothers can then receive immunoglobulin as soon as is feasible after birth and commence a course of vaccination. This approach is cost-effective even at a population prevalence for HBsAg as low as 0.06 per cent.[11]

'When supported by evidence, screening tests in pregnancy play a valuable role in the prevention or early detection and treatment of disease through appropriately timed intervention, to improve outcomes for women and their babies.'

Hepatitis C serology

The routine testing of all women for hepatitis C, although recommended by RANZCOG, is one of the more controversial aspects of routine screening in pregnancy. This contention is acknowledged in the college statement on antenatal screening.[2] The Centres for Disease Control and Prevention recommend against routine screening in pregnancy, advising testing be reserved for those in high-risk groups. Initial evaluation is with an antibody test, followed by HCV RNA quantification.[12] The risk of perinatal transmission is up to ten per cent in RNA positive women, but carries a significantly higher risk of progression to chronic liver disease than does hepatitis B infection. Current consensus opinion is that hepatitis C infection is not an indication for caesarean section, nor a contra-indication for breastfeeding. There is currently no neonatal intervention such as immunoglobulin to lower the risk of transmission, nor is there a vaccine available.[11]

HIV serology

Obstetric intervention in HIV positive women in the form of antiretroviral therapy, caesarean section and avoidance of breastfeeding significantly reduces the rate of perinatal transmission from around 30 per cent to one or two per cent. Reproductive-aged women represent the fastest growing group with new HIV infection, the majority of which is acquired through heterosexual contact. Regardless of perceived risk, all women should be offered screening for HIV (with appropriate counselling and informed consent), to allow for optimal care throughout pregnancy and prevention of transmission.[13] The RANZCOG guidelines also recommend repeat testing in all women at 28 weeks gestation.[2] Initial screening is with an enzyme immunoassay, followed by a confirmatory test such as a Western blot, HIV RNA level and CD4 lymphocyte count.[13]

Urine culture

Asymptomatic bacteriuria occurs in two to ten per cent of sexually active women, but is more likely to progress to pyelonephritis in the pregnant population. Urinary tract infection is associated with an increased risk of preterm birth, low birth weight and perinatal mortality. Antibiotic therapy for culture-confirmed bacteriuria significantly reduces the risk of these complications.[14] Screening of all pregnant women with culture of a mid-stream specimen of urine is therefore recommended by the RANZCOG guidelines. Other authorities have suggested that screening could be limited to those populations where the incidence of asymptomatic bacteriuria is greater than five per cent to enhance cost-effectiveness.[15] Other tests which can be considered in women with risk factors, but are not recommended as part of routine screening in pregnancy include:

- cervical cytology
- testing for vitamin D deficiency
- screening for haemoglobinopathies
- varicella, CMV and toxoplasmosis serology
- chlamydia screening
- thyroid function testing[2].

Routine antenatal ultrasound

The RANZCOG guidelines recommend that all women be offered an obstetric ultrasound for assessment of fetal morphology and placental localisation prior to 20 weeks gestation[2], yet the benefit of routine ultrasound screening in pregnancy remains a topic of debate.[16] Several studies have evaluated this question, looking mainly at the ability of routine ultrasound to detect fetal anomalies in an unselected population, the impact on perinatal outcome and the cost-benefit of such an approach.[17]

The Helsinki trial in the late 1980s found that routine ultrasound screening significantly increased the detection of anomalies and was associated with reduced perinatal mortality. The detection rate of malformations varied significantly depending on whether the ultrasound was performed at a tertiary centre or peripherally. The RADIUS trial of the early 1990s showed a significant increase in the detection of fetal anomalies but, in contrast, no improvement in perinatal outcome. A cost-benefit analysis using data from the trial concluded that routine screening was associated with significant savings only if the ultrasound was performed in a tertiary centre. The Eurofetus trial of the late 1990s is the largest study of routine ultrasound in an unselected population. It found an overall sensitivity for the detection of anomalies of 56 per cent, with higher detection rates for major compared with minor abnormalities.[17]

Overall, these data suggest that it is ethical and cost-effective to offer routine screening if a targeted examination is performed by an experienced operator in a centre with high rates for detection of fetal anomaly, at a gestational age that allows for good visualisation of fetal anatomy, with the option of legal termination if required.[17,18]

Screening for gestational diabetes

Screening for gestational diabetes is recommended by the RANZCOG guidelines in all pregnant women.[2] Testing is recommended between 26 and 28 weeks gestation with a glucose challenge test, followed by a fasting, two-hour glucose tolerance test if abnormal. The diagnosis of gestational diabetes is made if the fasting glucose level is higher than 5.5mmol/l, or the two-hour level is higher than 8.0mmol/l by Australian criteria, or higher than 9.0mmol/l by New Zealand criteria.[19]

Until recently, there was a paucity of level one evidence to demonstrate that the screening for and treatment of gestational diabetes improves perinatal outcome. The findings of the landmark ACHOIS (Australian Carbohydrate Intolerance Study in Pregnant Women) study provided convincing evidence to support the treatment of gestational diabetes, with a significant reduction in the rate of perinatal complications in the intervention group compared with controls. The results also strengthened the case for universal screening, given the prevalence of the condition and high rate of adverse outcome in the non-intervention group.[20]

Focus then shifted from whether to screen and treat, to the threshold to be used as a marker of need for intervention. This issue was addressed by the HAPO (Hyperglycemia and Adverse Pregnancy Outcome) study, which examined the relationship between hyperglycaemia and adverse outcome. The results indicated a strong, linear association between maternal glucose levels and outcomes such as macrosomia, rate of caesarean section and neonatal hypoglycaemia. There was no obvious threshold at which risk increased, which contributes to the universal lack of consensus on the diagnostic criteria for gestational diabetes.[21] A *Cochrane review* to assess the effects of different methods of screening for gestational diabetes on subsequent management and maternal and infant health is currently in progress.[22]

Screening for group B streptococcus

Group B streptococcus (GBS) has previously been identified as one of the leading infectious causes of neonatal morbidity and mortality. The use of intrapartum prophylaxis with penicillin has led to a significant decline in the incidence of early-onset GBS disease since its introduction. Both risk-based and screening-based approaches have been used. The former involves the use of intrapartum antibiotics when one of a group of defined risk factors is present, while screening involves the collection of a low vaginal/anorectal swab from all women at around 36 weeks gestation, with intrapartum treatment for those with a positive culture.[23]

In a large retrospective study, it was found that the culture-based strategy was almost 50 per cent more effective than the risk-based approach in the prevention of early-onset GBS disease, with no significant increase in antibiotic usage.[24] Based on this result, in 2002, the Centres for Disease Control and Prevention published guidelines recommending universal screening for GBS in pregnancy.[25] The RANZCOG guidelines support the screening-based approach, but recommend that where it is impractical or inappropriate to obtain swabs, the risk-based strategy be adopted.[23]

Conclusion

When supported by evidence, screening tests in pregnancy play a valuable role in the prevention or early detection and treatment of disease through appropriately timed intervention, to improve outcomes for women and their babies.

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Down syndrome

An approach to children and their families

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Down syndrome (DS) was first described as a constellation of physical symptoms over a century ago and its genetic basis as Trisomy 21 (T21) described in 1959. In 2009, modern medicine and all its sophistication allows for advanced prenatal diagnosis and comprehensive management options for children born with this condition.

Nevertheless, the impact on families remains significant. In many instances, the diagnosis is known prior to delivery, allowing for education and support of prospective parents. However, this is not always the case. The most challenging families to support in the newborn period are those in whom the birth of a child with Down syndrome is completely unexpected.

The purpose of this article is to arm obstetricians, general practitioners and other antenatal healthcare workers with a broad understanding of Down syndrome, and what parents might seek to discuss to better understand the path ahead in terms of raising and caring for their children. Current issues regarding screening and diagnosis are addressed elsewhere in this edition of *O&G*.

The antenatal period

Once a prenatal diagnosis is made, there are naturally a great deal of questions posed to medical practitioners regarding the pregnancy itself and expectations along the way. Paediatricians can be usefully engaged in this process if needed. For the sake of this article, we shall presume that the parents wish to proceed with the pregnancy. Of course, they may decide to pursue other options such as termination or adoption. The typical discussion points would include:

1. **The diagnosis itself**
   Usually made by the first trimester combined test (PAPP-A, hCG and nuchal translucency).

2. **Why has it occurred?**
   There is more than one genetic event that can lead to Trisomy 21. The great majority are nonfamilial, involving an extra copy of chromosome 21. A small proportion are inherited chromosome 21 abnormalities. Genetic consultations with families can be very helpful in both explaining the diagnostic genetics and offering counselling support.

3. **Are there additional tests that need to be done during the pregnancy?**
   Yes, there may be.

   a) Fetal cardiac assessment
   Approximately 50 per cent of DS children will have congenital cardiac defects, the most common being atrioventricular septal defect (AVSD) or ventricular septal defect (VSD). These may have clinical relevance in the newborn period and so fetal cardiac echo is recommended, so that delivery can occur in an appropriate high-risk setting if needed.

   b) Gastrointestinal imaging (GI)
   Five per cent of DS children will have significant GI anomalies, the most common being duodenal atresia or stenosis. Ultrasonography will assist with the diagnosis. Delivery should occur in a tertiary setting.

4. **Prognostications**
   This is very difficult to address accurately, as there is great variation. Children with DS are at an increased risk of a number of medical conditions, as described below. In an ideal clinical setting, parents could be fully informed of the potential future medical challenges. However, in the first instance, this may be overwhelming and individual judgment needs to be made in terms of how detailed a discussion should take place and the timing of that discussion.

'Early intervention for any child with a disability or developmental difficulties is critical in maximising their cognitive and social potential.'

Genetic counselling

Clinical geneticist involvement can be extremely helpful to enable more indepth discussion of the diagnostic genetics and associated phenotypic variability; future pregnancy risks for primary and distant relatives; and options for prenatal testing with any future pregnancy.

Associated medical conditions

In addition to the cardiac and GI abnormalities discussed above, a number of medical problems can add to the challenge of raising a child with Down syndrome.

Intellectual impairment
Cognitive impairment is common and of varying severity. Developmental delays across all parameters are generally detected early. Early intervention services are integral to maximising cognitive potential and are discussed later in this article.

Disproportionate growth
Short stature and overweight/obesity are common. The aetiology of short stature is not clear in the literature; varying roles for GH and IGF-1 have been postulated but not clarified. Slow metabolic rate could explain the weight gain, although modern lifestyle factors are just as relevant for DS children as their unaffected peers.

Hearing and vision abnormalities
Hearing impairment can affect many DS children and can be either conductive, sensorineural or mixed. Recurrent otitis media can exacerbate underlying hearing deficits. Visual problems affect the majority and are usually refractive errors or squints.

Endocrine abnormalities
Thyroid dysfunction occurs with varying frequency and can be hypo- or hyperfunction. It is not unusual for neonates to have TSH and thyroid hormone levels outside the normal range, without underlying pathology. Insulin-dependent diabetes mellitus is more common in DS children.

Haematological conditions
- Normal variations – polycythaemia, thrombocytosis, leukopaenia, macrocytosis.
- Transient Myeloproliferative Disorder – usually asymptomatic and self-resolving in the first few months of life. Complications can, however, be life-threatening in a small number of cases.
- Acute myetoid leukaemia (AML) and acute lymphoblastic leukaemia (ALL) – both much more common in DS children than unaffected peers. Chemotherapy toxicity and therefore morbidity and mortality, are also higher in DS patients.

Sleep disorders
Obstructive sleep apnoea is very common, regardless of weight. Both anatomical and neuromuscular factors are implicated – hypotonia, large tongue, midface hypoplasia and a high-arched palate contribute to varying degrees.

Other conditions
- Atlantoaxial instability (AAI) – excess movement of C1 on C2, which, in a very small number, may cause spinal cord compression. The majority of children are asymptomatic and screening for AAI is controversial in these asymptomatic cases.
- Coeliac disease – strong association with DS, with varying reports of five to 15 per cent incidence.
- Hirschsprung disease – more common, although less than one per cent risk.
- Impaired reproduction – males are almost universally infertile due to defective spermatogenesis. Females are fertile – the risk of a DS offspring is dependent on the underlying maternal genetics and pre-conception genetic counselling is highly recommended in these cases.
- Skin disorders – very common, and include folliculitis, seborrhoeic dermatitis and hyperkeratosis.
- Behavioural problems – attention-deficit hyperactivity disorder (ADHD) and oppositional defiant disorder (ODD) are the most common. Psychiatric disorders are also more prevalent in those with DS.

The road ahead – medical surveillance

The practicalities of managing children with DS primarily revolve around ongoing medical surveillance for the above associated conditions. As children are affected by different conditions at different ages, surveillance can be tailored to the age group. Different peak paediatric bodies have published surveillance regimes of varying intensity and complexity. I use the following approach:

Neonate	• Cardiac assessment • TFT (thyroid function) • FBC (full blood count) for haematological abnormalities • NHS (newborn hearing screen) and formal hearing testing if abnormal • Look for clinical signs of duodenal atresia/Hirschsprung disease
3 months	• Eye review (or at least by six months) • FBC • Ensure normal newborn screening test
6 months	• Eye review (if not done earlier) • Hearing test • FBC/TFT
12 months	• Hearing test and review for otitis media with effusion (OME) • Dental review • FBC/TFT
2 years	• Hearing test • Eye review • Coeliac serology/FBC/TFT • Dental review • Dietitian review
>3 years	• Annually: Hearing/FBC/TFT and dental review • Eye review biannually • Atlantoaxial instability at 3-5 years old if symptomatic

The road ahead – early intervention services

Early intervention for any child with a disability or developmental difficulties is critical in maximising their cognitive and social potential. Early intervention should be married with medical surveillance and is often as important, if not more so.

Early intervention obviously needs to be tailored to the individual's needs, but it is not uncommon for DS children to require involvement from speech pathologists, occupational therapists, physiotherapists and dietitians. There is no question that outcome is directly proportional to the amount of early intervention received. Unfortunately, access is not always easily achievable, both from a geographic and financial perspective. Many services need to be accessed via private allied health practitioners. State Down syndrome associations can assist with directing families to both publicly-funded community and private services.

Additional family support and information

There are many different support agencies, networks and resources available for children, parents and families who have a relative with Down sydnrome. Both State and Federal governments and organisations have programs and funding arrangements in place to assist. It can take time and patience to get one's head around what is available in a particular geographic area for a particular special needs child, regardless of the overriding diagnosis.

There are Down Syndrome Associations in each State and they are an excellent place to start for families with a new diagnosis, or families looking to access more information. A multitude of educational and support materials are available on a state-by-state basis. I recommend families explore state associations in addition to their own home state, as each tends to present a variety of support materials and programs.

The genetics of Down syndrome is important for parents to have at least a basic understanding of, as many issues arise surrounding current and future pregnancies. The Centre for Genetics Education

(www.genetics.edu.au) provides excellent fact sheets for parents explaining the genetic basis of Down syndrome. This can supplement consultations with a clinical geneticist and/or genetic counsellor.

'Managing families as a whole is an important aspect to the overall management of a child with Down syndrome.'

Education is obviously an enormous aspect of any child's development. Needless to say, DS children's educational needs vary with cognitive level and require appropriate thought and consideration. In New South Wales, Australia, the Department of Education and Training is engaged in the schooling placement process and offers a number of schooling options. This should be paralleled in other States:

- Mainstream classes
- Support classes in mainstream schools
- Special schools (via a regional placement panel)
- Learning Assistance Programs – supporting students with learning difficulties in mainstream classes, regardless of the cause.

Caring for any child with a disability, or indeed any child with a significant medical condition, can be testing even for the most dedicated carer. Individuals can feel overwhelmed, marriages can strain and siblings can struggle with the necessary time and attention that special needs children require. Managing families as a whole is an important aspect to the overall management of a child with DS. Respite can be helpful in this process and can be accessed in various community settings. Respite funding is available via Commonwealth Carer Respite Centres (phone 1800 059 059 in Australia).

Summary

Down syndrome is the most common chromosomal abnormality amongst newborns and indeed the most common chromosomal cause of intellectual impairment. Not only do these children face substantial medical and developmental hurdles, their families naturally take on a considerable burden of care beyond normal parenting responsibilities. The initial diagnostic period can be emotionally challenging and confronting, and appropriate supports are critical in the early phases in particular. Those supports then naturally evolve into the provision of ongoing medical surveillance and early intervention services so that children can reach their social and cognitive potential. Healthcare professionals and support organisations can complement each other in guiding parents through the differing care phases of these children.

Travelling with Erinn

Raising a child with Down syndrome

Dr Chris Halloway
FRANZCOG

'History needs to be mightily inventive about human life because bare life is an accusation against man's dominion of the earth.'

- an excerpt from *The Secret Scripture* by Sebastian Barry

Erinn is now 31 years old. I remember her birth so clearly as underlined by my emotional reactions at the time and tempered by human philosophy ever since. I can only guess what may have been reality should she not have carried more genetic inscription than most of us. Does knowing her genetics help any more than knowing the basic 'Lego' of our other children?

I couldn't entertain the conviction of my eyes at her birth, travelling across Sydney late that mid-winter evening. Should I wait for the paediatrician's assessment? I hadn't said anything to my excited wife. Just stay cool and make the necessary phone calls, I thought. Now, here I was travelling back in remote control of a VW Beetle, reflecting upon the control anyone really has over the significant aspects of their existence.

'...it became clearer that my reactions were in large part for myself and not for Erinn – she was already helping me to grow.'

Our other four children were with their grandparents and had already fallen asleep. I hadn't been able to make the calls, perhaps needing the comfort of their presence to speak of my confusion and uncertainty. Our obstetrician and I were old teacher-student friends. We both knew but didn't say the words, just made the decision for paediatric consult, hoping to delay our fears.

Thus was Erinn's arrival, muted by fears and unaccompanied by the usual high fantasy of parental self-indulgence. My dear wife led me back to the world of expectations, with her instinctive acceptance and mothering of this happy and responsive baby. Fears of the future were thankfully dashed by the immediate dangers of apparent neonatal chest infections, possible cardiac anomalies and the need for tube feeding for the first few weeks. I realised I was already bonded to this new life and slowly released the demons of self-pity. Now it was 'we' who were eagerly awaiting the release of Erinn to her family.

The first few days were, as I have said, quite confused – reliving turbulent emotion as phone calls to family and friends needed to acknowledge that there was something wrong. The name of a syndrome helped to show that at least one was working on it and 'no', you couldn't have just a little bit of the syndrome. These dear friends comforted me and it thus became clearer that my reactions were in large part for myself and not for Erinn – she was already helping me to grow.

Those days it took a few weeks to return the expected genetics, but by then our shattered self-images had returned to the balm of our co-existence. A generous couple came to our house to help reassure us that we could still have expectations for Erinn. They brought their two children, a 12-year-old girl and a boy of about seven. The young girl played the violin for us and she was 'like Erinn'. As months went by, Erinn seemed to do the same as the others – just a bit later. Her heart condition was diagnosed as an 'endocardial cushion defect' and we were advised that surgery was too hazardous. My wife recalls the harshness of this sentence and the words 'bring her back when she is two, if she is still alive'. My recollection was of the helpful clarity of the consultation. In those days, the echocardiogram machine was twice the size of a large kitchen fridge and was housed in a basement office under the old Royal Prince Alfred maternity building.

Circumstances took us to England again to live when Erinn was five months old and we left Australia thinking she may not return – harder to bear for her grandparents than perhaps for us. In England, we followed up with paediatric cardiologists who suggested that surgery was an option but that it must be done soon to avoid the irreversible changes of pulmonary hypertension. My wife and I considered the risks to be too great and declined.

Erinn did not walk until 18 months of age. The children used to take her from room to room in the house, depending where they were playing. Ever vigilant for changes in her condition, we noticed grazes on her nose and sternum – her enlarged heart caused some sternal protuberance. We worked out that they were carpet burns, thus raising the level of vigilance from then on as the others were shown how to move her with greater care. She was also quite small, maybe 13 pounds at 12 months. My wife was a little exasperated more than once by elderly ladies' concerns that Erinn was not being fed enough and that she should give up on breastfeeding.

Our arrival in England in December/January was a cold surprise for Erinn. An old friend from our earlier stay had arranged housing on the hospital premises. She met us and settled us into the house. Nearing term pregnancy herself, she was excited to see Erinn and nursed her constantly for a few hours. The next week, she went into labour, giving birth to a Down syndrome boy with the same cardiac anomaly as Erinn. This dear friend said later that she would not have been able to cope as well had it not been for the short time with Erinn just before her delivery. She found that seeing Erinn in a family context made it easier to welcome her own son, Alex, who unfortunately died due to his cardiac problems at about 14 months of age.

'From such confused beginnings, it is wonderful to know that life would not have been as liveable without Erinn.'

We have had six more children since Erinn, thus most of them can't recall a time without her. Erinn has had a major influence on their development, their assessment of what a tragedy is and what an opportunity is and 'what's the problem anyway'. Erinn has her own group of friends outside the family circle and her reliance on the family ties, though more obvious, is no more or less real than the ties that bind the other 'children'. Erinn's 'needs of us' are just more predictable and certainly not more challenging. From such confused beginnings, it is wonderful to know that life would not have been as liveable without Erinn.

Dr Halloway with his daughter, Erinn.

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Soft markers detectable at the mid-trimester ultrasound

Dr Michael Bethune
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Ultrasound soft markers are not in themselves abnormalities, but rather ultrasound findings which may indicate an increased risk of underlying abnormalities. Many of these markers regress as the pregnancy progresses. Although some of these markers may have value, most have not stood the test of time well.

Most of the early studies on soft markers were performed in high-risk individuals (women over 35 to 37 years of age).[1] These studies were also performed in patients who had not had any other type of screening. Down syndrome screening programs are now available to many women in the form of second trimester maternal serum screening, or the more accurate first trimester serum screen combined with nuchal translucency. The high-risk patient is now well served by these screening tests and also by diagnostic tests such as amniocentesis and chorionic villous sampling.

It may be that over the next few years all of the soft markers go out of favour except nuchal fold (and possibly nasal bone). A recent prospective cohort study found isolated soft markers in ten per cent of normal fetuses and only 14 per cent of Down syndrome fetuses; nuchal fold was the only marker in this study to increase the risk of Down syndrome.[2]

Individual markers

1. Second trimester nasal bone

This is the newest described soft marker. There are as yet only a few large scale studies from a small group of authors. Despite this, the interim information is very encouraging. The nasal bone can be described as absent or hypoplastic. One study demonstrated that 0.5 per cent of normal fetuses and 43 per cent of trisomy 21 fetuses have an absent nasal bone at the 15 to 20 week ultrasound.[3] The Fetal Medicine Foundation Group found similar figures with 1.2 per cent of normal fetuses and 62 per cent of trisomy 21 fetuses having absent or hypoplastic nasal bone between 15 and 22 weeks.[3] If these figures are borne out by larger studies, then this could become the most sensitive soft marker.

2. Nuchal fold (NF)

Although a thickened NF has been associated with an increased risk of trisomy 21, it is an uncommon finding in both Down syndrome and normal fetuses.[4] The NF corresponds to very similar tissue at the back of the neck as the first trimester nuchal translucency, but is measured in a different manner. This finding should be rare in fetuses that have had a prior thin nuchal translucency. If the NF is found to be thickened after a thin nuchal translucency, then other possible causes should be considered. Thickened NF may be an early feature of fetal hydrops or cystic hygroma.

3. Echogenic bowel (EB)

This is a rare finding in normal fetuses. In one study, only 0.6 per cent of mid trimester fetuses had EB but approximately 15 per cent of trisomy 21 fetuses had EB.[5]

Approximately 35 per cent of fetuses with true EB will have some underlying pathology.[6] First trimester bleeding appears to be a common cause of EB (presumably due to swallowed blood).[7] A history of first trimester bleeding does not exclude the possibility of other causes. There is an association with fetal infections. Serology for these infections should be performed. There is also an association with cystic fibrosis (due to meconium ileus). The parents should be counselled and parental testing for cystic fibrosis carrier status offered. If both partners are demonstrated to be carriers, then it is possible to perform amniocentesis for DNA analysis of the fetus.

4. Shortened long bones

Shortened humerus and femur have both been associated with an increased risk of chromosomal abnormalities.[8] There are many reasons why the long bones may be shortened. If they are severely shortened or abnormal in appearance (for example, with bowing, fractures or reduced mineralisation), then this may be an indication of skeletal dysplasia. Occasionally, shortening of the long bones is a warning sign of early onset intrauterine growth restriction. It would be prudent to review the growth of the long bones in two weeks time.

Almost all studies to date have demonstrated that the humerus is a more reliable discriminator for Down syndrome than the femur.[4] Measurement of humerus length should become part of the routine mid-trimester ultrasound assessment.

5. Pyelectasis

Pyelectasis or borderline renal pelvis dilatation is most commonly described as an anteroposterior diameter of the renal pelvis greater than or equal to 4mm. Approximately 17 per cent of fetuses with trisomy 21 will have pyelectasis. Isolated pyelectasis appears to be a very uncommon finding in aneuploidy. Only approximately one in

every 300 fetuses with isolated pyelectasis actually have aneuploidy in three separate studies reported over more than a decade.[9,10,11]

A meta-analysis of soft markers confirmed the lack of significance of this finding.[4] Although the likelihood ratio for this marker was 1.9 (1.9 x prior risk), the confidence interval varied between 0.7 and five. As the 95 per cent confidence interval for pyelectasis crosses one, there is a chance that, on the basis of the studies analysed, the presence of pyelectasis may actually reduce rather than increase the risk of Down syndrome.

Pyelectasis has been associated with an increased risk of hydronephrosis and postnatal urinary reflux. Although these patients should be reviewed in the third trimester, the risk with mild pyelectasis is very low. Almost no cases measuring 4mm to 7mm at the second trimester will need surgery.[12]

6. Echogenic intracardiac focus (EIF)

Echogenic intracardiac focus was originally described as a normal variant and has been demonstrated to be micro-calcifications within the papillary muscle.[13] It is a common finding in the population, visible in three to five per cent of normal fetuses. EIF has been demonstrated to cause no functional heart defect and is not considered to be associated with an increased risk of structural heart abnormalities.[14]

The papillary muscles are often visible as echogenic spots in the ventricle. They must be as bright as the adjacent ribs to be considered an EIF and consequently false positives are common.

Recent studies have demonstrated a difference in the prevalence of EIF between ethnic groups. The first study found that 30 per cent of Asian women had a fetus with an EIF.[15] Ethnic variation of this marker has been confirmed in recent larger studies.[16]

A summary of the evidence to date would indicate that, although early papers provided evidence supporting the introduction of EIF as a marker for Down syndrome in high-risk patients, more recent studies have cast doubt as to the role of this marker in unselected or low-risk populations.

Two studies performed in low-risk patients demonstrated an isolated EIF in only one of 626 Down syndrome fetuses.[17,18] Both studies concluded that isolated EIF was not a marker for Down syndrome in low-risk patients (21,839 total patients). A third study demonstrated 176 cases of EIF[19], there were three trisomies within this group. Two of the trisomies had other abnormalities visible on ultrasound. Only a single trisomy was found in the 141 isolated EIF patients, which occurred in a 38-year-old patient. The authors therefore concluded that for patients younger than 35, an isolated EIF does not increase the risk of aneuploidy.[19] Despite appropriate counselling, 30 per cent of the patients in this study under the age of 35 opted to have an amniocentesis, indicating a significant potential for fetal loss from reporting this marker.[19]

Few studies have looked at soft markers in patients who have had prior screening. One study which addressed this issue looked at almost 17,000 pregnancies; all mothers were offered nuchal translucency or maternal serum screening. There were no cases of trisomy 21 in the group of patients who had isolated EIF.[20]

7. Choroid plexus cysts (CPC)

Approximately one to three per cent of the normal population will have CPCs identified within the fetal head at the mid trimester ultrasound.[21] CPCs are not associated with an increased risk of Down syndrome. They have, however, been associated with trisomy 18, approximately 30 to 50 per cent of fetuses with trisomy 18 have been demonstrated to have CPCs.[22] The vast majority of these fetuses will, however, have additional abnormalities with an estimated at least 80 per cent of trisomy 18 fetuses having detectable structural abnormalities at the mid-trimester ultrasound.[23] Many trisomy 18 fetuses will be detected by nuchal translucency or mid-trimester serum screening tests.

Recent studies have raised doubt as to the significance of isolated CPCs. One group looked at almost 13,000 unselected patients. There were 366 isolated CPCs and none of these fetuses were affected by trisomy 18.[24] Another study reviewed 38 prenatally detected trisomy 18 fetuses. Although 50 per cent had CPCs, all of these fetuses had multiple other abnormalities.[25] A recent study reported on almost 50,000 patients[26] including 50 in trisomy 18 fetuses. The authors reported 1060 cases of isolated CPCs with normal hand appearances. None of these fetuses were affected by trisomy 18. There were, however, three fetuses with trisomy 18 who had clenched hands and CPCs as the only findings. This demonstrates the importance of assessing appropriate hand movement (fingers open) in all mid-trimester ultrasounds.[26]

Conclusion

Mid-trimester soft markers were introduced into clinical practice on the basis of studies in high-risk patients and in a time when screening tests (other than maternal age) were not readily available. More recent studies have cast doubt on the value of these soft markers.

'...current literature supports a policy of not reporting CPCs or EIF in low-risk women.'

The technique of modifying a patient's prior risk by a likelihood ratio to generate a new risk has been advocated as an alternative way to handle soft markers, which still satisfies the principle of full disclosure. Although this appears logical and should significantly reduce false positives, problems remain with this approach. Firstly, the significance of EIF and CPCs is in doubt on the basis of recent publications. Secondly, it may not be appropriate to modify a risk generated from a test with up to 90 per cent detection by a risk generated from an ultrasound finding with a poor detection rate. Thirdly, the literature indicates that despite counselling, some low-risk women will still opt for amniocentesis based on iatrogenic anxiety; some of these pregnancies will miscarry. The principle *Primum non nocere* ('First do no harm') must be considered.

The *Journal of Ultrasound in Medicine* published an editorial position statement signed or supported by 22 of the leading prenatal imaging specialists in the United States.[27] The position statement declared that isolated CPCs (where clenched hands have been specifically looked for and excluded) or isolated EIF do not increase the risk of aneuploidy. The authors went on to state that physicians need not discuss these findings with the patient as they can be considered to be a normal variant.[27] The Australian Association of Obstetrical and Gynaecological Ultrasonologists (AAOGU) also published a consensus statement which recommends not reporting these findings.[28]

The British National Institute for Health and Clinical Excellence has produced a guideline for antenatal care which concluded that: 'The presence of an isolated soft marker, with an exception of increased

nuchal fold, on the routine anomaly scan, should not be used to adjust the a priori risk for Down syndrome'.[29]

It is this author's opinion that the current literature supports a policy of not reporting CPCs or EIF in low-risk women. There are two provisos: the hands must have been seen not to be clenched; and the scan must be of sufficient quality to reasonably expect to detect major anomalies. If views are incomplete or difficult, then a second opinion scan should be sought, not to review the soft marker, but in order to obtain clearer views. Each of the other markers in this article has ramifications beyond the risk of Down syndrome and therefore must still be looked for at the mid-trimester ultrasound.

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Sex chromosome aneuploidy diagnosed in the second trimester

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For most women and their families, the news that they have a baby with a chromosomal abnormality is perceived as bad – very bad! For all but the well informed, their initial image is of a physically deformed and mentally abnormal child, the antithesis of the ideal newborn, healthy and full of potential.

While that view may be justified for the majority of those with a chromosomal aneuploidy, it does not necessarily follow for individuals with a sex chromosome aneuploidy (SCA).

What does it mean to have a sex chromosome aneuploidy?

Complete or partial loss of sex chromosome – Turner's syndrome

Turner's syndrome (TS) is the result of total or partial monosomy of the X chromosome and is the most common SCA in female conceptions (affecting approximately three per cent). However, only one in 1000 embryos with a 45XO karyotype survives to term. The majority of affected pregnancies end in early miscarriage. The condition is primarily characterised by short stature and gonadal failure and frequently results in absent or arrested puberty. The spectrum of associated abnormalities include lymphedema, renal abnormalities, left-sided cardiac defects, hearing loss, various ocular abnormalities, and a number of distinctive phenotypic features such as webbed neck, low posterior hairline, low set ears, multiple nevi, nail dysplasia, short metatarsal and cubitus valgus. Intelligence falls well within the normal spectrum. However, some specific learning difficulties such as problems with spatial orientation and difficulties with social adjustment have been identified. A spectrum of health issues are more prevalent in women with TS. These include hypertension, celiac disease and endocrine diseases, particularly thyroid disease. In adult life, women with TS have an increased risk of cardiovascular morbidity and mortality. Aortic dissection or rupture appears to be an increasingly recognised cause of death in TS. This seems to be a particular risk for TS women in pregnancy.[1]

Individuals with a mosaic karyotype are less likely to have physical abnormalities or the characteristic phenotypic features of TS and are more likely to have preservation of ovarian function into puberty or adulthood. Consequently, many TS mosaics will go undiagnosed.

Study of Turner's syndrome associated with partial monosomy has contributed to a better understanding of the cause of short stature in TS. Current evidence suggests that the short stature homobox-containing gene (SHOX) is located on the tip of the short arm of the X and Y chromosome.[2] A rarer form of TS associated with deletion of the Y chromosome has helped with identification of the testis determining gene (SRY). Despite initial hope that progress in gene mapping may provide a clear relationship between karotypic abnormalities and clinical findings in TS, studies to date have been disappointing and short stature is the only clinical finding invariably associated with TS.

Early diagnosis and treatments, which include growth hormones to increase height potential[3] and timely use of estrogen therapy to mimic normal puberty[4], optimise outcome for TS individuals. Modern infertility treatment, particularly use of donor eggs, has assisted women with TS to achieve pregnancy. In the main, women with TS live happy and productive lives, albeit with a somewhat higher burden of health issues than women with 46XX karyotype and with an approximately doubled overall mortality ratio.

Extra sex chromosome syndromes

Klinefelter's syndrome

Klinefelter's syndrome (KS), 47XXY, results from the nondysjunction of the sex chromosomes and is associated with advancing parental age. It is therefore over-represented in cytogenetic abnormalities detected when screening for Down syndrome (DS). KS males are phenotypically normal at birth. The features associated with KS become increasingly apparent during adolescence and adulthood, and are characterised by tall stature, small testis and infertility on the basis of azoospermia. Overall, KS males' IQ sits about ten points below their siblings' scores. In the past, KS males were reported to have increased aggressive behaviour and tendency for criminal activity, but more careful research has not substantiated this association. It is likely that unless males with KS present for investigation of infertility, they will escape clinical diagnosis.

47XYY males

These individuals are tall and may have mild motor and language delay, but are otherwise normal with normal fertility.

47XXX (previously known as Triple X)

These individuals also tend to be tall and with normal fertility, but with some impairment of verbal and performance IQ at about 15 to 20 points below their siblings.

Other numerical sex chromosome abnormalities

Overall, there appears to be a relationship between the number of additional sex chromosomes and the severity of the phenotype. Moderate to severe intellectual handicap are usual.

The types, frequency and common characteristics of SCAs are summarised below in Table 1.

What if SCA is diagnosed antenatally?

Prenatal diagnosis of SCA is likely to occur in two ways. Firstly and most commonly, the woman is diagnosed by chance after amniocentesis or chronic villi sampling (CVS) to exclude Down syndrome. SCAs represent approximately ten per cent of abnormal chromosome results identified following prenatal cytogenetics. Secondly, cytogenetic diagnosis of SCA may occur after investigation of an ultrasound abnormality.

Most individuals with a sex chromosomal abnormality are not identified because they do not present with a health issue which results in karyotype testing. The incidence of historically quoted abnormalities is likely to be an overestimate, where the denominator is TS individuals with abnormalities sufficient to result in karyotype. There is limited prospective follow-up information about individuals with a prenatal SCA diagnosis and preliminary data suggests that their prognosis is significantly more optimistic than previously appreciated. A recent study to evaluate the importance of this ascertainment bias in Turner's syndrome has provided important information.[5] Mosaic karyotype is the most common TS finding at prenatal diagnosis (56 per cent), whereas 45XO is the most common karyotype when diagnosis is made postnatally on the basis of phenotypic appearance or abnormalities (74 per cent). Further, the traditionally diagnosed group has almost twice as many phenotypic and cardiovascular abnormalities compared to the prenatally diagnosed group of individuals. These findings add weight to the impression that prenatally diagnosed TS is generally a 'milder' form of the disease. This is more likely to hold true for cases of SCA where diagnosis follows evidence of an ultrasound abnormality.

What to say?

Our responsibility as health professionals is to provide accurate context to the diagnosis of SCA. We must assist women to overcome their initial shock and preconceptions, and make a decision on whether to continue their pregnancy or seek a termination of pregnancy based on best information. The first communication with women is vital and affects how later information is interpreted, or even whether further information is sought. Evidence suggests that women with SCA are often provided with information in a haphazard manner by healthcare professionals.[6]

When faced with a diagnosis of SCA, the majority of women chose to terminate their pregnancy because of fears about having an 'abnormal' child. More recent research has shown that formal genetic counselling providing current and accurate information to women increases the likelihood that they will continue the pregnancy. Factors influencing parental decision-making is summarised in Table 2. How information is conveyed to women carrying children with an SCA affects both their decision to continue or terminate the pregnancy, and the degree of anxiety they experience if they decide to continue.[7] It is therefore important that obstetric units offering cytogenetic diagnosis have

Table 1. Frequency and common characteristics of sex chromosome aneuploidies (SCA)

Condition	Frequency (postnatal diagnosis)	Intelligence	Fertility	Other considerations	Treatment options
45X	1 in 2500 females	Normal- may have some specific learning issues	Infertile	Short stature and may have other congenital abnormalities	Growth hormone Estrogen from puberty
45XO/46XX and other variations	1 in 8000	Normal	Variable	Spectrum of phenotypic abnormalities between normal and 45XO	As for 45XO if needed
47XXY (Kleinfelters syndrome)	1 in 800 males	10-15 points lower than siblings	Infertile	May have gynaecomastia	Testosterone from puberty
47XYY	1 in 1000 males	10 points lower than siblings	Fertile	May have behavioural problems	None
47XXX (Triple X)	1 in 1000 females	20 points lower than siblings	Fertile	None	None
>47XX+ or >47XY+	Rare	Likely severe mental retardation		Relationship between number of additional sex chromosomes and severity of the phenotype	None

Table 2. Factors influencing parents' decision-making with sex chromosome aneuploidies (SCA)

More likely to seek termination of pregnancy	More likely to continue with pregnancy
• Abnormal ultrasound findings	• Normal ultrasound findings
• Turner's syndrome	• Additional single sex chromosome
• Offspring infertility	• Mosaicism except TS
• Likelihood of abnormal sexual development in offspring	• Quality information regarding their child's diagnosis
• Counselling by obstetrician	• Counselling by geneticist or perinatologist

established protocols for sharing cytogenetic results with women, and for all staff who communicate these results to have accurate and up-to-date information about the conditions identified. This is particularly important when the diagnosis involves an SCA, as most obstetricians and midwives providing direct care will have very limited personal experience to draw on. For women deciding to continue their pregnancies, community organisations such as the Turner's Syndrome Society, which has branches in Australia and New Zealand, may provide helpful ongoing support.

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Asia Pacific Committee

Involved in a developing country?
We'd love to hear from you!

The APC is keen to be kept informed about activities and involvement of our Fellows in all developing countries, but particularly the Asia Pacific region. From this information we will be able to increase valuable networks and build a more comprehensive picture of the involvement of College Fellows in the region, either under the auspices of the College or via other avenues or personal connections you may have.

Please send one paragraph outlining details of any activities/projects/consultations you have been involved in over the past year or details of activities you will be involved in for the coming year to:

Carmel Walker
Coordinator Asia Pacific Services
(e) cwalker@ranzcog.edu.au

Online Learning Program

NT
NUCHAL TRANSLUCENCY
ULTRASOUND, EDUCATION & MONITORING PROGRAM

Purpose

The Nuchal Translucency Online Learning Program (NTOLP) is designed to replace the theoretical course that is conducted for operators who wish to become credentialed to perform Nuchal Translucency scans.

Content

The NTOLP covers eight topics:

1. **Principles of screening**
2. **Practicalities of NT measurement**
3. **NT and Chromosome Abnormality**
4. **Biochemical screening**
5. **12-week anomaly scan**
6. **Screening test results and informed choice**
7. **Screening and multiple pregnancy**
8. **Increased NT and normal chromosomes**

Features

This site uses many elements to engage and interest the learner. Some examples are:

- **Interactivity – mouse over, prediction tasks and multiple choice questions**
- **Customised images – graphs, detailed diagrams, flash animations and ultrasound scans**
- **Illustrations and text**
- **Discussion Forums**

The cost is approximately A$200 including GST per individual. A June 2009 launch date has been tentatively set so please keep an eye out at www.nuchaltrans.edu.au/ for further details. This program is co-located with The Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG) and development has been funded by the Department of Health and Ageing.

Ethical aspects of screening and diagnosing chromosomal and other abnormalities in the second trimester

Dr Cliff Saunders
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In this article I hope to encourage you to think about the ethics of your obstetric practice. I am not attempting to present the answer, but rather promote reflective thought. It is important that we, as members of the medical profession, act in an ethical manner in all of our practice.

However, in most situations there is no close ethical check on our practice and it is our own personal conscience which will determine how we act. In many areas there is no real debate as to what is appropriate ethically. When there are questions of what is ethically appropriate, it is useful to have thought about the issues beforehand. In screening and diagnosing chromosomal and other abnormalities in the second trimester, there can be considerable difference of opinion as to what is ethical.

The second trimester covers the period from 14 to 26 weeks gestation when there is a huge change in the fetus. With current neonatal care available in Australia, the pregnancy develops from being non-viable into not only being viable by the end of the second trimester, but a baby born in a tertiary hospital in Australia in good condition, who would be likely to survive with a reasonable quality of life.

Screening tests in the second trimester include tests such as the triple test and the anatomy ultrasound. These can be followed up as necessary by diagnostic tests such as an amniocentesis. I do not propose to discuss specific screening programs or diagnostic tests here.

'...the law cannot be used as a guide for what is ethical, as it is not consistent with the concept that ethics is about "what ought to be".'

Ethics can be said to be about 'what ought to be', a sense of what is right. Acting ethically involves acting in a morally correct manner. Deciding what is morally correct can be based on religious or secular beliefs and different people can reach different conclusions depending on their underlying beliefs. There is no way to definitely prove what the correct answer is.[1]

In order to be able to decide on what the ethical approach is to a clinical situation you face, it is necessary to have a framework on which to base decisions. Unfortunately, this is not as simple as it sounds. There are several different ethical principles that can be used to decide what is ethical, such as autonomy, beneficence and nonmaleficence, utilitarianism and justice.[2,3] These different principles can lead to different conclusions as to what the ethical action is in some circumstances.

Autonomy literally means self-rule, as used in ethics it means that the individual is free to choose for themselves between different options. In the medical situation, this requires providing the patient with the information to enable them to make a decision. Hence, it is this ethical principle which supports the practice of informed consent. Respect for patient autonomy is what underlies the concept of the patient choosing whether or not to undergo a treatment.

Beneficence is doing or producing good and nonmaleficence is doing no harm or injury. They are slightly different, but for most purposes can be considered together. I think most of us would accept these principles as a basis of good medical practice. The basic tenant of 'first do no harm' is covered by this ethical principle.

The utilitarian approach means achieving the greatest good for the greatest number. In many cases, this principle will result in a different conclusion from the principle of autonomy.

Justice is a much more difficult issue. It involves giving what is due. In the medical setting, this is complicated by the need to allocate limited resources. Superficially, the principle of justice may be thought of as people in similar circumstances being offered similar treatment.[3]

I would like to highlight the ethical issues in two situations. The first ethical issue is whether a screening test should be undertaken. The principle of autonomy holds that the pregnant woman should decide. Does she want to have the test? There may be a number of possible reasons she does not want the test ranging from needle phobia to not wanting to know the result of the test. For example, a woman who has decided that she would not terminate her pregnancy for Down syndrome may not wish to have the triple test because it may cause a lot of unnecessary stress and worry. (If a screening test is undertaken and it comes back as a high risk of Down syndrome – say one in 100 – there is still a 99 per cent chance that there is no genetic abnormality, that is, in the case of a positive result the test is likely to be harmful to the woman.) To undertake a screening test of this nature without the informed consent of the mother is, in my view, paternalistic and very difficult to justify as ethical practice. Unfortunately, it can be considered to be a 'basic blood test' for pregnancy and can be ordered without

explanation along with other tests. The increased take-up of the first trimester screening for Down syndrome is helping to address this issue, as it is far harder for the busy doctor to order an ultrasound and blood test without explaining why it is being undertaken.

The second ethical issue I would like to highlight is more complex. It really relates to the moral standing of the fetus.[1] There are very strongly held conflicting views on this. If you consider that the fetus has rights, then deciding between the relative importance of the mother and the fetus in the ethical considerations is difficult. (If, on the other hand, you consider the rights of the fetus are completely subservient to those of the mother, then the ethical problem is simple.)

'In most situations there is no close ethical check on our practice and it is our own personal conscience which will determine how we act.'

In any decision relating to testing for abnormalities, the decision on whether to undertake a test is inextricably linked with what actions will follow from the results. Many of the pregnancies which are found to have a chromosomal or other abnormality are aborted. This is not always the case and sometimes identifying an abnormality results in the delivery occurring at a tertiary centre where appropriate neonatal care is readily available. The interests of the fetus in the latter case would clearly be to undertake the test.

The law provides a limit to how one can practice medicine. However, legal is not the same as ethical. The law can vary from jurisdiction to jurisdiction (for example, the law on termination of pregnancy). The law enacted in any one jurisdiction is a result of many influences on the law makers, for example, local history, religious beliefs, community norms, the action of pressure groups, etc. Thus the law cannot be used as a guide for what is ethical, as it is not consistent with the concept that ethics is about 'what ought to be'.

The real difficulty comes when one tries to decide what is best for the fetus if an abnormality is found. How do you evaluate quality of life and the effect of a disability on the rest of the family? Is there a difference if the fetus is viable? Who is the best person to make a decision for the fetus?

I believe each of us has to consider and answer the question as to what the ethical approach is. We should also accept that there will be others who have given the issue just as much careful thought, but because they have a different set of values, they may have reached a different conclusion. It is impossible to prove who is right.

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The incompetent cervix

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Preterm delivery is a leading cause of neonatal mortality and morbidity, with cervical incompetence being one of many multifactoral causes.

Preterm delivery or recurrent pregnancy loss come with feelings of loss, frustration and failure for the woman and her physician. With improving technology and escalating expectation, delivery of a non-viable fetus is now delivery of a fetus at the limits of viability with attendant neonatal mortality and morbidity. Cervical incompetence is viewed in the wider context of preterm delivery and associated financial, social, emotional and medico-legal implications.

Cervical incompetence still has no clear definition, no proven objective diagnostic test or criteria, and in this evidence-based world, no evidence supporting its treatment. Lack of clarity potentially leads to confusion in standard of care and increased medico-legal dispute.[1]

Milestones

1658 Practice of Physick Cole, Culpepper and Rowland: 'Slack orifice of the womb'
1865 *Lancet* – Gream – cervical incompetence
1955 VN Shirodkar and the Shirodkar suture (Mumbai)
1957 Ian McDonald and McDonald suture (Melbourne)
1965 Transabdominal sutures
1979 Transabdominal ultrasound scanning to detect cervical dilatation
1986 Transvaginal ultrasound scanning and the short cervix
1997 Laparoscopic sutures

Changing definitions

Traditional definitions are an expression of an anatomically defective cervix, congenital or acquired, with consequent recurrent second trimester loss or early preterm delivery. Ultrasound has changed the traditional view of the cervix being competent or incompetent, to degrees of incompetence. Cervical incompetence is considered a continuous variable, with various degrees leading to preterm delivery at different gestational ages.[2,3]

Table 1. Risk factors for cervical incompetence

Congenital	Acquired	Clinical
• Biological variation • Collagen disorders: Ehlors Danlos syndrome • Congenital uterine anomaly • In utero DES exposure	• Cervical lacerations or injury post vaginal or caesarean delivery • Prolonged second stage • Surgical procedures: D and C, excisional biopsy	• Asymptomatic • Progressively earlier deliveries • Vaginal pressure, spotting, increased discharge, discomfort • Advanced dilatation before labour • Short labours

The diagnosis

Diagnosis is difficult as there is no diagnostic test prior to, during or after pregnancy. All proposed tests are inaccurate, inconvenient and have not been proven to predict outcome. Diagnosis is often based retrospectively on history and exclusion of other causes of preterm delivery. Typical history is of recurrent midtrimester spontaneous loss or early preterm delivery. Presentation is of cervical effacement and dilatation in the absence of uterine contractions; symptoms of pressure; protruding membranes or rupture of membranes; little bleeding; and a rapid delivery.

Ultrasound, the short cervix and cervical incompetence

Ultrasound assessment of the cervix has been used since 1979. Transvaginal ultrasound scanning (USS), with closer proximity to the cervix and less cervical distortion from transducer pressure or a full bladder, is objective, highly reproducible and a reliable method to assess cervical length.

The short cervix is an expression of a spectrum of cervical disease or function. Other ultrasound parameters of funnelling and canal dilatation have not been verified.[3]

Cervical length and preterm delivery are inversely related: the shorter the cervix, the higher the risk of preterm delivery.[4,5] Unfortunately, a short cervical length on USS has become synonymous with cervical incompetence.

A short cervix increases risk of preterm delivery but does not by itself equate to cervical incompetence.

- Risk factors for preterm delivery DO NOT mean risk factors for cervical incompetence.
- The short cervix is the final common pathway of multiple causes of preterm delivery.
- Any woman threatening spontaneous preterm delivery will develop a short cervix. Most will not be due to cervical incompetence. Fifty per cent of women with a cervix 15mm or less deliver after 32 weeks.[2,4,5]
- The majority of women considered high-risk for preterm delivery due to cervical incompetence do not develop a short cervix and do not need cerclage.

Table 2. Ultrasound and cervical length

What is short?	• No agreement on what a sonographic short cervix is • Lengths of 15mm to 30mm have been used in studies • Optimum cut-off for the truly high-risk cases appears to be 25mm[4]
Who?	• USS should only be used in HIGH-RISK cases • Limited and not recommended as a screening tool in low-risk women
Why?	• A method of risk assessment that can modify A Priori risk • To identify, monitor and manage women with history consistent with cervical incompetence and risk factors for preterm delivery
When?	• Between 14 and 24 weeks • Cut-off depends on gestational age at which one is willing to perform intervention, which depends on neonatal morbidity and mortality at given gestational age
How often?	• Optimum interval between measurements is unknown

The treatment: cerclage

The many past and future interventions include:
- Cervical cerclage;
- Progesterone;
- COX2 selective non-steroidal anti-inflammatory agents;
- Anti-chemokine agents;
- Collagen injections;
- Vaginal pessary or inflatable balloons; and
- No sex, no excessive activity and bed rest.

Cervical cerclage is traditionally offered on the basis of suspected cervical insufficiency based on obstetric history. The rationale being to provide mechanical support to the cervix, to prevent shortening and dilatation, and to prevent or postpone preterm delivery. Fifty years after the introduction of cervical cerclage, debates and controversy continue as to when and how cerclage should be used.

Table 3. Cervical cerclage - the problems

Contraindication	Complication[2]
• Fetal anomaly incompatible with life • Intrauterine infection • Active bleeding • Active preterm labour • Ruptured membranes • Fetal demise	• Serious complication 1 in 50 • Anaesthetic • Postop abdominal pain, bleeding, bladder injury • Ruptured membranes (2% elective, up to 65% non-elective) • Chorioamnionitis 1-8% • Preterm labour • Fetal loss • Cervical laceration • Cervical dystocia • Difficulty removing suture 1%

Approaches

Table 4. Vaginal sutures

Shirodkar	McDonald
• Transverse incision anterior cervix, bladder pushed up above internal cervical os • Vertical incision in posterior vaginal wall • 5mm Mersilene tape or monofilament non-absorble suture to surround the cervix at level of internal os. Knot anteriorly	• 5mm Mersilene tape or monofilament non-absorble suture • Cervix encircled as high as possible, purse string suture in 5 to 6 bites with knot positioned anteriorly
Shirodkar versus McDonald: No difference in rate of preterm birth or neonatal survival in retrospective studies.[6]	

Table 5. Transabdominal sutures

Indications	• Very poor obstetric history • Previous failed vaginal cerclage • Little remaining cervical tissue either congenitally or from extensive surgery
When	• Pre-pregnancy • Requires caesarean section delivery at 37 to 39 weeks
Routes	• Laparotomy 1965 • Laparoscopy 1997
Benefits	• Overcomes technical problems of placing suture in short scarred cervix • More precise placement anatomically at the internal os • Assumption that higher suture placement prevents funnelling at internal os and reduces risk of PPROM • Absence of foreign body in vagina with consequent lower infection risk • Ability to leave the suture for future pregnancies
Complications	• Need for two laparotomies • Potential uterine artery ligation and IUGR • Late rectouterine fistula if left too long
Success	85% to 90%

Evidence

Cerclage does appear to mechanically support the cervix and prevent shortening and dilatation.[7] However, evidence is conflicting as studies vary in design, population, definitions and cervical length, precipitating intervention. *The Cochrane Review* has found no conclusive evidence that cervical cerclage in women perceived to be at risk of preterm delivery or second trimester loss attributable to cervical factors reduces the risk of pregnancy loss, preterm delivery or associated morbidity.[8]

Table 6. Timing of cerclage

Timing of cerclage	• Not well defined • Generally after first trimester to allow for prenatal screening and evaluation of fetal anomaly • Not at gestations when delivery is likely to have a good outcome • 24-28 weeks with high neonatal morbidity and mortality is controversial and in general avoided for fear of accidental PPROM
Primary (prophylactic)	• Prophylactic cerclage usually at 10-12 weeks based on obstetric history • No difference in preterm delivery and neonatal survival with or without primary cerclage in high-risk women[7,9] • 59% of women with cerclage do not need one. Application of cerclage based on history alone leads to unnecessary intervention in 50%[2,7]
Secondary (therapeutic)	• Therapeutic cerclage done after detection of early cervical changes detected by USS, with no exposure of membranes • Management with TVUSS serial follow-up of cervical length with secondary intervention is a safe alternative to traditional primary cerclage and prevents unnecessary intervention[2] • Secondary cerclage with bed rest is preferred management for women at high risk of preterm delivery from cervical insufficiency based on history and short cervix <25mm[7]
Tertiary (emergency/ salvage)	• Emergency cerclage done with severe cervical changes, membranes exposed • Emergency cerclage with bedrest is better than bedrest alone[7] • Limit of gestational age depends on institution and individual obstetricians

Perspectives

Medicine is changing. Now, more than before, our practice is challenged by technology savvy, internet-surfing patients and their lawyers.

Table 7. The Evidence vs Google and The Law

Medical evidence[8]	• Until more data becomes available, cervical cerclage should not be offered to women considered at low or medium risk of second trimester miscarriage or preterm labour. • Predicting those women who will miscarry due to a cervical factor remains elusive. • Due to the invasive nature of the cervical suture and dubious benefit, further evaluation of effectiveness and safety should be performed within randomised controlled trials.

Patients and the internet	• 'The diagnosis can be made either manually or with ultrasonograph.' • 'The competent cervix…a problem that is detectable by ultrasound and can be remedied with a surgical procedure.' • 'Determining whether a woman has an incompetent cervix is fairly simple. Incompetent cervix can be detected either through a manual pelvic exam or though ultrasound. Incompetent cervix can be treated though a procedure known as cervical cerclage. This simple treatment involves sewing your cervix with stitches.' • 'The surgery is actually a simple matter of inserting a noose-like tape around the perimeter of the cervix to keep it closed...a cerclage is a lifesaver and an intuitively obvious solution to the problem of incompetent cervix.'
Lawyers	• **Obstetrics for Lawyers by John Hare 2000** Allegations of a failure to perform cervical cerclage and hence of a failure to prevent late miscarriage or early delivery of a child who develops cerebral palsy because of prematurity is a frequent reason for litigation. • **Medical Malpractice Settlement Report 2004** $1.4M settlement for mother of child with cerebral palsy as a result of failure to utilise cerclage resulting in premature delivery of the minor plaintiff at 26 weeks, resulting in his moderate neurologic injuries. • **Undisclosed County (Mass) Superior Court 2003** $2.6M settlement. Failure to place cerclage blamed for brain damage: due to an incompetent cervix, a woman gave birth at 25 weeks gestation to a baby girl. In suing, the mother claimed that the O and G failed to recommend cervical cerclage despite the fact that the woman had a prior fetal loss due to an incompetent cervix, as well as previous successful pregnancy with the placement of a prophylactic cerclage. The woman maintained that her child's injuries would have been avoided had a cerclage been utilised. The O and G contended that the patient's medical history as described was not consistent with an incompetent cervix. • In one case, a pregnant woman with a known history of miscarriages was not given a simple procedure, called a cervical cerclage, to prevent another miscarriage. As a result, she again delivered early and her baby became blind with retinopathy of prematurity.

Summary

- Assess risk factors and take an obstetric history to identify women at risk of preterm delivery.
- It is difficult to identify who, among women at risk of preterm delivery, will have cervical incompetence.
- Prophylactic cerclage, based on history alone, is unneccesary intervention in 50 per cent of cases.
- Transvaginal USS is useful for high-risk women: Identifies the truly high-risk among the perceived high-risk cases.
- Transvaginal USS modifies A Priori risk. It can be used to avoid unnecessary intervention.
- Cervical length of less than or equal to 25mm is the optimum cut-off for identifying the high-risk cases.
- Transvaginal USS from 14 to at least 24 weeks, optimum interval unknown.
- Secondary cerclage if high-risk and short cervix on USS.
- Evidence does not suggest cerclage for a short cervix alone has any benefit.[10] USS is not useful in low-risk women.
- A short cervix increases risk of preterm delivery but does not by itself equate to cervical incompetence.

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Counselling parents expecting an extremely preterm baby

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Expecting a preterm baby is one of the most difficult and stressful challenges that parents can face. This is particularly so when their infant is expected at the borderline of viability. These parents are often faced with the difficult choice prior to the birth as to whether or not to initiate resuscitation when their baby is born.

The role of the neonatologist, obstetrician and midwife in this setting is to patiently and compassionately guide the parents in making a well-informed and supported decision.

Although babies have survived after birth at 22 weeks gestation, the majority of neonatologists in the Australian setting would not consider resuscitation of such babies appropriate because of the very poor likelihood of survival free of severe disability. At 23 and 24 weeks gestation, most would ensure parents are provided with the option of palliation or 'comfort care' for their baby as an alternative to neonatal intensive care, with its attendant high-risk of mortality and long-term morbidity. It is evident that parents vary widely in their expectations, past experience, cultural background, religious beliefs and their perception of the potential implications of long-term neurodevelopmental disability for their child and their families. These factors must be considered during counselling.

Outcome

International approaches to resuscitation and intensive care for extremely preterm infants vary considerably and consequently so do the reported rates of survival and long-term disability. The Australian and New Zealand Neonatal Network data for 2003 and 2004 reports survival rates for those babies admitted to neonatal intensive care units of approximately 40 per cent for 23 weeks gestation and 60 per cent for 24 weeks gestation. The consensus in our State of Tasmania is to quote preterm infant survival data from the experience of our own neonatal intensive care unit.

The data from the Victorian Infant Collaborative Study Group found that of the survivors born at 23 or 24 weeks gestation in the 1997 cohort, assessed at two years of age, the incidence of severe disability (unlikely ever to walk, blindness, or major intellectual deficit) was 33 per cent.[1] The likelihood of freedom from any neurosensory disability as assessed in this same cohort was 33 per cent for 23-week infants and 50 per cent for 24-week infants. The likelihood of severe disability in those infants offered intensive care at less than 25 weeks gestation in Victorian cohorts from the 1990s remained largely static despite increasing survival rates.[1,2]

Discussion of the increased risk of death or major neurosensory disability is obviously important. For some parents, particularly when delivery is imminent, this may be all that can be discussed without overwhelming them with information. It is more difficult to discuss the increased risk of more subtle deficits in higher functioning and behaviour that may be problematic later in life, as it is primarily the likelihood of the major adverse outcomes (therefore death or severe disability) that influences parental decision-making regarding resuscitation. Imparting information on the minutiae of neonatal intensive care and the finer points of long-term neurodevelopment may be unhelpful for some parents, but is not infrequently requested by others. Unfortunately, there is not always an opportunity to counsel parents before the delivery of an extremely preterm infant, either because the delivery is precipitous, or the mother is too distressed or unwell in labour to make any informed decision.

'Discussions with parents expecting to deliver an extremely preterm baby need to be compassionate but frank regarding the risks.'

After appropriate counselling regarding the risks associated with extremely preterm birth, especially at 23 and 24 weeks gestation, parental requests for their baby may be categorised broadly into three groups: non-resuscitation, resuscitation and undecided.

Non-resuscitation, palliation and comfort care

There are those who do not wish for their baby to be resuscitated. These parents must be given some knowledge of what to expect following delivery with the 'comfort care' approach, as it is not uncommon for babies at the borderline of viability to be active and breathing at birth. They can survive for some hours despite the absence of resuscitation. The assistance of a midwife who is experienced in this aspect of care of the extremely preterm infant is invaluable. Whenever possible, the attending midwife should be present during counselling of the parents.

Parents not infrequently vacillate in their decision for comfort care for their extremely preterm baby. Parents have been known to change their decision after the birth and request resuscitation. This highlights the need for careful counselling and ensuring appropriate supports are in place. This may include ensuring the close proximity

of a neonatologist in the event that concerns arise after the birth. This also applies if there is any uncertainty regarding the true gestational age.

Resuscitation and intensive care

Some parents request that resuscitation and intensive care support be initiated despite the risks of morbidity and mortality. Many neonatologists in the setting of resuscitating extremely preterm babies would, however, limit the extent of resuscitation to preclude the use of adrenaline or external cardiac compression. Those extremely preterm babies not responding to intubation and effective ventilatory support alone at the time of birth almost invariably have a poor outcome.

Undecided

Despite careful counselling, there are some parents who find it too difficult to make a decision as to whether to choose comfort care or resuscitation for their extremely preterm baby. In this setting, it is best to avoid pressuring parents to make a choice. These parents rely on the neonatologist to make a judgement as to the appropriateness of resuscitation at the time of birth. When grappling with this difficult proposition, many neonatologists will initiate basic resuscitation and then decide whether or not to continue with intensive care support based on the baby's early progress and apparent maturity. Of key importance is the close engagement of the parents in any decisions regarding the appropriateness of ongoing care. Careful guidance with empathy is needed.

Consensus

Many international groups have agreed to a common approach to the care of the extremely preterm infant at birth. In Australia, neonatal intensive care units and parent representatives in New South Wales and the Australian Capital Territory reached the consensus that, given the risks, it was an acceptable option, with the consent of the parents after appropriate counselling, not to commence resuscitation for infants born at less than 26 weeks gestation.[3]

Caring for parents and their extremely preterm baby is one of the most challenging aspects of neonatal medicine. Discussions with parents expecting to deliver an extremely preterm baby need to be compassionate but frank regarding the risks. Non-resuscitation must be provided as an acceptable option for parents with the support of their clinicians. Regardless of the final outcome, these parents need ongoing support, both in the short and long-term.

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'Misplaced faith' in the 20-week morphology scan

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In Australia, the 20-week morphology scan is available and recommended for all women as part of routine obstetric management. Medicare statistics from 2004 to 2006 indicate that 75 per cent of women accessed this service through the Medicare Benefits Schedule (MBS) at a cost of $17 to $19 million per year.[1-4]

Actual rate of uptake and cost is likely to be much higher as many morphology scans are not acknowledged by the MBS for various reasons, including gestational age exceeding 22 weeks, hence categorised as a 'growth scan'; scanned in the public sector with no direct MBS billing; or scanned but ineligible for MBS rebates. This data supports the morphology scan as a well-accepted test, but is this popularity and cost to the Australian community justified?

Definition and purpose

To optimise visualisation, this scan is ideally performed from 18 to 22 weeks gestation. As a routine screening test, the morphology scan aims to provide the woman and her obstetric care provider 'with as much information as possible about the pregnancy in the safest and most cost-effective manner.'[5] Traditionally, the morphology scan is used by health professionals as a single scan in pregnancy to assess gestational age, detect fetal structural anomalies, locate the placenta and diagnose multiple births in the belief that this is useful information. However, with the increasing rate of first trimester dating scans and the increasing use of nuchal translucency scans for first trimester aneuploidy screening, its role in the assessment of gestational age and diagnosis of twins is being superseded. As leaders in obstetric care, it is our responsibility to understand and inform women of the evidence-based health outcomes associated with this scan performed in its current context.

Benefits

When compared with selective ultrasound, routine ultrasound screening before 24 weeks gestation is associated with significantly less inductions of labour for apparent post-term pregnancy (OR 0.61, 95% CI 0.52 to 0.72), less undiagnosed twins at 20 weeks (OR 0.12, 95% CI 0.03 to 0.56) and more terminations of pregnancy for fetal abnormality (OR 3.19, 95% CI 1.54 to 6.60).[6]

This *Cochrane* systematic review provides high-level evidence that a routine screening ultrasound in the second trimester before 24 weeks enables better gestational age assessment, earlier detection of multiples and improved detection of fetal anomalies, resulting in more planned termination of pregnancy for affected fetuses. However, this meta-analysis was first published in 1998 and has remained unchanged, being last assessed as up-to-date in 2001.

In the contemporary context of a prior dating ultrasound or nuchal translucency ultrasound, gestational age assessment and detection of multiples has been attained more accurately than is possible at the 20-week morphology scan. Thus detection of fetal anomalies is the only efficacious outcome remaining, as perinatal mortality is not altered and 'there is no good quality evidence on long-term outcomes for women and their children'.[7]

Accuracy

Ascertaining the accuracy of the 20-week morphology scan is complex. Firstly, what aspects of the scan should be considered given that the purpose of the scan as stated by the Australasian Society for Ultrasound in Medicine (ASUM) is to 'provide as much information as possible about the pregnancy'.[5] There is the accuracy of gestational age assessment; accuracy in diagnosis of multiples; accuracy of placental location; and accuracy of detection of structural malformations, as all are relevant. For the purpose of this discussion, I will limit accuracy to the detection of structural abnormalities, as this remains the unique feature of this scan that is supported by high-level evidence.

With all screening tests, the accuracy depends on the number of false positive and negative results generated when the test is applied in a setting similar to one's own situation. The Eurofetus study was designed to assess the accuracy of routine ultrasound in the antenatal detection of malformations in an unselected population.[8] This prospective study in 61 European obstetric units included 230,750 women whose fetuses had 4615 (two per cent) malformations detected after postnatal follow-up.

Overall, 44 per cent of malformed fetuses were detected before 24 weeks gestation. Limiting this detection to fetuses with severe malformations, therefore, 'lethal abnormalities or those that were incurable and likely to incur marked handicap or those requiring major surgical intervention', the sensitivity was 55 per cent. This means that 45 per cent of severe malformations were not detected by the 20-week morphology scan. In addition, if all the pregnancies in the study are considered, there were 492 false alarms or false positive diagnoses for malformation and 2022 false negative diagnoses.

It is also important to acknowledge that this study was exclusively performed in level two hospitals with qualified personnel and high quality equipment. It is therefore not a population-based study but an institution-based study and therefore not necessarily reproducible in an Australian setting.

Limitations

Detection rates of fetal malformations at the 20-week morphology scan are limited by a number of factors, including pregnancy-specific (for example, gestational age); maternal (for example, obesity); organ-specific (for example, central nervous system

[CNS] versus congenital heart disease [CHD]); level of training (for example, tertiary versus non-tertiary); and quality of equipment. However, not all of these factors have been studied systematically.

The Radius study highlighted that the level of expertise is paramount in optimising detection rates by obtaining significantly different sensitivities in tertiary and non-tertiary settings (RR 2.7, 95% CI 1.3 to 5.8).[9] This study also demonstrated the relevance of gestational age with higher rates of detection if later gestational ages are included (cases: controls 35%: 11%, RR 3.1, 95% CI 2.0 to 5.1) compared with less than 24 weeks gestation, therefore, the 20-week morphology scan (cases: controls 17%: 5%, RR 3.4, 95% CI 1.6 to 7.1).[9] This probably reflects the increasing size of organs examined, the evolution of some malformations (for example, gastrointestinal disorders which become detectable in late pregnancy due to the development of fluid-filled masses), and late onset conditions causing deformation, such as hydrocephalus due to intracranial haemorrhage.

As an example of organ-specific differences and variations between countries with different policies, detection of neural tube defects ranged from 62 per cent to 97 per cent and detection of CHD from zero to 64 per cent in the Euroscan study.[10] This was a population-based routine ultrasound detection study using retrospective analysis of congenital malformation registries in 12 European countries where 8126 malformed fetuses and babies were diagnosed in 709,030 consecutive births. Eurofetus documented a similar trend with 88.3 per cent of CNS malformations detected but only 38.8 per cent CHD.[8] In addition to organ system discrepancies, detection rates differ in specific anomalies in a particular organ system. A population-based study in Victoria, Australia, demonstrated that the highest antenatal detection of 84.6 per cent was for hypoplastic left heart syndrome compared with the lowest of 17.0 per cent for transposition of the great arteries.

As well as detection rates (sensitivity) for malformations, the accuracy of the ultrasound screening test (positive and negative predictive values) will depend on the prevalence of malformation in the community and of each anomaly specifically. This is influenced by ethnic group, genetics, environment, diet, chronic disease and maternal age to mention a few.

'Women may not fully understand information on the accuracy of the morphology scan as a screening test, especially as this may be covered in a cursory manner by the referring clinician. Similarly, they can be unprepared for uncertainty in results and do find it difficult to put variations of normality into perspective.'

Harm

There is potential to cause harm with any screening test. False positive results may lead to anxiety and unnecessary further testing which may be invasive, risking continuation of the pregnancy. False negative results are not known until some later time, may have devastating consequences for the child and family depending on the severity of the congenital abnormality and are a common reason for litigation in Australia. False negatives are the particular issue with routine screening ultrasound and although increased detection is desirable, it is not always realistic. Informing and educating pregnant women about the benefits, accuracy and limitations may avoid unnecessary harm. It is important for women to understand that this scan is not a screening test for aneuploidy and is therefore not an alternative to the nuchal translucency scan. The National Institute for Health and Clinical Excellence (NICE) guidelines in the United Kingdom recommend in relation to screening for fetal anomalies 'at the first contact with a healthcare professional, women should be given information about the purpose and implications of the anomaly scan, enabling them to make an informed choice as to whether or not to have the scan'.[7]

Women's perceptions and expectations

Women are commonly unquestioning about their morphology scan and accept it as a routine service which gives them an opportunity to visualise their baby and obtain a picture, as well as provide reassurance and a means to determine gender.[12] It is therefore not surprising that when a problem is encountered, the response is often that of anxiety and shock.[13] 'Such a trade-off between a large number of reassured, negatively tested subjects against the small number of distressed, positively tested subjects is endemic to all screening programs and not only during pregnancy.'[12]

Women may not fully understand information on the accuracy of the morphology scan as a screening test, especially as this may be covered in a cursory manner by the referring clinician. Similarly, they can be unprepared for uncertainty in results and do find it difficult to put variations of normality into perspective. These issues can induce anxiety and confusion, even if further monitoring and intervention may resolve the situation. A qualitative study to determine women's responses to the detection at her 20-week morphology scan of the minor structural variant, the isolated choroid plexus cyst, determined that the majority of women (88 per cent) will experience intense negative emotions and anxiety despite having had low-risk aneuploidy screening.[14]

It is maybe unfortunate that a clinical examination, which has the potential to affect women's emotions positively, has not capitalised on studying these effects systematically. In the domain of reassurance, none of the trials comparing screening ultrasound with no or selective ultrasound use has studied the psychological effects on parents. Neither has high-level evidence been achieved for the effect of routine ultrasound on maternal behavioural change that may improve health outcomes, such as a reduction in smoking.[7,13]

Doctor's perceptions and expectations

Most obstetricians have accepted the 20-week morphology scan as part of routine antenatal care. Standards of information provided to the pregnant woman prior to this test vary considerably. Written information is available and RANZCOG has relevant brochures.[15] To assist in achieving the desired standard of care, the Australian Department of Health and Ageing, in conjunction with RANZCOG and other learned bodies, have developed *Guidelines for the Use of Ultrasound in the Management of Obstetric Conditions*, protocols for counselling, referring, examining and reporting the routine 20-week morphology scan.[16] This document will provide obstetricians with tools to assess the level of expertise of the healthcare providers they use to provide this service. It is important that deviations from normal are referred early for tertiary-level assessment and interpretation, as this scan is a major cause for litigation in obstetrics. There is high-level evidence of improved detection rates of malformation with the appropriate level of expertise.[9]

Restoring 'faith' in the 20-week morphology scan

The purpose of the 20-week morphology scan in contemporary practice is to identify fetal anomalies. RCOG categorises congenital anomalies into one of four groups: lethal; possible survival and long-term morbidity; anomalies amenable to intrauterine therapy; and anomalies associated with possible short-term or intermediate morbidity. Ultrasound cannot reassure women that their baby is normal as many anomalies are missed.[7] Despite not improving

outcomes, this scan does enable the pregnant woman and her partner to be counselled appropriately and exercise management choice to optimise care according to category of anomaly and their preferences. The choice encompasses termination of pregnancy, preparation for palliative care, disability or treatment with delivery or intrauterine therapy organised in a setting with the correct specialist services if necessary.

In Australia, optimising screening outcomes by utilising systematic referral patterns from low to high-level expertise is desirable. Consideration should be given to economic rationalisation by developing organised triaging pathways.

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Ultrasound for entertainment

Double standards or simple medical self-interest?

Dr Lachlan de Crespigny
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Businesses offering non-medical fetal ultrasound provide real-time and souvenir 3D and 4D fetal images with DVDs, including sex determination. They are also known as entertainment, boutique, 'shopping mall', elective, or fetal keepsake imaging. These businesses have opened up around Australia and New Zealand, including in private homes.

In the United States, one group found that 9.3 per cent of pregnant women take up entertainment ultrasound.[1]

However, there is controversy regarding the use of fetal ultrasound for entertainment: medical ultrasound is said to be acceptable and non-medical ultrasound is said to be unacceptable. I will argue that this approach is unjustifiable and wrong.

Bioeffects

When American actor Tom Cruise purchased an ultrasound system with plans to do scans on fiancée Katie Holmes himself, doctors warned that that if not medically necessary, ultrasound risks physical harm to the fetus.[2] However, whether a scan is medically necessary or not cannot be relevant to its physical risk to the fetus. Bioeffects vary with gestation and ultrasound power, not the indication. If we believe that ultrasound presents physical risks to the fetus, then we should also be warning patients who have clinical scans. Patients must be warned of significant risks. We should also do more to minimise medical exposure.

The Food and Drug Administration (FDA) also suggests that the purpose of the scan can impact on the risk of bioeffects. It offers unlimited support to medical ultrasound but a blanket ban on entertainment ultrasound: 'Ultrasonic fetal scanning is generally considered safe and is properly used when medical information on a pregnancy is needed', however, 'exposing the fetus to ultrasound with no anticipation of medical benefit is not justified.'[3] But why not, if it is generally considered safe?

The American Institute of Ultrasound in Medicine (AIUM) argues for an extreme view that few clinicians would follow: it 'encourage(s) sharing images with patients'[4] but asserts that 'to obtain a picture of the fetus or determine fetal gender without a medical indication is inappropriate and contrary to responsible medical practice.'[5]

'The pivotal role that the ultrasound examination can have in women developing a more positive attitude towards their fetus has long been recognised.[10]'

The International Society of Ultrasound in Obstetrics and Gynaecology (ISUOG) states that: 'B-mode acoustic outputs are generally not high enough to produce deleterious effects. Their use, therefore, appears to be safe for all stages of pregnancy.'[6] However, it also states that examinations should not be for entertainment purposes. Again, this is contradictory. If ultrasound is safe, it can be used for entertainment, if it is not safe, then careful consideration is needed before doing clinical scans.

ISUOG advises that: 'Spectral and colour Doppler may produce high intensities and routine examination by this modality during the embryonic period is rarely indicated.'[6] It is troubling that clinicians ignore ISUOG and frequently use Doppler in the first trimester for research, a perceived indication or merely for interest. Yet, if a patient asks about ultrasound for entertainment purposes later in pregnancy when the risks are far lower, they are likely to be given a lecture on the dangers of unnecessary ultrasound. *Ultrasound in Obstetrics and Gynecology* accepts papers in which colour and pulsed Doppler are used in the first trimester on continuing pregnancies only if five conditions are satisfied, including that maximum, minimum and mean exposure times used for the patient cohort must be given.[7] It is surprising that in this environment, doctors are not more enquiring about, or even set limits to, ultrasound power to be used when they refer or perform an ultrasound scan.

Ultrasound use in pregnancy includes:

- Multiple scans: There are no recommended limits on a number of examinations. Indeed, in many countries such as Germany, multiple ultrasound examinations are recommended – sometimes at every antenatal visit.
- Ultrasound examinations are commonly prolonged extensively for research and teaching, often using higher power Doppler, more prolonged ultrasound exposure and early in pregnancy.

The confidence that diagnostic ultrasound doesn't produce harmful bioeffects is high. The widespread use of medical ultrasound is not discouraged. It seems ridiculous to oppose one non-medical ultrasound examination in this environment. Non-medical 3D ultrasound examinations are carried relatively late in pregnancy using B-mode. The power levels and timing of ultrasound exposure is low-risk compared to many medical uses.

In August 2005, in the Australian Society for Ultrasound in Medicine's (ASUM) *Ultrasound Bulletin*, much of the opposition to the non-medical use of ultrasound was because of potential bioeffects.[8] However, opposition on the basis of bioeffects fails. If limiting ultrasound exposure was of great importance, professional organisations should have policies that highlight the dangers of ultrasound in clinical practice. They don't. Even Chervenak and

McCullough, who oppose non-medical ultrasound, state that if biologic risk were the whole of the ethical story, there would be minimal objection to boutique fetal imaging if the time and intensity of the ultrasound examination were reasonable.[9] Credible opposition must be based on other criteria.

We are left with lean pickings mounting a case against non-medical fetal ultrasound on criteria other than bioeffects.

'If limiting ultrasound exposure was of great importance, professional organisations should have policies that highlight the dangers of ultrasound in clinical practice. They don't.'

Entertainment

Patient satisfaction and consumerism is a fundamental part of obstetric care. This should not be different for the ultrasound examination, which is one of the most exciting experiences in pregnancy. It would be inappropriate not to show women images of their fetus. The pivotal role that the ultrasound examination can have in women developing a more positive attitude towards their fetus has long been recognised.[10]

Couples love high quality 3D and 4D ultrasound. The images can be extraordinarily life-like. For all categories of maternal-fetal bonding, 3D ultrasound examinations are reported by some to consistently score higher than 2D alone[11], although not by all.[12] The difference may be related to image quality. Maternal weight and fetal position are fundamental determinants of image quality for 3D and 4D ultrasounds.

While non-medical 3D ultrasound examinations may be said to trivialise ultrasound, so do we all in our daily practices when we attempt to satisfy patient needs by demonstrating fetal images.

If women have a customer-focused scan and keepsakes, then there should be little need for an 'entertainment ultrasound' industry. Devoting extra time to the ultrasound session for the sake of entertainment, including 3D and 4D imaging and providing keepsake images, generates some costs. Part of the skill is to incorporate patient focus into the medical examination taking limited extra time. Inevitably, there is some increased ultrasound exposure, but using B-mode this should be small.

Consistent policies are needed

Some bioeffect statements are inconsistent. ASUM's 'Consent To Ultrasound Scanning For Teaching Purposes'[12] reads: 'I understand that medical studies to date have not demonstrated any adverse biological affect at the low power intensities used for imaging.' On the other hand, ASUM's statement on 'Non-Medical Entertainment Ultrasound'[13] emphasises long-term effects and the possibility of subtle effects being not completely known: 'Recommended power output levels have been significantly increased in recent years and much of the safety data relating to the use of diagnostic ultrasound precedes the increased permitted power outputs.' It is difficult to take statements seriously when they are biased and contradictory.

ASUM's statements include other contradictions. 'Non-medical Entertainment Ultrasound' states that equipment must be used by trained individuals and to seek relevant diagnostic information with the minimum of exposure. These apparently important recommendations are not revealed to those kindly signing the 'Scanning for Teaching Purposes' form, who consent to a scan for teaching only (by inference untrained individuals), that is not intended to provide diagnostic information and, far from a minimum of exposure, must consent to one or multiple examinations. Which group is hearing the truth?

Other purported concerns

The 'baby picture' might promote the view among pregnant women that they are obligated subsequently to take any and every risk to protect their 'babies'; or the picture may look odd and provoke fear and concern.[9] However, medical scans share these risks.

A suggested ethical concern in boutique fetal imaging is that the physician's economic self-interest becomes primary.[9] However, as with plastic surgeons, the goal of providing a high quality service and satisfying a customer's needs comes before economic self-interest.

Chervenak and McCullough[9] argue that non-medical imaging with no physician present is ethically deficient because counselling is unavailable. If so, it is even more ethically unacceptable in a diagnostic obstetric ultrasound practice in which, as is common in Australia, there is either no doctor on site or the doctor does not counsel.

Concerns about missing abnormalities and potential communication problems are satisfied if there is appropriate information for customers in advance. Providers are unlikely to pretend that they offer a diagnostic service. Legal disclaimers for non-medical ultrasound are much better documented than those for limited medical ultrasound. For such scans, including biophysical profiles and dating, women are not routinely given legal disclaimers. Many women must not understand the limits.

We would all agree that pregnant women could use their financial resources more wisely. However, we do not try to dictate how women should spend their money in other situations.

'Women describe their non-medical ultrasound experience as more positive than their medical ultrasound examination, citing that the staff were friendlier, took time to point out fetal features and spent a longer amount of time with them.[1]'

Discussion

Our specialty faces many divisive ethical and political debates. Some such issues have a profound effect on the health of the people for whom we advocate: Australian and New Zealand women. Whether or not a group of women choose to waste their money on apparently low-risk fetal ultrasound for entertainment is a relatively trivial issue. The issue we should address is: How did we fail to satisfy their needs?

We need to be careful before encouraging legislation against non-medical ultrasound. Legislation would need to define the fine line between medical and non-medical services.

The major providers of 3D and 4D ultrasound equipment, General Electric (GE) and Philips, have global policies that they will not sell equipment to non-medical providers. However, they are sellers of a product, not custodians of good practice. Why would they refuse to sell? Where would they draw the line? Would they refuse to sell to a medical provider who also provided non-medical entertainment ultrasound?

Women describe their non-medical ultrasound experience as more positive than their medical ultrasound examination, citing that the staff were friendlier, took time to point out fetal features and spent a longer amount of time with them.[1] The lesson is clear.

The development of entertainment fetal ultrasound is a sign that we need to do more to satisfy the needs of our patients. To take a stand against it reeks of self-interest.

Proposals:

1. That we learn lessons from entertainment fetal ultrasound rather than opposing it; and
2. Statements on limits to ultrasound exposure must be consistent, whatever the indication for the scan.

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Building Towards Retirement 2009 Workshops

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Surgeons who attend can expect to:
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Or email your order to: orders@mitec.com.au

You can also download the order form from the RANZCOG website: www.ranzcog.edu.au .

C-Gen 10: Position Statement on the Appropriate Use of Diagnostic Ultrasound

Position Statement of the Australasian Society for Ultrasound in Medicine (ASUM), RANZCOG and the Royal Australian and New Zealand College of Radiologists (RANZCR).

Date of this document: November 2008
First endorsed by Council: November 2006
Next review due: June 2011

Statement

The Australasian Society for Ultrasound in Medicine, the Royal Australian and New Zealand College of Obstetricians and Gynaecologists and the Royal Australian and New Zealand College of Radiologists are committed to ensuring the maintenance of the highest standard of medical care for pregnant women.

Diagnostic medical ultrasound technology offers enormous benefits in terms of the provision of useful diagnostic information so that pregnancy may be better assessed and managed, with optimum outcomes for mothers and babies achieved.

The use of diagnostic medical ultrasound equipment requires regulation such that its primary use is for the purpose of medical diagnosis. Such regulation should require that the diagnostic ultrasound equipment usage be restricted to appropriately qualified healthcare professionals.

Usage of such equipment should conform to the guidelines produced by the Australasian Society for Ultrasound in Medicine.

Appropriate regulation by appropriate authorities regarding the sale, distribution and use of diagnostic ultrasound equipment should be formulated with a view to ensuring that this technology continues to assist clinicians in the management of pregnancy, thereby optimising outcome for mothers and babies.

Useful website links

Australasian Society for Ultrasound in Medicine (ASUM):
www.asum.com.au/open/home.htm
(Scroll down to 'Non-diagnostic Applications' and select 'F1 Statement on the Appropriate Use of Diagnostic Ultrasound Equipment for Non-medical Entertainment Ultrasound'.)

What's new in urinary incontinence?

Dr Jackie Smalldridge
FRANZCOG

Urinary incontinence is a very common and debilitating condition that has implications for women personally, socially and within the workforce.

The management of urinary incontinence in women has recently undergone major advances with new and promising medical and surgical treatments that are able to be offered to women with this problem.

Stress incontinence

Stress incontinence occurs when intra-abdominal pressure exceeds urethral pressure and urine leakage occurs. This is commonly described by women as occurring with coughing, sneezing or exertion. The loss of bladder control is predictable and may be severe, causing the woman to stop exercising or give up her job because of it.

If conservative management with pelvic floor exercises has not been successful, then the 'gold standard' surgical procedure is a mid-urethral polypropylene tape. These procedures are highly effective with success rates ranging between 80 to 95 per cent. The mechanism of action of the tape is by causing 'dynamic kinking' of the mid-urethra. The original use of the tape (tension-free vaginal tape – TVT) was described in 1996[1] and was placed suprapubically. More recently, a transobturator approach[2] has been used that is equally effective in most cases, but has less major complications (see Tables 1 and 2). Newer 'single incision' slings are being developed that may be inserted in an outpatient setting under local anaesthetic, but more data is awaited.

Table 1. Long-term outcomes of the tension-free vaginal tape (TVT) procedure

Author	N	Patient group	Duration of F/U (years)	Treatment Outcomes (% cured)
Rezapour et al	34	recurrent SUI	4	82
Rezapour et al	80	mixed UI	4	85
Rezapour et al	49	intrinisic sphincter deficiency	4	74
Effieux et al	51	SUI	6.9	80
Nilsson et al	80	SUI	7	81.3
Moran et al	40	genuine SUI	2	95

UI = urinary incontinence; SUI = stress urinary incontinence

Table 2. TVT versus TOT complications

Complication	TVT (%)	TOT (%)
haemorrhage	3.75	8.5
postop. urethral catheterisation	8.75	3.7
intermittent self-catheterisation	2.5	1.2
tape release	3.7	2.4
vaginal perforation	0	4.8
bladder injury	5	2

TVT = tension-free vaginal tape; TOT = transobturator tape

Overactive bladder

Overactive bladder (OAB) symptoms include frequency (greater than eight times a day), nocturia, urgency and urge incontinence. These symptoms are often unpredictable and can involve large volumes of leakage. It is very socially disabling because of this.

The standard treatments for OAB have been bladder retraining with a pelvic floor physiotherapist or anti-cholinergics such as oxybutynin. Unfortunately, although efficacious (70 per cent), many women find the side effects, particularly dry mouth, unacceptable and discontinue taking it.

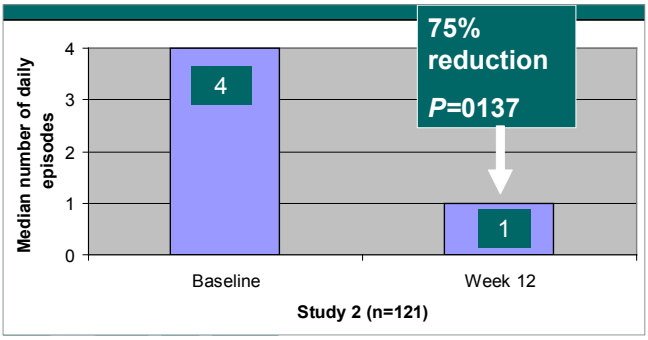
New generation, more specific anti-muscarinic agents have been introduced for the management of OAB that have a much better side effect profile and therefore are more tolerable to patients. Solifenacin (Vesicare) is a specific M3 blocker that has been shown to be more efficacious (59 per cent versus 49 per cent incontinence episodes) and tolerable than tolterodine (Detrusitol) in the STAR study.[3] Slow release preparations and patches (Oxytrol) can also be useful in minimising the side effects.

For those women who have intractable urge incontinence and who fail medical management, there is now an option of using intravesical Botox injections to give symptomatic relief. The effect of the Botox is not permanent and the patient may need to have the procedure repeated every six to 12 months. There is a significant risk of transient urinary retention and patients may need to perform intermittent self-catheterisation for some time. However, there are few randomised controlled trials or long-term studies on its efficacy or side effects.[4]

Conclusion

There have been many advances in the management of urinary incontinence in women in recent years, which have added to our therapeutic options when faced with a woman with debilitating symptoms.

Figure 1. STAR study results
Reduction in *daily* incontinence episodes in second phase 3 study.



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Second Hand books wanted for PNG

The College has received a request from Nonga, Rabaul, Papua New Guinea, for some core O and G textbooks for its hospital library. We are hoping to obtain previously loved (but not too old) copies of:

Dewhurst's Textbook of Obstetrics and Gynecology, EDMONDS D
Williams Obstetrics, CUNNINGHAM GARY
Obstetrics by Ten Teachers, BAKER PHILIP
Llewellyn-Jones Fundamentals of Obstetrics and Gynaecology, OATS JEREMY
Obstetrics and the Newborn, BEISCHER NORMAN

Other medical texts (relevant to primary healthcare) will be gladly accepted.
Please email **Carmel Walker (cwalker@ranzcog.edu.au)** if you have suitable books you can send to College House (preferably no older than ten years).

REQUESTS FOR EXTENSION TO CONTINUING PROFESSIONAL DEVELOPMENT (CPD) PERIOD

Extension requests – six months and greater

Have you been absent from medical practice for a period greater than six months due to maternity leave, ill health or other exceptional circumstances?

If so, why not apply for an extension to your current Continuing Professional Development (CPD) period?

APPLICATION
Requests for extensions can be made in writing to the Chairman of the Continuing Professional Development Committee (CPDC). Proof of maternity leave, ill health or exceptional circumstances must be supplied.

PROCESS
The Chairman of the CPDC will consider requests for extension of six to 12 months. Requests greater than 12 months will be considered by the full CPDC, which meets three times a year (March, July and November).

If you are absent from practice for a period greater that two years, please see the re-entry policy following a prolonged absence from practice at: www.ranzcog.edu.au/publications/statements/wpi13.pdf.

For further queries contact:

Ms Val Spark
Continuing Professional Development Coordinator
Ph: +61 3 9412 2921
Fax: +61 3 9419 7817
E-mail: vspark@ranzcog.edu.au

Update on maternal deaths in New Zealand

Dr Alastair Haslam
FRANZCOG

As the last issue of *O&G* went to press, the second report of the New Zealand Perinatal and Maternal Mortality Review Committee (PMMRC) was made public.

This document included, on pages 40 to 44, a report on maternal mortality for the calendar year 2006. Thus, maternal deaths have had a review process in New Zealand for the first time since 1996, when the former Maternal Deaths Assessment Committee last reported on the triennium 1989-1991.

The PMMRC has developed a network of local coordinators throughout New Zealand in each district health board. A maternal mortality working group has met regularly since October 2006. A reporting form has been developed and is completed for each case, which is then reviewed by a member of the working group and discussed by the committee. A summary and recommendations are sent to the New Zealand Minister for Health who has legal authority to make the findings public.

What was found?

There were 14 maternal deaths reported in 2006. This is more than expected from death certificate documentation. There were six direct deaths, three from amniotic fluid embolism, two from sepsis and one from postpartum haemorrhage. There were eight indirect deaths, four suicides, two with pre-existing maternal conditions, one intra-cranial haemorrhage and one death that was unclassifiable. Twelve of the 14 deaths were reported to the coroner and 11 were investigated. Deaths were equally divided between community and hospital.

Identified avoidable features included communication and lack of record linkage between district health boards and various parts of primary and secondary healthcare. Delay in managing postpartum haemorrhage has led to a recommendation to obstetrics units to develop (or redevelop) a massive transfusion protocol in response to major haemorrhage. It has been identified that maternal health issues are important and the PMMRC hosted a large national multi-disciplinary meeting on maternal mental health issues in October 2008.

What of the future?

Since July 2007, all maternal deaths must be reported to the coroner. Since March 2009, the Medical Certificate of Cause of Death includes a tick box option for:

- Pregnant at time of death
- Pregnant within 42 days of death
- Not known.

This should improve 'capture' of cases.

Such reports produce statistics and will invite comparisons with other countries. However, New Zealand numbers are small and may fluctuate, so in the future, an accumulative report will be published. Yet to be resolved is feedback to individual practitioners or institutions. There is recognition that there is a need to look at serious morbidity (other than mortality), or near misses.

In addition to the tragedies for these families, there is a total of 47 children left motherless as a consequence of these events.

Link to the report: www.moh.govt.nz/moh.nsf/indexmh/pmmrc-second-annual-report-200708?Open .

Acknowledgements

The Maternal Mortality Group comprises of Claire McLintock (Chair), Cathy Hapgood, John Walker, Jacqui Anderson, Alison Eddy, Mollie Wilson, Jeanette McFarlane and Cindy Farquhar. The National Coordinator of the Perinatal and Maternal Mortality Review Committee (Vicki Masson) and the local coordinators in district health boards are key to the collection and organisation of the report.

How to... perform a safe Veress needle laparoscopic entry

Dr Tal Jacobson
FRANZCOG

Laparoscopy is the standard method of approach for a wide variety of gynaecological procedures. This pullout feature will focus on safe laparoscopic entry. The aims of the procedure are to gain access to and adequately visualise the abdomino-pelvic cavity.

This involves creating a pneumoperitoneum and passing a laparoscopic trocar through the anterior abdominal wall. There are three main methods used to gain entry: closed (Veress needle and sharp trocar), open (Hasson technique), and direct (sharp trocar entry). This article will focus on just the first of these techniques. The choice of which of these entry methods to use on which occasion and the use of alternate locations, such as Palmer's point, is beyond the scope of this article.

Most patients are suitable for laparoscopic surgery. Additional care must be taken in patients who have had previous abdominal surgery, especially with midline scars, as they have a high risk of subumbilical adhesions. Very thin and very obese patients can present additional difficulties. Patients should be counselled in advance of the risks of injury to blood vessels, bowel, bladder, ureters, port site hernia formation and the risk of conversion to laparotomy.

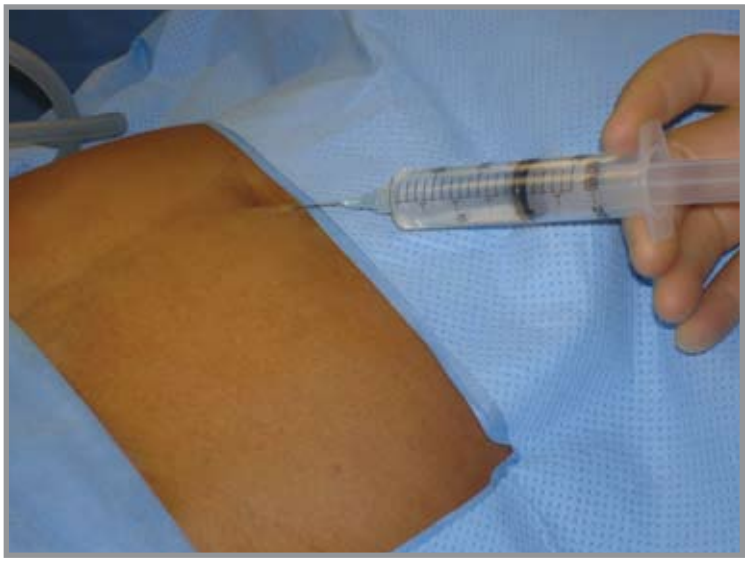
Depending on the procedure being planned, the patient may be supine or in the Lloyd Davies position, but the operating table should be level until laparoscopic entry has been confirmed. The Trendelenburg position is more likely to lead to a vascular injury at entry. It is usually easier and safer to have the arms placed alongside the patient, as it minimises the risk of brachial plexus injuries to the patient and provides better access for the surgeon.

1. Equipment

It is very important to have a thorough and detailed understanding of the equipment you are using. Is the Veress needle reusable? It may have a dent in the outer sheath affecting its function. Does the trocar have a pyramidal, conical or linear blade? Is there a retracting sheath? How do you alter the pressure setting and flow rates on the insufflator? Is it a single or three chip camera; analogue or digital?

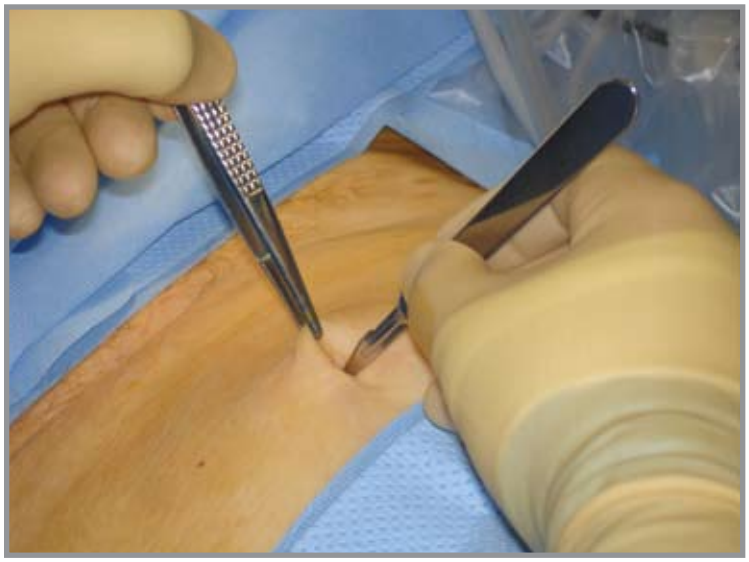
How to... is a new 'pullout' feature article providing trainees with basic information on, and step-by-step illustrated instructions outlining, some of the medical procedures that they may encounter as obstetricians and gynaecologists.

Suggestions or comments are welcome and should be forwarded by email to: ranzcog@ranzcog.edu.au or by mail to: *O&G* Editors, 254 – 260 Albert Street East Melbourne, Victoria, Australia 3002



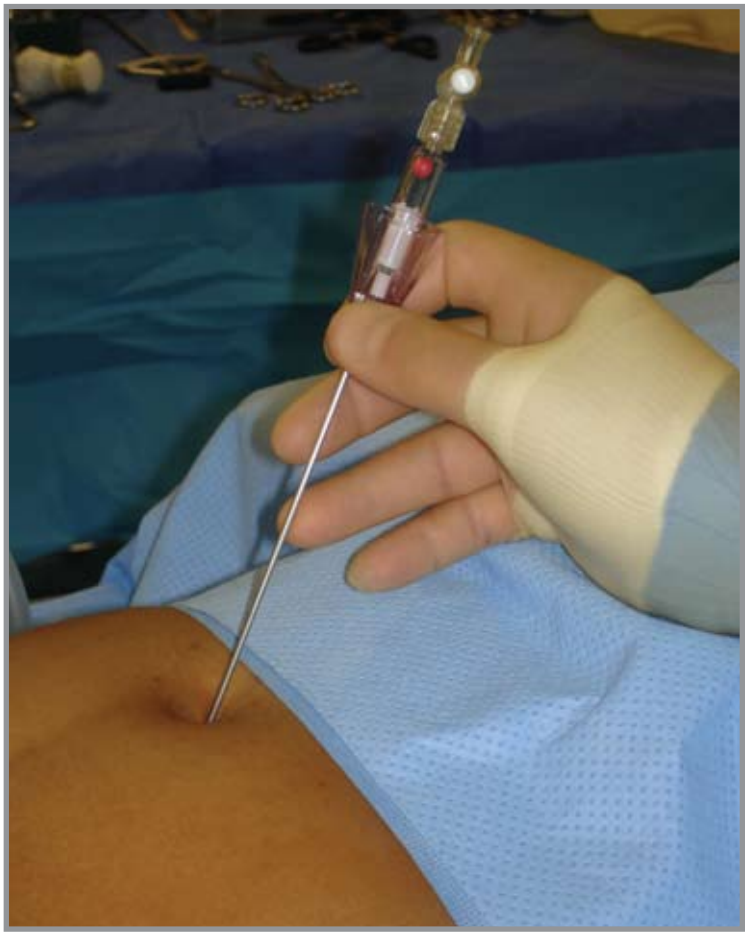
2. Equipment check and local anaesthetic

Prior to the first incision, a routine check of the equipment including the Veress needle, gas flow and pressure settings should be made. The laparoscope should be assembled, checked and white balanced. Local anaesthetic with or without adrenaline should be infiltrated into the planned incision site.



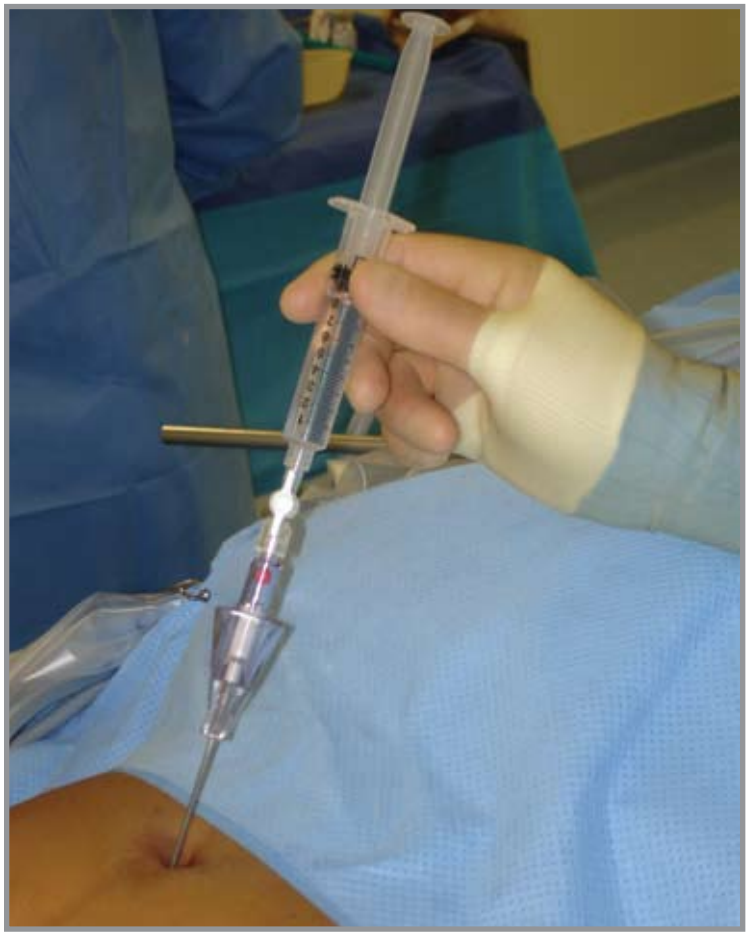
3. Subumbilical incision

For a 10mm laparoscope, grasp the skin just below the umbilicus with Bonney's forceps. Using a scalpel with a size 11 blade, a 10mm vertical intra umbilical incision should be made. It is important to start the incision at the deepest part of the umbilicus and cut caudally. The aim is to cut the skin and fascia but not the underlying peritoneum. Extra care should be taken in very thin patients not to cut too deeply and damage underlying bowel.



4. Gripping and inserting the Veres needle

The gas valve on the Veress needle should be in the **open** position. This means that it will be immediately apparent if a major vessel is injured or a faecalent smell may be noted if bowel is injured. The Veress needle should be held with a firm grip between the thumb and index finger. The middle and ring fingers should be used to stabilise the needle and guard against uncontrolled entry. The needle tip should be placed through the subumbilical skin incision and inserted through the sheath and peritoneum using continuous pressure. Counter traction can be obtained by gripping and lifting the skin below the umbilicus with the other hand. You will usually feel two clicks as the Veress needle goes through the sheath and peritoneum. The needle should only be inserted as far as is necessary to pierce the peritoneum.



5. Saline drop test

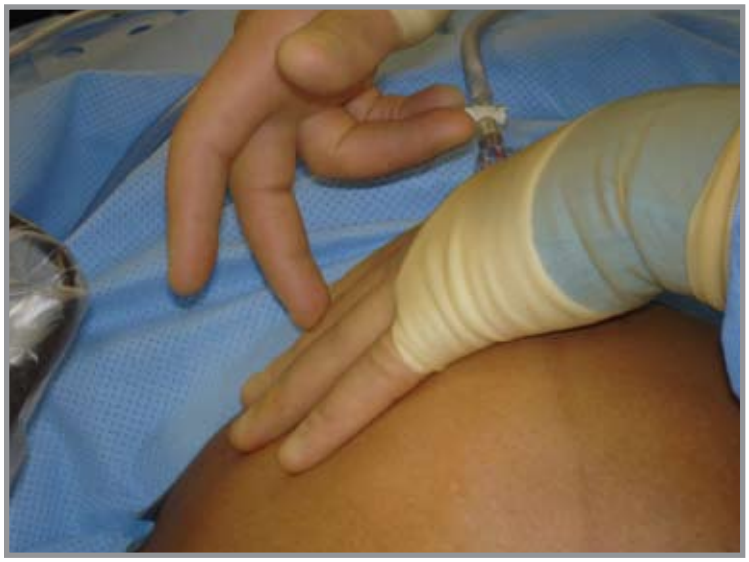
Once the Veress needle has been inserted, the saline drop test is used to help confirm correct placement. Fill a 10ml syringe with normal saline and attach to the Veress needle. There are three parts to the test:

1. Aspirate and observe that no blood or faeces is drawn back.
2. Inject 5ml of saline into the Veress and attempt to aspirate back. Observe that it does should not flow back as the saline will fall into the pelvis if the needle is correctly located.
3. Remove the syringe and watch the droplet or ball valve be drawn down.

If all of these tests are normal, it is likely that the tip of the Veress needle is correctly located.

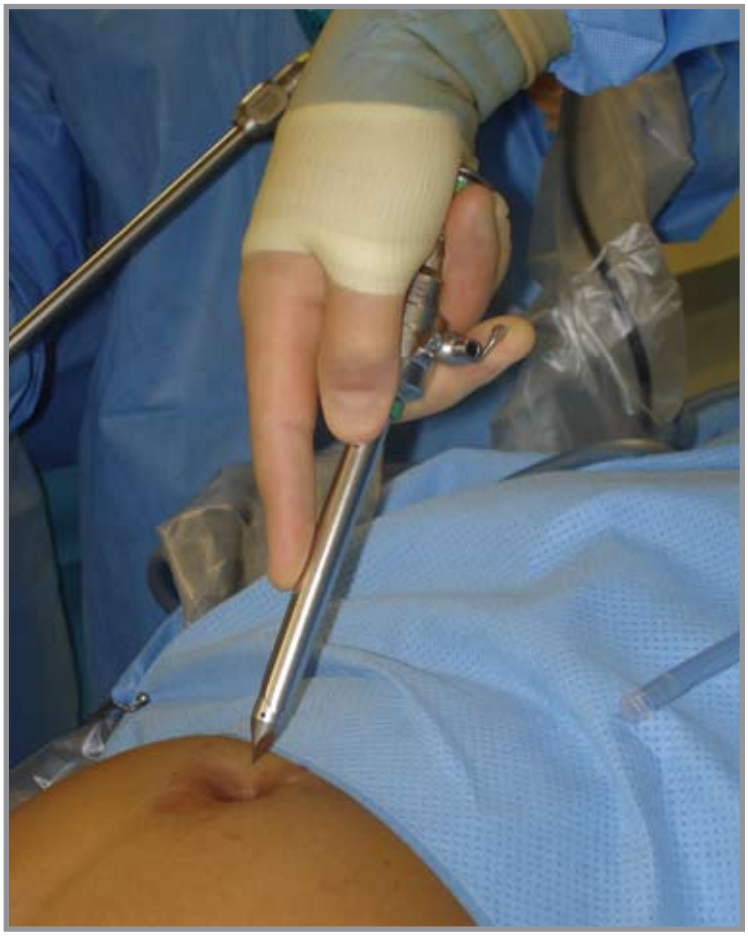
6. Gas pressure readings

Attach the gas tubing and turn the gas on to high flow rate at 20mmHg. Carefully observe the flow rate and pressure. If the needle is correctly located, the pressure will usually be below 10mmHg and the flow rate will be above 1L/minute.



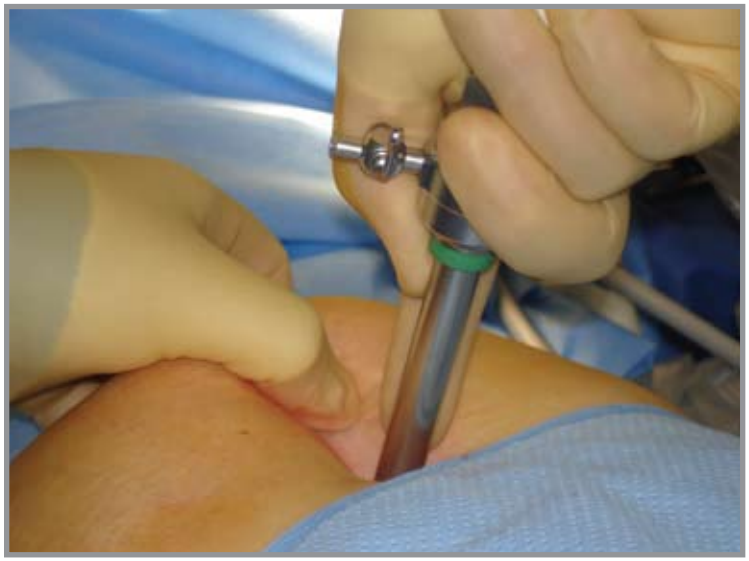
7. Percussion

Assess the abdomen for symmetrical distension. Percuss over the liver to assess for loss of dullness. Once the pressure reading is at 20mmHg, remove the Veress needle and turn off the gas flow.



8. Gripping main trocar

'Palm' the main trocar. This grip is very important and allows correct control and insertion of the trocar regardless of the size of the surgeons' hand. Note how the heel of the trocar is pressed against the surgeon's palm by the ring finger and little finger. The index finger stabilises the trocar and guards against inserting the trocar too far.



9. Placing main trocar

The tip of the main trocar should be placed in the deepest part of the umbilicus. Once again, counter traction can be obtained by gripping and lifting the skin below the umbilicus with the other hand. Some surgeons prefer to press down on the skin above the umbilicus. The main trocar should be inserted using continuous firm pressure heading initially at 90 degrees and then at 45 degrees to the skin. If it has a pyramidal tip, then a back-and-forth twisting motion may also be used. It is very important to keep the trocar in the midline and not directed off laterally. As the sheath gives way and the trocar enters the abdomen, care must be taken not to insert it further than necessary. The inner sharp trocar should be removed immediately and the laparoscope placed through sheath to visualise the pelvis and confirm correct placement.

The gas tubing should then be attached and the gas flow restarted. Immediately survey the abdomen and pelvis, looking specifically for injury to bowel or bleeding. The patient can then be placed in the Trendelenburg position if required. Secondary ports can then be inserted under direct laparoscopic vision. Once the ports are inserted the gas pressure should be decreased to 15mmHg.

The placement of secondary ports is under direct vision. Knowledge of the anatomy of the inferior epigastric artery is important. It usually runs 5.5cm lateral to the midline. If secondary ports are placed at least 7cm lateral to the midline, it will usually be avoided, but it is important to insert these ports at 90 degrees to the skin and avoid traversing an oblique path through the abdominal wall that may intersect the inferior epigastric vessels.

At the end of the procedure, remove secondary ports under direct vision. Empty the gas and then remove the main trocar. In some cases, to minimise the risk of a port site hernia, the sheath should be closed with one vicryl on a J needle (for example, J695 Ethicon). These cases include midline ports greater than 10mm, lateral ports greater than 5mm, prolonged procedures, ports that have been stretched with specimen removal, and very thin, cachectic or infected patients. Close the skin with 3/0 Monocryl (for example, Y936 Ethicon). A simple loop or a subcuticular closure can be used.

During the procedure complications may occur. If blood or faecalent material is drawn back through the Veress needle during the saline syringe test, this may indicate a significant vascular or bowel injury. Depending on the specific circumstances, a laparoscopic entry at a different location or immediate conversion to laparotomy may be indicated. In either case, it is important to leave the first Veress needle in situ as this will help to identify the site of viscus injury.

If high pressures are experienced during creation of the pneumoperitoneum, this may indicate incorrect extra peritoneal placement of the needle or it may be in adhesions. Again, depending on the circumstances, it may be appropriate to remove the needle and try one further placement of the needle. If there is still a problem, conversion to an alternate site such as Palmers' point or an alternate technique such as Hasson's open entry may be considered. Finally, conversion to laparotomy should not be delayed if there is concern that an organ injury has occurred and laparoscopic visualisation has not been achieved.

Patients should be advised to expect a rapid recovery after laparoscopic surgery and to report slow recovery or worsening of pain or vomiting that may indicate an organ injury that was unrecognised at the time of surgery.

A trainee should preferably be familiar with at least two entry techniques (for example, Veress needle and Hasson) and two entry locations (for example, subumbilical and Palmer's point). This will allow most problems relating to laparoscope entry to be managed safely and efficiently.

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2. Barnett JC, *et al.* Laparoscopic positioning and nerve injuries. *J Minim Invasive Gynecol.* 2007; 14: 664–672.
3. Jacobson TZ, Davis CJ. Safe laparoscopy: is it possible? *Current Opinion in Obstetrics & Gynecology* 2004; 16(4):283-288.
4. Teoh B, Sen R, Abbot J. An evaluation of 4 tests used to ascertain Veress needle placement at closed laparoscopy. *J Minim Invasive Gynecol.* 2005; 12:153–8.
5. C-Gyn 7: Use of the Veress needle to obtain pneumoperitoneum prior to laparoscopy. RANZCOG College Statement. November 2008.

This section provides a demonstration of one technique for the operation and is not intended to be anything other than a guide and study aid for trainees. In every case, the surgeon should individualise the operation according to their own skills and techniques, the equipment available and the individual patient. RANZCOG does not endorse any one technique for this or any other procedure.

Journal Club

Had time to read the latest journals? Catch up on some recent O and G research by reading these mini-reviews by Caroline de Costa.

Management of third stage complications

Two recent studies look at management of some common third stage problems:

A review article in *BJOG* summarises 15 recent reports of various methods of balloon tamponade for postpartum haemorrhage (PPH). The author (from Wollongong) points out that when PPH due to uterine atony does not respond sufficiently to pharmacological measures, then surgery is generally resorted to. However, balloon technology has been successfully used to tamponade the postpartum uterus to control haemorrhage and its use may mean that such measures as internal iliac ligation, B-Lynch sutures and hysterectomy are not required. Current balloon techniques involve inserting a rubber or silicone balloon into the uterine cavity and inflating it with normal saline. Balloon tamponade using either the Sengstaken-Blakemore tube (originally devised for oesophageal varices), the Rusch (urological) or Bakri balloons, condom catheters or multiple Foley's catheters has been successful in 97 of 106 cases (91.5 per cent) of severe PPH in the literature examined. The author suggests that the use of these techniques, following both vaginal and caesarean delivery, should be part of our obstetric repertoire. The use of both oxytocics and antibiotics with balloon tamponade is probably desirable.

Georgiou C. Balloon tamponade in the management of postpartum haemorrhage: a review. *BJOG* 2009;116 (6): 748-57.

In a study from Florida of the use of rectal misoprostol (RM) versus prostaglandin $F_{2\alpha}$ ($PGF_{2\alpha}$) for retained placenta after second trimester delivery, the authors note that retained placenta is a common cause of morbidity associated with second trimester delivery. Traditionally, manual or surgical evacuation of the placenta under general anaesthetic has been used, with the risks of haemorrhage, infection and uterine perforation. The study was performed retrospectively, as obstetricians at the hospital concerned routinely used either RM or $PGF_{2\alpha}$ if the placenta was not delivered within 30 minutes; 161 women received RM, 142 received $PGF_{2\alpha}$. If the placenta was not delivered within two hours, surgical removal was performed. Women in the $PGF_{2\alpha}$ group were found, on average, to deliver 14 minutes after the drug was administered. Women in the RM group required, on average, 54 minutes until delivery of the placenta. No increase in complications of the third stage was noted with expectant management of up to two hours. The authors conclude by recommending the use of $PGF_{2\alpha}$ for third stage management in second trimester delivery.

Sundaram S, *et al.* Rectal misoprostol vs 15-methyl prostaglandin $F_{2\alpha}$ for retained placenta after second trimester delivery. *Am J Obstet Gynecol.* 2009; 200(5) May; e24-6; Epub 2009 Jan 10.

Virtual reality training improves performance by registrars in laparoscopic surgery

This interesting study in *BMJ* prospectively and blindly assessed the effects of virtual reality training on the performance of actual laparoscopic surgery in seven departments of gynaecology in Denmark. Twenty-four first and second year registrars were divided into those trained on a virtual reality simulator (11) and those provided with the 'standard clinical education' of the training program. Technical performance in an actual laparoscopic salpingectomy was assessed by two independent specialists blinded as to which group the registrars belonged to, using a previously developed scale – this was the main outcome measure. The secondary outcome measure was operation length in minutes. The simulator-trained group reached a median total score equivalent to the experience gained after 20 to 50 laparoscopic procedures in standard training, whereas the control group only reached a median total equivalent to the experience gained from fewer than five procedures. The median total operation time in the simulator-trained group was 12 minutes and in the control group was 24 minutes. The inter-observer agreement was 0.79. The authors strongly recommend providing simulator training before trainees embark on laparoscopic surgery.

Larsen CR, Soerensen JL, Grantcharov TP, *et al.* Effect of virtual reality training on laparoscopic surgery: randomised controlled trial. *BMJ* 2009;338:b1802.

Best practice in placenta accreta

This retrospective cohort study from two tertiary teaching hospitals in Utah, United States, was published in *BJOG*. Seventy-six cases of placenta accreta were studied retrospectively to determine which management interventions were associated with reduced maternal morbidity. The measures of morbidity included prolonged intensive care unit admission; large volume blood transfusion; coagulopathy; injury to ureters or other reasons for return to theatre both early and late; intra-abdominal infection; and hospital readmission. The study found that when accreta was suspected, planned caesarean hysterectomy without attempting placental removal was associated with a significantly reduced rate of early morbidity compared with cases in which placental removal was attempted. Women with preoperative bilateral ureteric stents had a lower incidence of early morbidity compared with women without stents. Hypogastric artery ligation did not reduce maternal morbidity. Other methods of management were not examined. The authors conclude that caesarean hysterectomy with preoperative ureteric stent placement should be recommended in all women with suspected placenta accreta.

Eller AG, Porter TF, Soisson P, Silver RM. Optimal management strategies for placenta accreta. *BJOG* 2009; 116(5): 648-54.

Q&a

Q&a attempts to provide balanced answers to those curly-yet-common questions in obstetrics and gynaecology for the broader O&G readership including Diplomates, Trainees, medical students and other health professionals.

Q *Despite the evidence, controversy still rages over the safest method to deliver a term breech. A common situation in our institution, though, is breech presentation before 37 weeks. What is the best advice for delivering a preterm baby in breech presentation?*

Dr O.P, New South Wales

Dr Cliff Neppe
FRANZCOG

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Since the publication of the term breech trial[1] the popularity of vaginal breech deliveries has sharply declined. When a woman reaches 37 weeks gestation and the presentation of the fetus remains breech, three options are usually discussed. External cephalic version (ECV) is commonly offered if there are no risk factors; elective caesarean section at 39 weeks may be offered outright, or booked if an attempt at ECV fails; and selected women may wish for a trial of vaginal delivery.

When a patient in Australia presents in preterm labour with breech presentation at a viable gestation, delivery by caesarean section is the usual outcome. It is important to recognise that there is no level one evidence to guide our management.

As practising obstetricians, the following guidelines can be drawn upon when faced with a difficult clinical question:

- The relevant RANZCOG statement
- The *Cochrane* database
- The *Green Top Guidelines* of the RCOG
- Relevant local hospital policies and guidelines.

Unfortunately, our RANZCOG statement offers no advice with respect to preterm breech presentation. Similarly, the *Cochrane* database offers no advice with respect to preterm breech presentation. The RCOG *Green Top Guideline* (no. 20b, December 2006) makes the following recommendation:

> 'Routine caesarean section for the delivery of preterm breech presentation should not be advised. The mode of delivery of the preterm breech presentation should be discussed on an individual basis with a woman and her partner. Where there is head entrapment during a preterm breech delivery, lateral incisions of the cervix should be considered.'

As an example of local hospital guidelines, the Royal Women's Hospital (Melbourne) guideline, available through the hospital website, states:

> 'The optimal mode of delivery for preterm breech has not been fully evaluated in clinical trials and the relative risks for the preterm infant and mother remain unclear. Overall, decisions regarding mode of delivery will need to be made on an individual basis, however, with the evidence available to us at this time, Royal Women's Hospital recommended practice is to perform emergency caesarean section for any woman presenting in preterm labour with breech presentation except where vaginal delivery is imminent. The medical circumstances are such that survival (and least morbidity) of the fetus is assessed to be unchanged by mode of delivery and/or the maternal morbidity of caesarean section is judged to be too great for the relative potential fetal disadvantages.'

Unfortunately, a randomised trial of planned caesarean section for preterm breech versus vaginal delivery was abandoned because of insufficient enrolments.[4] A retrospective cohort study found that very low birth weight breech or malpresenting neonates delivered by a primary caesarean section had significantly lower adjusted relative risks of death compared with those delivered vaginally.[3] However, the authors emphasised that a causal relationship cannot be inferred.

Retrospective studies that suggest that delivery by caesarean section confers a better outcome for the fetus are potentially subject to bias. The poor outcome for very low birth weight infants is related mainly to complications of prematurity rather than simply the mode of delivery. In the absence of good evidence that a preterm baby needs to be delivered by caesarean section, the decision about the mode of delivery should be made after close consultation with the woman and her partner.

Caesarean section for preterm breech is almost always an emergency where there has been a failure to tocolyse or where the decision has been made to deliver. As the woman is often in active labour, the procedure becomes classed as emergency, therefore increasing the risk of maternal complications compared to elective caesarean section.

With preterm breech, there is less risk of bony dystocia of the head. However, there are other significant risks such as delivery before full dilatation with consequent head entrapment. Fetal complications are obviously hypoxia and soft tissue injury related to the delivery, and maternal morbidity with lateral cervical incisions which can extend superiorly to the broad ligament. The risk of cord prolapse is always present, particularly in the footling breech.

In the extremely preterm breech (28 weeks or less) in uterus with a poorly formed lower segment, a classical incision may be required resulting in increased maternal morbidity in the short-term and increasing the risks for subsequent pregnancies. If the decision to perform a caesarean section is decided upon for an extremely preterm fetus for fetal reasons, a classical caesarean section should be performed. A lower segment incision should be resisted in a uterus in which a lower segment has not yet formed. One needs to think very carefully before offering a caesarean section at the limits of viability for fetal benefit.

Q&a continued on page 56.

Since 2000, most clinicians have not routinely performed vaginal breech deliveries. How many clinicians in 2009 feel confident to perform or supervise an elective breech delivery? The art of the vaginal breech delivery today belongs only to a lucky few. My generation of obstetricians, and probably those that follow, will not routinely perform caesarean sections for all breech deliveries because of the evidence or lack thereof, but because we do not possess or will not have the opportunity to acquire the skills to offer the option of a planned vaginal breech birth.

Thus, the optimal mode of delivery for preterm breech needs to be individualised based on gestational age, fetal condition, cervical dilatation at presentation, maternal wishes and the skill of the obstetrician.

Further reading

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2. Hofmeyr GJ, Hannah ME. Planned caesarean section for term breech delivery. *Cochrane Database of Systematic Reviews*, 2007, Issue 4. Art. No.: CD000166. DOI: 10.1002/14651858.CD000166.
3. Muhuri PK, Macdorman MF and Menacker F. Method of delivery and neonatal mortality among very low birth weight infants in the United States. *Maternal Child Health Journal* 2006; 10: 47-53.
4. Penn ZJ, Steer PJ, Grant A. A multicentre randomized controlled trial comparing elective and selective caesarean section for the delivery of the preterm breech infant. *British Journal of Obstetrics and Gynaecology* 1996; 103: 684-9.

All RANZCOG members are invited to submit questions, tips or interesting cases to *Q&a*.
Please send entries to *Q&a* @ *O&G* via:
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(fax) +61 3 9419 0672
(mail) 254-260 Albert Street, East Melbourne, VIC, Australia 3002.

I am being sued. What do I do?

Dr John Allan
FRANZCOG

I was asked to write on how a doctor should handle medical litigation from a non-scientific and personal standpoint. Unfortunately, that means that I am considered to be somewhat of an expert in this matter of being on the receiving end of a few law suits. In my medical career that now spans 36 years, I have been served with a summons on four occasions and one of the cases, which lasted 12 years, ended up in the High Court of Australia.

This article is aimed at assisting colleagues who may be sued in dealing with what can be one of the most personally devastating times in your professional career.

The day of the summons

Being issued with a summons can come as a complete surprise, as the medical event that precipitated the legal action may have occurred some years prior. However, with recent changes in the medical negligence laws, this is now less likely to occur. The process server should identify you and then hand over the document. Do not make any comments to the process server about the case or the plaintiff, as the process server can be summoned to give evidence in your case.

'Personal involvement is a crucial aspect of the coping strategy.'

In the four cases I was involved with, I must say that after I had digested the content of the document, a feeling of disbelief was closely followed by anger, mainly towards the plaintiff but also towards all my other patients, my staff and the whole human race. Until this initial feeling of shock has passed, which usually takes about a day, I would strongly recommend, if possible, that you cancel the remainder of the day. It is natural to start having flashbacks to the events of the case and as this will certainly impede your judgement, it is important not to make any hasty or significant decisions during that day. I found a useful technique to help defuse these feelings was to start telling as many people who would listen (therefore, family, colleagues etc) about the summons and in most cases, they empathise with you and support you. It is obviously most important that you immediately notify your medical insurance company.

The Job syndrome: Why me, God?

Unfortunately, after the initial shock of the 'day of the summons', what I term 'the Job syndrome' sets in: Why me, God? I'm a good doctor, how could such a thing happen to me? There clearly is no satisfactory answer to this question, apart from 'that's life' and dwelling on this matter can be ultimately quite destructive. The initial anger can therefore be followed by a period of destructive reflection. This usually includes such thoughts as: Why was I born? Why did I do medicine? Am I really such a terrible doctor? What will my colleagues and family think? Do I have enough money to retire? If this pattern of thinking is not addressed, then in some cases, a gradual slide into the depths of depression will occur. The following coping strategies that are outlined are critical to the successful control of these quite destructive feelings and thoughts.

The coping strategies

Failing winning Lotto and moving to Spain, the following strategies are useful:

- Don't alter your usual work schedules or practices (apart from the day of summons).
- Don't curtail any social activities.
- Learn about lawyers and the law. I became a life time member of the Medico-Legal Society of Queensland.
- Talk to your colleagues, family and friends about your case(s), including patients. When consenting patients for surgery, I (if appropriate to their case) refer to some of my past legal matters.
- The more the doctor gets used to talking about the case, the easier it will be to cope if it goes to trial and ends up in the press.
- During the post summons period, if your wife/husband, partner or colleagues suggest that you are becoming depressed, listen and seek professional help. Alcohol followed by suicide is not an alternative.

Personal involvement in the case

Personal involvement is a crucial aspect of the coping strategy. Trying to put the case out of your mind and just waiting for the lawyers to call you doesn't work. I believe it is the doctor's responsibility to know the stage the case is at and to cooperate with your legal advisers every step of the way. Indeed, no significant decision with regards to the conduct of the case should be made without the doctor's knowledge. Constructive, not destructive, involvement in the preparation of the defence for your case will not only help control your negative emotions, but significantly assist your legal advisers in the preparation of a sound defence.

Management of the media

The simple rule is don't make any statements to the media before, during or after the settlement or trial. Any statements to the media should only be made by your legal representatives.

The family

Naturally, doctors who are being sued are concerned as to what effect the possible negative publicity will have on their family. Remember, most cases will not get into the media unless the case goes to trial or a serious medical misadventure has resulted in the case going before a medical board.

Your family should be informed about all aspects of the case and what the likely outcome may be. By the time the one case of mine did go to trial, my children had become young adults and they came to court with me as part of my support team. I found that the vast majority of my patients also supported me when the case went public. Remember that today's newspapers wrap tomorrow's garbage.

If the case goes to trial

Fortunately, with the recent reform to medico-legal torts law, few cases should end up in the court. Today, most cases should be settled promptly (not like three of mine which each took over ten years) or more likely by arbitration. If it is a case of clear medical negligence, then usually an apology will be quickly delivered to the patient and a compensation settlement agreed to.

The final group of cases are the most difficult to deal with. The plaintiff, despite expert medical evidence to the contrary, feels they have been mistreated and want to have their day in court. I might say that all avenues should be exhausted before deciding to go to trial. I also believe that we should resist the urge to settle if we are not considered to be at fault. My case was lost in the district court and the judge awarded the plaintiff a very small sum of money as compensation. The temptation was to accept the court's judgement and not appeal. I knew an appeal would attract more publicity, but because I did not agree with the court's findings, I instructed my legal representatives to undertake an appeal. The Appeals Court overturned the initial judgment in our favour and the plaintiff then decided to take the matter to the High Court of Australia (more publicity). However, the High Court upheld the decision of the Appeals Court and the matter closed after 12 years.

The courtroom

If your case does go to trial, the following may be of assistance in how to get through this difficult time. Firstly, be educated about every aspect of the case, including reading all hospital notes, including nurse's notes. Have input into the selection of your expert witnesses, meet with your barrister and have a very clear idea as to what questions may be put to you and what your response should be.

'Barristers are obviously used to the court environment, we are not, therefore when answering questions, be brief, to the point, don't embellish the answer or try to be smart.'

Your lawyers will give you legal support, however, you will need to organise your moral support. During the trial, I had a steady stream of family, friends and staff coming to observe the trial and this contributed significantly to not feeling too alone when some rather unpleasant things were said about me. Your lawyers will not be entertaining you at lunch, so arrange to have lunch away from the precinct of the court. I noted the plaintiff and her husband went to the court café on each day of the proceedings and one should avoid direct contact with the plaintiff outside the courtroom. You should be in the court throughout the duration of the trial and convey your opinion to your barrister as the trial progresses. Barristers are obviously used to the court environment, but we are not, therefore when answering questions, be brief, to the point, and don't embellish the answer or try to be smart.

Conclusion

Unfortunately, medical negligence cases can take a significant emotional toll on the doctor and his or her family, resulting in breakdown in relationships with family, friends and patients. It is imperative therefore that the doctor employs every means to avoid being totally consumed in this emotional maelstrom.

Surviving the litigation experience as a 'defendant' doctor

Andrew Took
National Manager
Member Advisory Service
Avant

Avant statistics indicate that on average, every year, one out of every eleven obstetricians and gynaecologists in Australia will be sued for medical negligence.

Being served with a civil claim alleging that your professional negligence has led to serious injury to your patient will commonly and understandably lead to feelings of anger, hurt, disappointment and apprehension as to the effect the claim will have on your professional reputation. In addition, it will be common to feel apprehensive about how the claim against you will be managed by your professional indemnity insurer and what will be expected of you during the life of the claim.

In the recent past, we have heard comments from a plaintiff's lawyers association implying that Avant was unwilling to settle claims, and as a tactic, designed to 'wear down' a plaintiff's resources and deliberately pursued claims all the way through to hearing, regardless of the merits of the case.

On the other hand, Avant, on occasions, hears a grumbling from certain of its membership that Avant settles the vast majority of matters for reasons of commercial expediency, usually against the concerned member's wishes and for inflated values, such practice leading to ever increasing numbers of undeserving claims being brought on the basis that plaintiff lawyers know that they will get a settlement from Avant, regardless of the merits of their client's claim.

What is the truth of the matter? Some limited factual basis can be found for both of the above accusations. Avant has, in certain instances, defended matters right up to the time of the court hearing and then settled the matter. It is also true to say that Avant does settle the majority of the claims brought against its members.

However, despite the limited factual basis, neither the assertion of claims management by attrition or the concern of rampant commercialism is correct.

Avant's claims management philosophy is quite simple: early assessment of a claim made against a member and in cases of deserving claims (therefore, established departure of an acceptable level of care by the member with resultant injury to the plaintiff) prompts resolution by payment of compensation. In cases where the member's standard of treatment is assessed as appropriate, then rigorous preparation of the matter for defence is undertaken.

Actual claims practice may be illustrative. Following notification to Avant of a claim, the matter is triaged by a senior claims manager. The matter is allocated to a defence team comprising of a claims manager (all Avant's claims managers have either tertiary health qualifications or legal qualifications and in a number of cases both), a medical advisor (our current team is comprised of physicians, general practitioners, obstetricians and gynaecologists and surgeons) and a solicitor experienced in medical negligence litigation.

A conference between our member and the defence team is arranged as soon as possible, usually held within six weeks of Avant receiving the claim. The initial conference is perhaps the most crucial stage of the assessment of the matter. It usually runs over two to three hours, though in complex matters, considerably longer. Detailed information is taken from our member and available clinical documents.

What to do on receipt of a civil claim:

- Telephone your indemnity insurer for initial advice.
- Collect and review all medical records and other relevant documents.
- Prepare a draft summary of your relationship with the patient, the treatment provided and the circumstances giving rise to the claim.

At the end of the conference there is usually consensus between the team (including our member) as to one of three preliminary positions:

1. The member's standard of care of the patient has been assessed to have met proper professional standards and pending further investigation, including the seeking of independent medical opinion, the matter should be regarded as one for defence.

2. Where there has been a clear departure from an appropriate level of care resulting in injury to the patient, the matter is regarded as one for settlement. (Each year we receive a significant number of such claims ranging from operating on the incorrect side and prescribing errors to surgical errors, such as inadvertent clipping of the ligament during filshie clip sterilisation.)

3. In the minority, there are a number of matters where, at initial assessment, it is not possible to make a determination as to whether the matter can be defended or should be settled and are deferred pending the obtaining of further information.

Regardless of the preliminary view taken by the defence team, the recommendation of the team in significant claims is reviewed by a committee of external medical specialists (the committee includes practitioners from RANZCOG). At the committee meeting, the matter is presented by a specialist relevant to the nature of the claim and the recommendations of the defence team are subject to specialist clinical review.

'Defending matters to hearing requires...a huge amount of dedication required by the defence team, not the least of it being the total cooperation and involvement of the member.'

Once a decision is taken, then our objective is to resolve the matter expeditiously, either by settlement or successful defence at trial. It is in no one's interest, from a defendant's point of view, to let matters linger on. Certain cases, however, are not amenable to early resolution, the best example of this class being severely injured children, where the extent of the child's disabilities may not be capable of assessment until maturity.

Involvement of the member in the assessment process is central to the claims management philosophy of Avant. Settlement of a matter is done with the member's agreement. In rare cases where the member involved disagrees with the advice to settle or defend the matter, then a dispute resolution process is commenced.

In some cases, matters are settled even where the member's standard of care has been assessed to have been of more than an appropriate standard, on the basis that a successful defence would not have been possible. Two examples may illustrate the difficulty sometimes encountered. In one example, our member inappropriately altered his clinical records upon service of the statement of claim in an attempt to bolster his version of events. This was done in haste and without the member recalling that some years ago he had provided a true copy of his records to the patient on previous request. Without the alteration, the matter would have likely been eminently defendable. In another example, the member had a morbid fear of giving evidence in court. Supportive psychotherapy and medication was of no assistance. The factual circumstances of the case required our member to give oral evidence. While the standard of care in the matter was appropriate, the circumstances necessitated a compromised settlement.

Defending matters to hearing requires a more than substantial investment in time and resources, with a huge amount of dedication required by the defence team, not the least of it being the total cooperation and involvement of the member. As a matter of policy, Avant does not run matters to trial on behalf of its members which it does not believe the member will win.

Yet, of the matters that we run to trial, we will lose about 50 per cent. This is not because in hindsight we failed to properly assess the medical evidence or other such reason, it is because no one can predict how a trial will unfold. No matter how well the evidence and witnesses are prepared, once a trial commences, it is almost analogous to trying to 'control a tiger by holding its tail'.
On occasion, new factual evidence is given and accepted at trial which undermines the basis of assumptions on which the expert medical evidence was gathered. This, on occasions, leads to a matter which was previously marked for defence to be settled during the course of a hearing.

On occasion, an expert who presents remarkably well in conference will fall apart under cross examination in the witness box and forget all aspects of court etiquette. In one fairly recent (and painful) example, a highly qualified and experienced specialist was called on behalf of the defence and during his evidence had a highly bitter argument with the judge presiding. Where, as a matter of law, it is up to the presiding judge to weigh the evidence of often competing experts, it was not surprising that our combative expert's evidence was not accepted with the same reverence as that of the plaintiff's less well-credentialed (but better behaved) expert.

Tips for giving evidence at hearing:

- Remain calm and present in a professional manner at all times (avoid arguments or heated exchanges with plaintiff's counsel – it will not impress the judge).
- Use simple and understandable language (remember you are being heard by a non-medically trained audience).
- Answer the question put forward (not answering the question will appear evasive).
- Do not reconstruct memory, if you have no direct recollection say you do not recall.

'In the event of serious media misreporting of your matter, always seek the advice of your legal defence team before responding.'

Prior to or during the hearing of the matter, it is not uncommon for some cases to attract the attention of the media. For the doctor, the subject of the media scrutiny, there is often an irresistible urge to contact the journalist to attempt to 'correct' the story. In my experience of over 18 years in dealing with media reporting of medical negligence cases, that urge is almost always best curbed. In the event of serious media misreporting of your matter, **always** seek the advice of your legal defence team before responding.

Being sued by your patient is a 'survivable' experience, both in a personal and professional respect. The following suggestions may aid in dealing with the stress of the situation:

- **Seek to understand the legal process.**
  Use your defence team to find out as much as you can about the process, what will be expected of you and most importantly, what support is available.
- **Take control.**
  The perceived lack of control associated with litigation can be difficult to manage. Be self-aware of the situation and acknowledge it, focus on looking after yourself and taking control of other areas in your life such as personal health, diet, exercise and utilising leisure time.
- **Seek social support.**
  The long period of time surrounding the litigation process can be a time of great isolation, loneliness and engender feelings of abandonment. Identify those who you feel comfortable with and seek their support.
- **Seek professional support.**
  For members undergoing a claim, Avant provides the opportunity to obtain independent professional support from a qualified clinical psychologist through Avant's member support program.

Death in gynaecology

Experiences in South Africa

Dr Steve Raymond
FRANZCOG

One of my teachers in the 1970s told us, 'Every time a woman has sexual intercourse she lays her life on the line'. In the developed world, this was, to me, little more than a theoretical risk, probably limited to the potential to have a major postpartum haemorrhage or an amniotic fluid embolism if a woman got pregnant.

The maternal death rate in the 1970s was about 14 per 100,000 so the chance was small. You could possibly also die from an ectopic pregnancy, but what were the chances of dying if you didn't get pregnant as a result of that act of sexual intercourse? What could you die of?

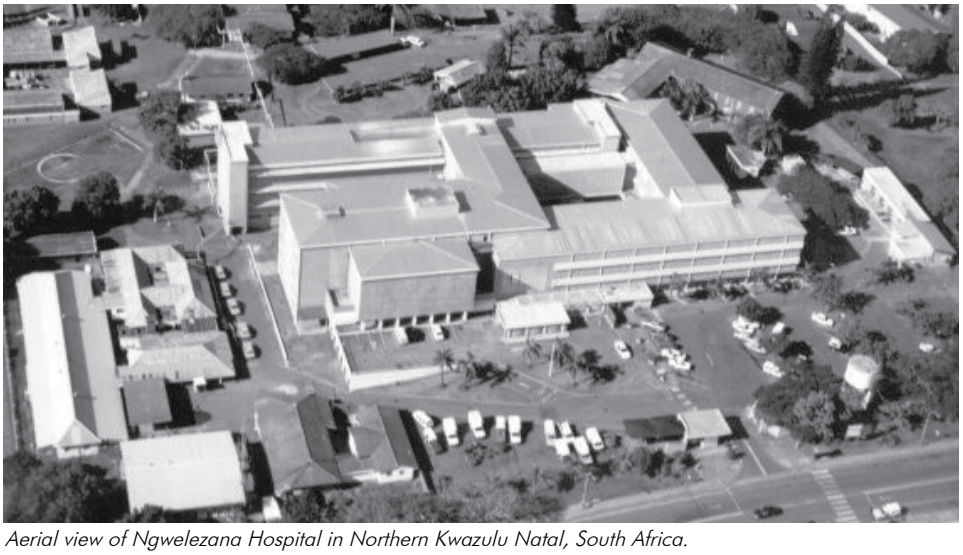
It had been becoming clearer during the late 1970s that cervical cancer was probably caused by a sexually acquired infection with human papillomavirus (HPV). As the role of HPV was being identified, the cervical smear screening programs were being rolled out around the world, so the chance of having invasive cervical cancer was diminishing and, with that, the even smaller chance of dying from it.

In the 1980s, the HIV/AIDS danger exploded into being. Prior to that, warnings against unprotected sex were made because of the potential to contract any of a number of sexually transmitted diseases (STDs), now known as sexually transmitted infections (STIs), the name change serving to highlight that they were not a major problem as diseases, but simply as infections which were treatable. The media was now full of warnings about unprotected sex for its lethal potential, but in New Zealand, where I was practising at the time, AIDS was still a homosexual problem and didn't appear in a gynaecological practice.

In short, although there was a theoretical risk that sex could kill you, it was a fact of life that I never saw a gynaecological patient die and didn't expect to either. Was I not trained to the standard of the day to save lives? The risks of surgery were extremely low – there was easy availability of blood for surgical haemorrhage, anticoagulants for prevention of pulmonary embolus, antibiotics for postoperative infections and the oncologists knew how to treat malignancy in their specialist centres to a high five-year survival rate.

In 1992, I responded to a plea from the regional obstetrician for Zululand, South Africa, for a specialist to work fulltime in Ngwelezana Hospital, which is the regional referral centre for Northern KwaZulu Natal. This facility, run by the then KwaZulu Government (funded by Pretoria), served a population of about two million Zulu people for whom the Caucasian hospitals were unavailable and the private hospitals unattainable. A network of clinics run by nurses provided the primary healthcare in the province, with a sprinkling of GPs mostly only found in the bigger towns. Hence, the largely rural population had simply a third world medical service.

What I found on arriving was a well-supplied hospital with very basic wards. There was rarely a mattress on any of the trolleys – the patient just lay on the metal base with only a sheet between skin and cold steel. The demand was large and there was one South African-trained and very experienced specialist gynaecologist. He was an Italian who had spent time in Somalia and then in the Congo. The resident doctors in the hospital were, for the most part, overseas graduates. I was called upon in very short order to deal with conditions straight out of the textbooks and some that weren't! The maternal mortality was probably about 100/100,000, but by the time I left in 2005, it had risen to 400/100,000, of which nearly 60 per cent was due to AIDS. But what of the deaths not related to pregnancy? Surprisingly, some of the most difficult operations I was called upon to do were not often followed by death, for example drainage of pelvic abscess. Gross pelvic inflammatory disease, mostly caused by sexual intercourse, was rife. I seemed to have at least one on every weekly operating list. I never got used to the smell of the pus drained from large tubal abscesses. In truth, the gynaecological causes of death were the same as one would see in the first world.



Aerial view of Ngwelezana Hospital in Northern Kwazulu Natal, South Africa.

Carcinoma of the cervix was highest on the list. We would send 110 to 120 women per year to the gynaecology oncology unit at the academic hospital in Durban, with a diagnosis of stage two to stage four carcinoma of the cervix. The worst of these cases would sometimes be returned to us after their radiotherapy, moribund, and would be nursed in our gynaecology ward until they died. I got to the stage where

I could diagnose these unfortunate women as they entered the gynaecology clinic, from the characteristic smell of their discharge. We did a lot of colposcopy as we developed the service and were able to help many whose dysplasia had not progressed beyond CIN3. However, there was no formal screening program, so these were the lucky ones who had been fortunate enough to be seen by good doctors or clinic nurses who ensured that a smear was taken, when presenting for some other reason. Other gynaecological malignancies were much less common.

'People die at home, in their community surroundings, of accidents, illness and old age, and particularly these days with so many young people dying of AIDS, death is not an unusual event. They are used to it.'

Occasionally, but not more than once every couple of years or so, we would have a postoperative death from pulmonary embolism. On one occasion on a Saturday morning, after doing an abdominal hysterectomy on the Friday morning, I got a phone call from the sister in the gynae ward to say that my patient had collapsed in the toilet. She was advised to call the resident on duty and I set out to get in my car to go to the hospital. Moments later I was stopped by another call from her to say that the 'patient was late'. Mystified by this and thinking that she meant the doctor was delayed in arriving in the ward, I repeated that I was on my way, at which time I was told that I needn't come as, in the South African Indian niceties of idiom, when someone 'is late' it meant she had died!

There was one elderly lady who had a pelvic mass diagnosed on ultrasound to be a fibroid, but extending into the upper abdomen towards her liver. Fibroids of this size are not uncommon in black African women. We arranged an abdominal hysterectomy, however, because there had been some doubt about the mass and its relationship to the liver with a suggestion that it may have been malignant, I arranged to have a surgeon with liver experience help me. It turned out she had a metastasis in the liver, from a uterine sarcoma, with multiple secondaries. No matter how we tried to excise and repair the liver extension, it was not possible to control the bleeding. We cobbled her up as best we could and using a pack with Gelfoam and a drain, had the situation at least stable. My worst fears were realised as we watched her in ICU as the drainage continued, until we could no longer keep up the transfusion and she died.

As was so often the case, the family of the elderly lady were grateful and appreciative of the efforts we had made, not in the least querying for one moment whether an alternative outcome might have been available, in short, very matter of fact and accepting. This acceptance I feel sure rose out of two facts about Africa. Firstly, top class or even standard western ideas of medical care are unknown to the majority of poor subsistence-level village people, so expectations are low. Secondly, that death is a fact of life. People die at home, in their community surroundings, of accidents, illness and old age, and particularly these days with so many young people dying of AIDS, death is not an unusual event. They are used to it.

There were no pathologists on the staff. Technicians staffed the laboratory. Histological specimens and advanced investigations (including beta HCG) all went down to King Edward VIII Hospital in Durban. Results took at least a week and often two if they had to be sent away. One morning, as we met for the 'handover', I was told of a young woman who had arrived in the outpatients the night before, but who was dead within a short time of arrival, without time to assess her properly and make a diagnosis. The history was very suggestive of a bleeding ectopic pregnancy, but no one was sure. I realised the only way to find out was to do a post-mortem. When unexplained deaths such as these occurred, they would be reported to the coroner, whose action usually took the form of interviewing the doctor over the phone and if he was happy that there seemed to be no suspicious circumstances, would not order a post-mortem but record a verdict of death from natural causes! If he wanted a post-mortem, there was a local GP who was on contract to the police for forensics and would have given no more information than I could find out myself. I took a scalpel down to the mortuary and opened the abdomen. It was a ruptured ectopic pregnancy. What struck me was how different it is to open an abdomen on a cold corpse, with rigor mortis setting in, compared with operating on the living.

Soon after I arrived in South Africa, I had occasion to tell a patient that she needed an operation, for what purpose I do not remember. Her reply had been that she didn't want to be operated on, as she would die, but on being pressed as to the necessity of the procedure and that she could die without it, signed the consent form. To my absolute horror and mystification she died on the third postoperative day with not a single hint of warning. As we couldn't get consent to do a post-mortem, I do not know to this day what happened. Even if we had, I doubt we could have found someone who could make the detailed examination it might have required. It was probably a pulmonary embolus.

I had never seen a case of chronic inversion of the uterus and never expected to. However, one day a woman in her late forties with a long history of persistent bleeding due to chronic inversion was admitted. The differential diagnosis with that sort of history always included carcinoma of cervix or endometrium and prolapsed fibroid. Speculum examination had the registrar completely confused, as she could not understand what she was seeing. Once the diagnosis was made, I had to confess, though I gave not a hint to anyone, that I had no idea how to deal with this. I quickly did a search of the textbooks which were largely unhelpful and then the internet. I discovered that an operation had been described many years ago, which would allow preservation of the uterus, but I felt that in this case such preservation was unwarranted and I determined to offer her a vaginal hysterectomy. To my amazement she declined. Thinking she was not prepared to lose her uterus, I then offered to perform the older procedure. She was not going to have any operation, because if she did, '*ngizofa*', which means 'I will die'. I never did find out why she was convinced of this and no matter what explanations were given, she remained obdurate. I remembered my previous experience and left it at that. She left the hospital that day and I never heard from her again.

Yes, sex can kill, but the truth is that most of the time it is the complications of pregnancy that do this.

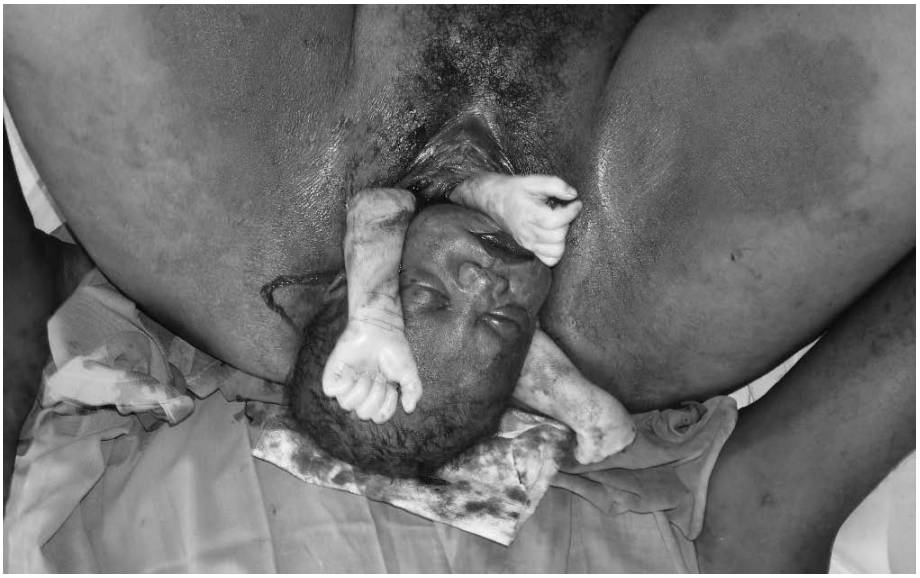
Shoulder dystocia is not always shoulder dystocia

Dr Daniel Priest
DRANZCOG
Rumginae Rural Hospital, PNG

The Western Province of Papua New Guinea is a very underdeveloped part of the country. I live here with my wife and three children and we have been working here at Rumginae Rural Hospital on and off for about ten years now. It is a basic hospital with very simple facilities treating patients referred from a very large area and training community health workers to be the front-line in the delivery of healthcare to the rural areas of PNG.

My research tells me that PNG has one doctor for every 22,000 people, compared to one doctor per 377 people in Australia. I have just returned home from the 'delivery suite' after a very sad and unusual experience...

We had a woman arrive in the early hours of the morning in labour with twins. As she was making no progress, I was called to assist. The vacuum was already being set up by a nursing officer as I arrived. With vacuum, the descent seemed to be too slow but we did deliver a head, which then retracted back a bit. I started going through shoulder dystocia moves in my head and took over the delivery. We got her feet up around her ears and there was already a big episiotomy. I couldn't deliver an anterior or a posterior shoulder despite help pushing from above the pubis to dislodge a shoulder. The torso just wouldn't rotate to allow the posterior shoulder to deliver anteriorly – it just wouldn't budge. Unfortunately, the nursing staff had started the vacuum despite not being able to get a catheter in...and I just couldn't get one in which made symphysiotomy too dangerous, even if it could be done that quickly. I brought an arm down, then another, but decided that this arm did not belong to this fetus and fairly soon we had three arms down! Even this didn't allow delivery. I tried to break a clavicle in desperation but still we made no progress.



The beginning of the delivery.

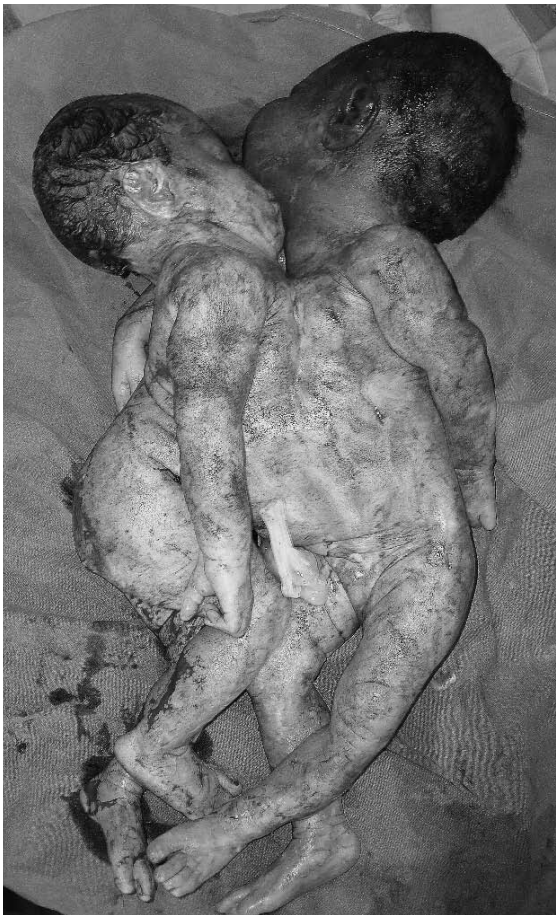
By now it was close to five minutes and the baby had stopped opening it's eyes to look at me. I tried lots of traction from the axilla, but still nothing (except a broken humerus). There was no way it was going back in either. I was stuck. We were getting well past five minutes now so I had a look with our small ultrasound to see if the other baby was alive. It didn't make sense how I could have BOTH shoulders free, but the baby not coming. Interlocking twins head and pelvis shouldn't occur. I was getting suspicious of something else.

The scan was odd. I'm no sonographer and I found it hard to distinguish the spinal cord of one baby from the other and to find the heart. The head of 'twin two' was not in any position to be obstructing the delivery of 'twin one'. Where I was sure the heart of twin two was, nothing was moving. I looked for a while and became convinced it was what it turned out to be. I was getting prepared (more mentally than any physical preparation) for a destructive delivery but wanted to try one more time.

Now I was sure that both babies were dead, I pulled with a lot more force and delivered vaginally conjoined twins – two heads, four arms, four legs and joined at the chest and the abdomen! Apart from the episiotomy, there were no tears, but the poor woman had a retained placenta which I removed in the delivery suite.

I would have liked to have known beforehand and planned a caesarean section, but maybe the size of the caesar cut would have made me want to tell her never to have any more children and tie her tubes. Also, a caesarian in our underequipped, understaffed setting is not without its dangers. I suppose, this way, she can deliver normally next time. Siamese twins would have an appalling survival rate here in PNG if we had been able to deliver them alive.

It is a sad story, but it has to be seen in contrast with any gains in maternal and child healthcare. I have been privileged to serve here in PNG, training national health workers in all areas of medicine during their two-year community health worker training program. By being here, I have also been able to help women in difficulty through simply overseeing



Conjoined twins – joined at the chest and the abdomen.

their management; teaching and using a ventouse; performing caesarians (or rarely symphysiotomy); resuscitating babies; as well as teaching and demonstrating the repairing of tears and episiotomies. We try also to be involved in a small way in tackling demographic entrapment through family planning training, awareness and services. Then there are the many non-obstetric patients, but that is another story altogether. Papua New Guinea is our nearest neighbour. Please spare a thought and a prayer for these neighbours living in difficult conditions.

Knowing – or not knowing – when to stop: cognitive decline in ageing doctors

Robert G Adler and Conn Constantinou

Key points from a recent *MJA* article:

- In Victoria, almost one in six registered medical practitioners were over 60 years old in September 2006.
- Knowing when to give up practice is an important decision for most doctors and a critically difficult decision for some.
- Normal ageing is associated with some cognitive decline, although brighter, better educated individuals may be less at risk.
- Mild cognitive impairment (MCI) is associated with higher rates of Alzheimer's dementia.
- Medical practitioners with early dementia or MCI often lack the insight to accept that they are no longer able to practise safely.
- Doctors can accommodate cognitive decline by choosing to cease procedural work, allocating more time to each patient, using memory aids, seeking advice from trusted colleagues, and seeking second opinions.
- Medical Boards are responsible for protecting the public from unsafe medical practice.
- There are no agreed guidelines to help Medical Boards decide what level of cognitive impairment in a doctor may put the public at risk.

To view the full article:
***MJA* 2008; Dec 1-15; 189 (11-12): 622-624.**

Second Hand books wanted for PNG

The College has received a request from Nonga, Rabaul, Papua New Guinea, for some core O and G textbooks for its hospital library. We are hoping to obtain previously loved (but not too old) copies of:

Dewhurst's Textbook of Obstetrics and Gynecology, EDMONDS D
Williams Obstetrics, CUNNINGHAM GARY
Obstetrics by Ten Teachers, BAKER PHILIP
Llewellyn-Jones Fundamentals of Obstetrics and Gynaecology, OATS JEREMY
Obstetrics and the Newborn, BEISCHER NORMAN

Other medical texts (relevant to primary healthcare) will be gladly accepted.
Please email **Carmel Walker (cwalker@ranzcog.edu.au)** if you have suitable books you can send to College House (preferably no older than ten years).

Donation of ultrasound machine to Popondetta Hospital, PNG

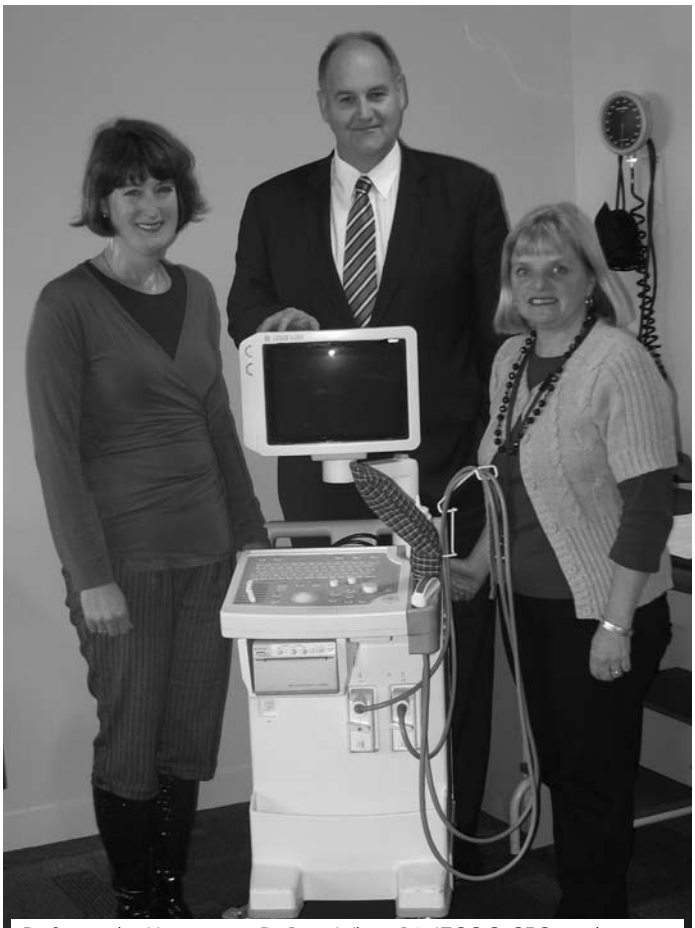
The College was pleased recently to liaise with Dr Samantha Hargreaves of East Melbourne, who was upgrading to a new ultrasound machine and offered to donate her Logic 2000 to Papua New Guinea. Arrangements have been made to transfer the machine to Popondetta Hospital, through Dr Gunzee Gawin, specialist obstetrician/gynaecologist.

Popondetta, in the Oro Province of Papua New Guinea, is a town of 25,000 people. The Oro Province is where the famous Kokoda Track is situated. Dr Gawin reports: 'We have a 112-bed hospital. The obstetrics and gynaecology department is allocated 29 beds comprising of eight gynae beds, eight obstetrics beds, three labour ward beds and ten postnatal beds, delivering approximately 170 women a month. Our existing ultrasound machine had broken down completely in March, so I was delighted to hear of the availability of a second hand ultrasound machine through Dr Hargreaves. I have had some ultrasound training by Dr Henry Murray of Nepean Hospital, Sydney, at the Port Moresby General Hospital in 2002. While at Western Health, Sunshine Hospital, in Melbourne from 2005 to 2007, as part of my specialist training, I was exposed to more ultrasound sessions. I find ultrasound a very useful diagnostic tool when there is not much other information or reliable history to work with. We are most appreciative to Dr Hargreaves for her thoughtfulness in donating her machine, to Carmel Walker for facilitating the transfer and to our hospital administration for funding the transfer. I would sincerely appreciate it if a second hand CTG machine could be donated as well.'

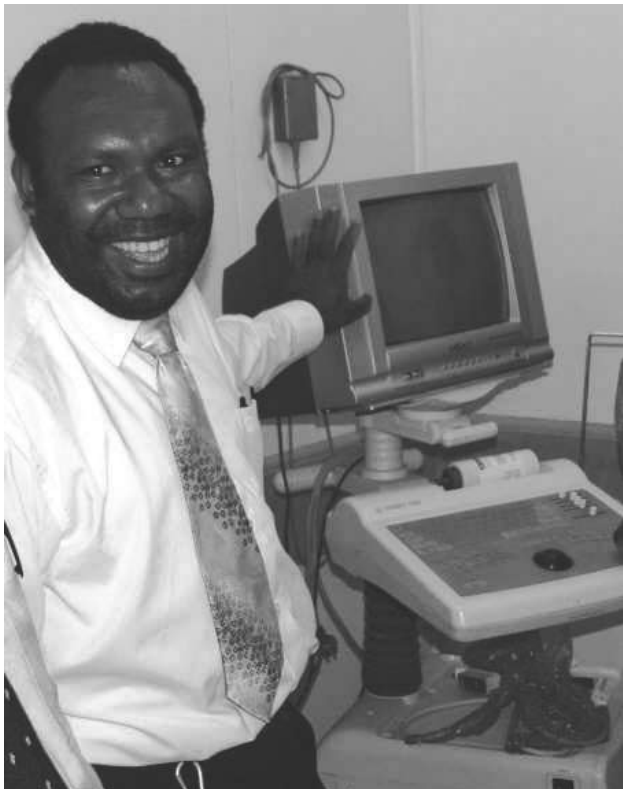
Ultrasound machines wanted

Fellows updating their existing ultrasound machines are encouraged to consider donating their second hand machine to Papua New Guinea, where a recipient hospital can be identified. Machines should be reliable and not too old.

For further discussions, please contact:
Carmel Walker
Senior Coordinator, Executive and Asia Pacific Services
(e) cwalker@ranzcog.edu.au
(t) +61 3 9412 2926



Dr Samantha Hargreaves, Dr Peter White, RANZCOG CEO, and Ms Carmel Walker, Senior Coordinator Asia Pacific Services, with the donated ultrasound machine.



Dr Gunzee Gawin with his old ultrasound machine, which he had cleverly modified with a 14" colour television screen as the monitor.



AOCOG 2009

The XXIst Asian and Oceanic Congress of Obstetrics and Gynaecology

in conjunction with the

RANZCOG 2009 ASM

Thursday 26 March to Monday 30 March 2009

Prof Peter Stone
Chair, Organising Committee
AOCOG 2009/
RANZCOG 2009 ASM

The RANZCOG 2009 Annual Scientific Meeting (ASM) was held at the Sky City Convention Centre, Auckland, New Zealand, in conjunction with the XXIst Asian and Oceania Congress of Obstetrics and Gynaecology (AOCOG 2009).

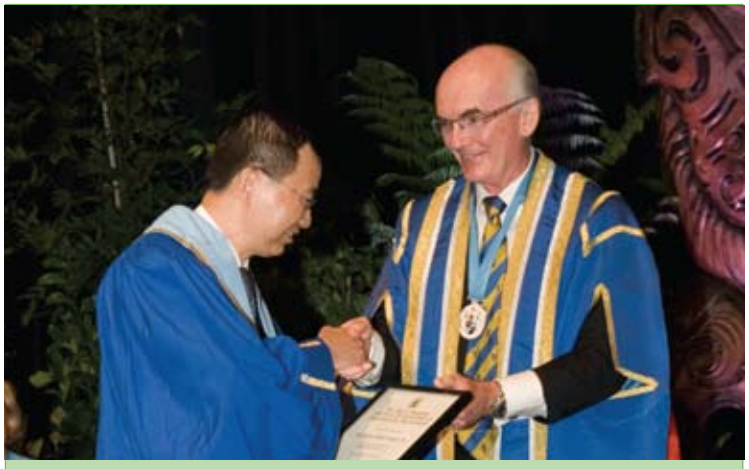
'Women Well into the Future' was a tantalising theme for the first combined Asia and Oceania Federation of Obstetrics and Gynaecology (AOFOG) Congress and RANZCOG Annual Scientific Meeting (ASM). From the outset, speakers and registrants alike addressed the place of women in society and the future of obstetrics and gynaecology, as we face the multitude of issues nationally, regionally and internationally which have to be tackled if reproductive health outcomes are to improve. Indeed, the passionate lecture from Professor David Grimes persuasively suggested that our very survival depends on improving the circumstances of women all around the world. Professor Peter Gluckman, whilst presenting the Ian McDonald Memorial Oration, also debated the importance of the study of evolutionary biology and how it will affect all of us.

Plans for this meeting were laid down a long time ago and reflected a desire by our College to look beyond the shores of Australia and New Zealand to the Asia Oceanic region and collaborate with AOFOG in supporting education and scientific endeavour. As many will appreciate, this is no small task, with enormous cultural, socioeconomic and scientific differences between member nations within the Asia and Oceania region.

Following a visit to the AOFOG Congress in Tokyo in 2007, members of the RANZCOG Executive and the Organising Committee initially thought that two meetings, an AOFOG Congress and a RANZCOG ASM, with satellite meetings such as the Pacific Society of Reproductive Health (PSRH) Biennial Congress, would meet the needs of attendees. However, in addition to a number of practical issues, such as having to change dates and venue, the Organising Committee ultimately felt that a truly collaborative and joint meeting would serve both organisations and the registrants best. Thus, a decision was made to have as high a quality meeting as possible over four days with associated workshops, Diplomates Days and the PSRH Biennial Congress as a 'pre-congress' meeting.

The meeting was attended by 1004 registrants; a very large meeting for our College. The overwhelming feedback from registrants was extremely complimentary, both about the scientific program and the venue arrangements.

Professor Yoon Seok Chang, AOFOG President, Dr Alec Ekeroma, Chair of AOCOG 2009, and Dr Ted Weaver, RANZCOG President, during the traditional Maori welcome.



Professor Pak-Chung Ho, President-elect of AOFOG, was presented an Honorary Fellowship of RANZCOG during the Opening Ceremony by Dr Ted Weaver.

For the Organising Committee there were a number of highlights, starting with the truly New Zealand welcome, where the New Zealand former Governor General, Sir Paul Reeves, not only gave the meeting opening address but participated in the welcome Haka, the traditional Maori welcome to the hosts' land. The Pacific theme for the dinner was informal, colourful and exciting, with performances by a Cook Island band as well as a western rock group. The evening was made even more welcoming by our own Fellow, Dr Alec Ekeroma, acting as Master of Ceremonies.

The strength and success of a meeting ultimately is the scientific program. The Organising Committee sought high quality and 'new blood' speakers from all over the world. The Committee sincerely hope that their goal was achieved.

The Organising Committee invited seven keynote speakers to participate in the meeting. They were:

- Professor Siladitya Bhattacharya, a subspecialist in reproductive medicine in the United Kingdom, who holds Honorary Consultant status with NHS Grampian
- Professor Christopher B-Lynch, a consultant obstetrician and gynaecological surgeon in the United Kingdom
- Mr Tim Child, Senior Fellow in reproductive medicine at the University of Oxford and Honorary Consultant Gynaecologist at the John Radcliffe Hospital, Oxford, United Kingdom
- Professor Nicholas Fisk, Director of the University of Queensland's Centre for Clinical Research and a practising maternal fetal medicine subspecialist at Royal Brisbane and Women's Hospital, Australia
- Professor David Grimes, one of a small number of US physicians Board certified in both obstetrics and gynaecology and in preventive medicine, who currently serves as Vice President of Biomedical Affairs at Family Health International and Clinical Professor in the Department of Obstetrics and Gynaecology at the University of California, United States
- Dr Metin Gülmezoglu, who works at the UNDP/UNFPA/WHO World Bank Special Programme of Research, Development and Research Training in Human Reproduction (HRP) at the Department of Reproductive Health and Research (WHO) in Geneva, Switzerland
- Professor Pisake Lumbiganon, Professor of Obstetrics and Gynecology and Convenor of the Thai Cochrane Network based at the Faculty of Medicine, Khon Kaen University, Khon Kaen, Thailand.

The plight of women in many parts of the world, including some in the regions covered by RANZCOG and AOFOG, was vividly described by the President of FIGO, Dr Dorothy Shaw, and Professor David Grimes. The management of one of the leading causes of maternal death, postpartum haemorrhage, was eloquently presented by Professor Christopher B-Lynch and others. The problems of fertility control, unsafe abortion and the social and medical issues around termination of pregnancy were also an important part of the scientific program. Methods of dissemination of information, including guidelines for simple life-saving managements, were shown to us by Dr Metin Gülmezoglu from the World Health Organisation. The 'high tech' aspects of the specialty were not forgotten, but Professor Nick Fisk reminded us in a very elegant evidence-based lecture on just how poor the development of our pharmacopoeia has been.

The Organising Committee were pleased with the overwhelming number of free communication abstracts received for oral and poster presentations, and also by the quality of the Early Career Researcher Presentations. The following awards were presented during the Closing Ceremony:

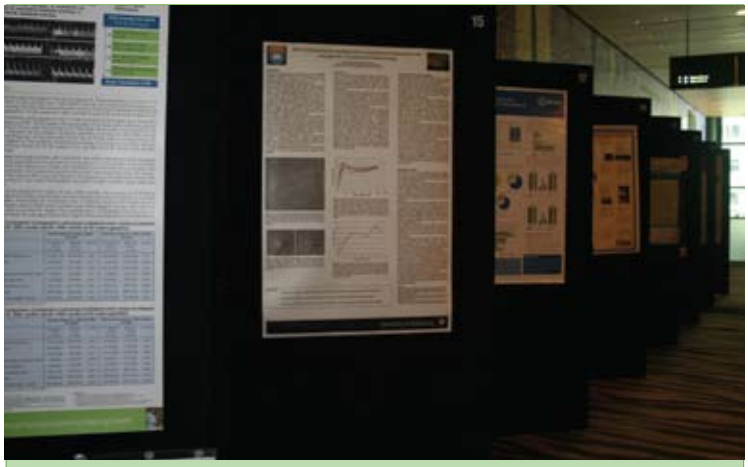
RANZCOG President, Dr Ted Weaver, with FIGO President, Dr Dorothy Shaw, and AOFOG President, Professor Yoon Seok Chang, at the Pacific-themed meeting dinner.

Professor Cindy Farquhar, Professor David Grimes, Dr Metin Gülmezoglu, Professor Hextan Ngan and Dr Jeffrey Tan mingle at the AOFOG President's Night.

Keynote speaker Professor Siladitya Bhattacharya from the United Kingdom spoke on infertility and lifestyle factors.

RANZCOG President, Dr Ted Weaver, jointly awarded Dr Lenore Ellett with the RANZCOG Early Career Researcher Award for her presentation titled 'Does Pregnancy Affect Memory and Attention? A Cross Sectional Study'.

RANZCOG Fellow Dr Kenneth Apen learning about new products and devices in the Exhibition Hall.



A sample of the quality posters on show; around 200 posters were displayed throughout the ASM.

Best Free Communication Oral Presentations

- Dr Jeong-Yeol Park for the free communication oral presentation titled 'Oncologic and Reproductive Outcomes of Fertility-sparing Management with Progestin for Young Women with Endometrial Cancer'
- Dr Deirdre Gartland for the free communication oral presentation titled 'What Impact is Delayed Childbearing Having on Women's Health in Early Pregnancy'
- Dr Chadakarn Phaloprakarn for the free communication oral presentation titled 'A Risk Score for Selective Screening for Gestational Diabetes Mellitus'.

Best Posters

- Dr Katie Groom for the poster titled 'Uterine Artery Notches with a Normal Resistance Index (RI) are not Associated with Increased Rates of Preeclampsia and Small for Gestational Age (SGA) Infants'
- Dr Yasuyuki Fujita for the poster titled 'Estimation of Peripheral Vascular Resistance by the Fetal Augmentation Index Calculated from Fetal Aortic Pulse Waveforms'
- Dr Ahmad Murad Zainuddin for the poster titled 'Comparing Different Dosage Regime of Nifedipine in the Tocolysis of Preterm Labour'.

RANZCOG Early Career Researcher Award

Presented to the best free communication oral presentation delivered by a RANZCOG Trainee or Fellow of five years or less post-Fellowship, the award, generously sponsored by Wiley-Blackwell Asia Pacific, was jointly presented to:

- Dr Lenore Ellett for her presentation titled 'Does Pregnancy Affect Memory and Attention? A Cross Sectional Study'
- Dr Ray Yoong for his presentation on the 'Effectiveness of Cophenylcaine Forte Spray in Reducing Pain During Biopsy of the Cervix at Colposcopy – Results of a Double Blind Randomised Controlled Trial'.

It was very encouraging to see how much the Diplomates enjoyed the two Diplomates' Days workshops. With New Zealand general practitioners registering as well, it may start to build bridges between trans-Tasman colleagues. Involving the PSRH also enriched the meeting, both socially and scientifically, and in the future the College may look to increased involvement of our Pacific neighbours in our ASMs.

The meeting was a huge undertaking and the College should be proud that it has the resources, processes and commitment to support such important events. The inclusion of as many free communications as possible from younger investigators and taking steps towards increasing the formality of receiving the Fellowship and other prizes at the opening ceremony are important ways to involve the new Fellows, and maintain and build the scientific vitality which will be the ongoing strength of the College, as we face the challenges posed by keeping 'Women Well into the Future'.

Pacific Society for Reproductive Health 8th Biennial Scientific Meeting

'Pacific Women Well into the Future'

Dr Alec Ekeroma
Conference Convener
Honorary Treasurer, PSRH

The Pacific Society for Reproductive Health (PSRH) 8th Biennial Scientific Meeting, held recently at the Waipuna Conference Centre in Auckland, New Zealand, attracted a record number of participants and speakers from a wide range of backgrounds and corners of the globe.

This meeting was organised as a pre-conference meeting prior to the AOCOG 2009/RANZCOG 2009 ASM held at SKYCITY Convention Centre, Auckland, enabling a large number of participants to attend both meetings.

PSRH is proud to acknowledge the support and contribution to the meeting from AusAID, the United Nations Population Fund (UNPFA), NZAid, the United Nations Children's Fund (UNICEF), RANZCOG, the World Health Organisation (WHO), the New Zealand Ministry of Health, Horizon Radiology and the Pacific Women's Health Research and Development Unit at the University of Auckland. PSRH also acknowledges the significant number of Pacific Island participants who contributed to the success of the meeting by paying for their own travel and registration costs.

Two hundred registrants were in attendance, with large contingents travelling from Papua New Guinea, Solomon Islands and Fiji, as well as representatives from the smaller Pacific Island countries. All countries were proudly represented at the Fiafia Night, where cultural performances were shared and enjoyed, creating a sense of unity, cross-cultural appreciation and camaraderie.

Special guests at the conference were Professor Dorothy Shaw, President of the International Federation of Gynecology and Obstetrics (FIGO), who brought broad knowledge of women's health's issues globally to the discussion table; and Professor Walfrido Sumpaico, Secretary-General of AOFOG, who expressed support and interest for AOFOG and PSRH to collaborate more closely in the future. A number of high profile speakers from Pacific and Pacific Rim countries played a key role in directing and contributing to discussions, providing perspectives and expertise that was highly valued by participants.

As in past years, the meeting was well represented by RANZCOG, with attendance by President Dr Ted Weaver and CEO Dr Peter White. The Australian College of Midwives President, Professor Pat Brodie, and the New Zealand College of Midwives Executive Officer, Karen Guilliland, were present to discuss opportunities for professional development with Pacific midwives. A key feature of the PSRH meeting was the Brian Spurrett Oration, which was given most eloquently by Dr Kenneth Clark, Past President of RANZCOG. Highlights of Dr Clark's Oration are published following this article.

Representatives of AOFOG, FIGO and RANZCOG Brian Spurrett Foundation met at the PSRH meeting.

For the first time this year, the PSRH meeting was extended to accommodate a day of workshops off-site: the Pacific Emergency Obstetrics Course (PEMOC); Practical Obstetric Multi-Professional Training (PROMPT); the Pacific Ultrasound Course; a New Zealand College of Midwives Professional Development workshop; an Audit and Research Methodology workshop; and the Family Violence workshop. These workshops were well-attended and provided an opportunity for participants to get involved and have a go.

However, at the heart of the meeting is always the enthusiastic involvement of doctors and midwives working at the coalface in women's health in the Pacific, many of whom work in isolated settings with few resources and educational opportunities. Presentations and input on the practicalities faced in the provision of healthcare in these settings are invaluable in our understanding about day-to-day

challenges in providing quality healthcare in the Pacific and what we can do to influence healthcare in the future. These doctors and midwives make up the backbone of PSRH and it is for them that the Society exists. Indeed, if PSRH can do anything to influence maternal morbidity and mortality rates, it will be through supporting the dedicated teams of healthcare workers from Micronesia to Polynesia, from small isolated communities in the Highlands of Papua New Guinea to the Pacific medical schools and everywhere in between.

At the meeting, the Executive Committee discussed a strategic way forward for PSRH and this was skilfully facilitated by Dr Roy Watson (Chairman of the Asia Pacific Committee) and Dr Peter White. The Secretariat and Executive of PSRH have a big task ahead in planning and implementing the key strategies agreed to at the meeting. The PSRH General Meeting elected Dr John Ah-Ching, Associate Member of RANZCOG resident in American Samoa, to President for a second term. Associate Professor Rajat Gyaneshwar was elected Secretary-General, replacing from Dr Wame Baravilala, who received life membership to PSRH in recognition of his leadership role as Secretary-General of the Society since its inception in 1995.

Since the meeting, a new Executive Officer has been appointed for PSRH to be located in the PSRH secretariat at the Pacific Women's Health Research and Development Unit at the University of Auckland. Ms Yvonne Kainuku-Walsh has been appointed, taking over the role from Ms Kasalanaita Puniani. We wish Yvonne well as she takes up her position to assist the President and Executive Committee of PSRH in working to implement the action plans agreed upon at the 2009 meeting and serve the Society as it grows from strength to strength.

Is there anyone out there?

Highlights of the Brian Spurrett Oration

Dr Kenneth Clark
Past President RANZCOG
RANZCOG representative
FIGO Executive Board

In March, I had the honour of giving the Brian Spurrett Oration at the Pacific Society for Reproductive Health 8th Biennial Meeting, held in Auckland, New Zealand, just prior to the RANZCOG 2009 Annual Scientific Meeting.

The late Brian Spurrett was an outstanding servant of the then Royal Australian College of Obstetricians and Gynaecologists (RACOG). It was Brian's dream for the Council of the RACOG to look outward to the Pacific and Asia with a sense of responsibility for women's health beyond Australia's shores. He was a strong advocate for sustainable professional development and networking among health professionals. The Brian Spurrett Foundation was established after his death and endeavours to promote and raise awareness of maternal and child health in the Asia Pacific region. In particular, the Foundation provides practical assistance through offering opportunities for training and education for doctors and midwives from the Pacific Islands, both in Australia and New Zealand and within their own local hospital environment.

The following is an abridged version of my oration and I hope it is of interest to readers of O&G.

Before turning to the title and theme of this oration, I would like for a moment to muse over the theme for the Pacific Society for Reproductive Health (PSRH) 8th Biennial Meeting: 'Pacific Women Well Into The Future'. Could I ask you to all reflect on just what a challenge we face if we really hope to improve the lot of Pacific women? It is not news to you that the Pacific nations have insufficient funds to invest in their health services and one can readily add to this concern substantial issues for the Pacific in terms of lack of infrastructure, of political instability in at least parts of the Pacific, poor economic management and the ever occurring 'brain drain'. As the current background to all of this, we of course have the global economic downturn, with its potential and real effect of decreasing support for the Pacific from both its neighbouring countries and from the broader international community.

From this challenging and worrying background, I'd like to now turn to my topic for the day: 'Is there anyone out there?' In these truly difficult times, is support for the health of Pacific women going to shrink even further? Will self-interest on the part of Australia, New Zealand and the developed nations of the world mean that the Pacific is left more than ever to fend for itself? And if so, what can be done about it?

What, then, of health needs in the Pacific? How great are they? During this meeting you will have heard much that portrays these needs, but I am going to turn to just two examples actually outlined in PSRH's most recent newsletter by Dr Wame Baravilala and Professor Glen Mola; both of these men have been longtime champions for the cause of Pacific Women's health. Dr Baravilala reminds readers of the newsletter that Fiji has 'one of the world's highest incidences of cervical cancer…cervical cancer is the commonest form of cancer in Fiji…virtually all these women… report never having had a Pap smear and more than three quarters of cases are too advanced for surgery…but Fiji does not have a radiotherapy unit…'.

'I feel sure that few Australians and New Zealanders have any real idea of the degree of need or the level of suffering of the women and children living in countries right on their doorstep.'

Professor Mola tells us in the same newsletter that in Papua New Guinea, 'the Maternal Mortality Ratio has risen from an estimated 370 maternal deaths per 100,000 live births to 733 per 100,000 live births'. Compare this to the Maternal Mortality Ratio for Australia and New Zealand of between three to 12 per 100,000 live births, depending on the year.

These are stark and horrifying statistics, but just how many members of the public, of the health professions and of our governments are aware of them? I believe that the plight of Pacific women is not well-known and not well-recognised. I contend that most Australians and New Zealanders believe, or at least have a sense, that Pacific

Dr Kenneth Clark delivering the Brian Spurrett Oration.

people are relatively poor but live in benign climates, with a slow pace of life, are generally happy and all in all get by 'okay'. I feel sure that few Australians and New Zealanders have any real idea of the degree of need or the level of suffering of the women and children living in countries right on their doorstep.

To illustrate, I'd ask you to ponder the following: many affluent Australian and New Zealand families regularly give money to support children in Africa (through World Vision programs and others) and yet don't consider, or even have the option, of helping a family in say Papua New Guinea or Tonga. Why should this be so?

The lack of profile of Pacific women's health needs isn't just a matter of public perception. To illustrate this at a professional level, this PSRH meeting has tremendous value in education, training and building networks and collegiality, but over the next four days we have the AOCOG/RANZCOG 2009 Annual Scientific Meeting. Within the entire program, there is just a two-hour session with a Pacific focus and even that runs concurrently with two other sessions. There is no plenary or keynote lecture highlighting the concerns of South Pacific women. Remember, too, that this Congress of AOFOG (the Asia Oceania Federation) is essentially the first to be held in Oceania in the history of that organisation.

As you can see, I believe that Pacific women's health issues lack any substantial profile. There is a serious lack of awareness of these matters. If you accept my premise of low profile, perhaps we need to look more closely at possible reasons if we are going to uncover potential solutions. Small populations in the nations of Oceania cannot be the entire story, after all, the region in some other respects enjoys a high profile. I would think that a large proportion of the world's population could quickly conjure up an image of a South Pacific beach scene with palm trees, blue water and smiling people (usually with a cocktail in one hand!). So why is more not known of the huge health needs?

Oddly enough, for much of the South Pacific, I think the romantic image of the South Seas is a large part of the problem. This image is naturally heavily promoted by the tourism industry and is an 'easy sell' – the Islands are beautiful and the legends are longstanding… Captain Cook's diaries, Gauguin's paintings, innumerable novels from Robert Louis Stevenson to James Michener. In many respects, it is not in the interests of the tourism industries of the Pacific nations to have publicised and well-known the unsavoury facts about the poor health and the disease burden of the local populations.

In addition, the Pacific people are clearly proud people, are generally uncomplaining and I sense are reticent to portray their needs, their hopes and at times, their plight. Although I feel sure the situation differs in its extent, I think these comments also hold true for the Pacific peoples living in Australia and New Zealand. Perhaps also worthy of comment is the strong Christian ethic held by many but not all Pacific peoples, with humility and perseverance so valued.

Somehow, though, we need to raise the awareness of health needs remembering that any efforts in this direction may run counter to vested interest or may cause offence and embarrassment to Pacific peoples.

I have briefly outlined the tremendous challenges faced if the lives of Pacific women are to improve and I wish to now give you some personal views and perspectives as to steps that need to be considered and existing strategies that need to be reinforced, if progress is to be made. Shall we start with 'who cares' and who is helping right now? Firstly, and foremost, the people and governments of each and every Pacific nation. I can't over emphasise that day-to-day the great bulk of work is done by the Pacific people themselves. From without, though, the list is long and includes, but is not confined to, governments of other countries, Australia and New Zealand, Pacific Rim nations and beyond; many individuals who give their time, expertise and donations; aid agencies (for example, UN-based organisations, WHO, World Vision); multinational companies, including pharmaceutical companies; and professional associations, including the colleges (RANZCOG, the Australian College of Midwives [ACM] and the New Zealand College of Midwives [NZCOM]). There are many others no doubt known to you. Assistance is proffered in many different forms, sometimes as part of longer-term strategies, sometimes as 'one-offs' – for example, donation of HPV vaccine and surgical missions. As well as monies and materials, there is professional support, education and training in many guises.

'In our corner of the world, is it too much to hope for a greater sense of region, regional pride and regional responsibility based on the principles of partnership and respect?'

So who can get key messages out to relevant governments, agencies, companies and people, either directly or via the media?

Well, firstly, I applaud the establishment of the Pacific Women's Health Research and Development Unit in Auckland, New Zealand. Data of good quality is critical and this unit has a key role to play, both in depicting the current situation in an evidence-based manner and also in developing and critically evaluating initiatives in women's health in the Pacific.

Pacific peoples living in Australia and New Zealand and further afield do try and portray the needs of their home countries, but I contend need assistance and encouragement to do it more. I don't pretend to have the answers to how this can be achieved, but would ask you all to consider what they may be.

The professional colleges – I cannot speak for the Australian College of Midwives or the New Zealand College of Midwives – but what of RANZCOG? Does it do enough?

On the positive side, RANZCOG does the following:

- helps support the Pacific Society for Reproductive Health;
- provides infrastructure and support for the continuing professional development program for Associate Members from the Pacific;
- provides support for the Pacific Women's Health Research and Development Unit based in Auckland;
- supports the Brian Spurrett Foundation; and
- has an Asia Pacific Committee to coordinate, support and develop initiatives.

However, should RANZCOG members be asking for more? In short, yes. The College needs to further accept the concept of region and regional responsibility. RANZCOG has a real ability to raise the profile of women's health in the Pacific through its own publications, through the media, and with governments and government agencies (therefore, act more as a lobbyist than it currently does). Also, I believe RANZCOG can better coordinate and support the voluntary activities of its Fellows who currently work or may wish to work in

the Pacific. I know that efforts in this direction are occurring to help allow Pacific obstetricians and gynaecologists to take leave, both educational and recreational. The College also has the opportunity to explore accessing funds that are becoming available via the International Federation of Gynaecology and Obstetrics (FIGO) – funds that can be used to help build professional infrastructure and I will talk more of this a little later. It is my opinion that, as RANZCOG grows and matures (in current guise it is just ten years old), a greater proportion of its resources should be earmarked for its activities in the Pacific region.

I would encourage those of you who are women's health specialists in the Pacific and who are now Associate members of RANZCOG not to be afraid to start thinking – what can our College do for us? Start asking questions of the College. Naturally, for RANZCOG Fellows in the audience, I would say the same and for those of you from other professions, by all means, test out RANZCOG, but do consider asking more questions of ACM or NZCOM or whichever professional body you belong to.

Where I have talked of RANZCOG and the other professional colleges developing a greater sense of region and regional responsibility, it will be obvious to you that this represents but a very small part of the same issue on a national and international scale. We can only hope for, and play a part in, a situation where Australia and New Zealand support and assist their South Pacific neighbours without a domineering stance. In our corner of the world, is it too much to hope for a greater sense of region, regional pride and regional responsibility based on the principles of partnership and respect?

I briefly mentioned FIGO earlier in this and I now wish to turn back to that organisation. To date, it has had little direct involvement or activity in Oceania which I think is yet another example of our region's inability to make it onto the map! FIGO has developed the ability to secure quite large funds from aid organisations, for instance UN-related funds and more recently from the Gates Foundation. FIGO is running very exciting Safe Motherhood and Newborn Health projects in 12 locations around the developing world and there is a partnering of a developing world nation with a developed world nation in each of those places. A key theme with FIGO projects is in helping the O and G society in the developing nation to improve its capacity to better support its members and thereby assist in raising healthcare standards in the particular country. Our region needs to tap into such initiatives and we need to do all we can to help make it happen.

FIGO has a number of other activities and some of you will be familiar with its systems for classification and staging of gynaecological cancers. However, FIGO's key strategies in working to save women's lives are paramount – work in respect to advancing the promulgation of the HPV vaccine and of cervical screening; in reducing unsafe abortion around the globe; and in advancing safe motherhood, including tools to reduce postpartum haemorrhage, are all examples of its activities and all have relevance to our region.

Finally and possibly most importantly of all, FIGO has laid down fundamental ethical frameworks for its member societies and for all of the professionals belonging to them. These ethical constructs should not be lost or be ignored as the world faces difficult times ahead.

In closing, today I have attempted to add a perspective to just where Pacific women's health is in 2009; to highlight the issue of profile and the prevailing lack of awareness of the needs of Pacific women and to begin to suggest how such a lack of awareness can be countered. Many of you may do more every day for the advancement of Pacific women's health than I do in a year, but let us all consider how each of us can add focus to our shared concerns. I feel sure that Brian Spurrett would be wanting just that of us.

L to R: Dr J Ah-Ching, President PSRH; Mrs K Spurrett, Brian Spurrett Foundation; Dr K Clark, Brian Spurrett Foundation Orator/Past President RANZCOG; Prof D Shaw, President FIGO; Dr T Weaver, President RANZCOG; Prof P Brodie, President ACM; Ms K Guilliland, CEO NZCOM; Assoc Prof R Gyaneshwar, Chairman Brian Spurrett Foundation.

RANZCOG Research Foundation News

RANZCOG Research Foundation

Prof David Healy
Chair, RANZCOG Research Foundation

RANZCOG Research Foundation Patron-In-Chief

The Foundation is delighted to announce that Her Excellency Ms Quentin Bryce AC, Governor-General of the Commonwealth of Australia, has accepted the position of Patron-In-Chief of the RANZCOG Research Foundation. Her Excellency is the first female Governor-General of Australia and her support of the RANZCOG Research Foundation and its work is a great honour.

Bequest to the RANZCOG Research Foundation

In 2007, the Board of Directors was advised of a very generous bequest to the Foundation by the Australian lithographic artist, the late Auguste John 'Jack' Courier. The bequeathed estate included a substantial collection of Jack Courier's works, 50 of which were recently exhibited at the Castlemaine Art Gallery and Historical Museum in Victoria, Australia.

Arrangements are being made for the exhibition to tour to other regional Victorian galleries. Working principally in lithography, there are several editions of various works, some of which were purchased by interested individuals and collectors during the exhibition, while others are still available for sale. Key pieces will be retained by the Research Foundation and displayed at College House in Melbourne.

For those considering making a donation or bequest to the RANZCOG Research Foundation, there is information available on the website or Georgina Anderson, RANZCOG Research Foundation Coordinator, can be contacted at (t) +61 3 9417 1699 (e) ganderson@ranzcog.edu.au .

Inaugural Mary Elizabeth Courier Research Scholarship

The RANZCOG Research Foundation encourages and supports scientific and clinical research in the fields of obstetrics, gynaecology, women's health and the reproductive sciences. The primary mechanism for this support is our program of scholarships. From time to time, new scholarships are introduced and the inaugural Mary Elizabeth Courier Research Scholarship was offered for application this year for research commencing in 2010.

This is a three-year scholarship established in memory of Mary Courier, through the aforementioned bequest of her late husband, Jack Courier. This scholarship is for research into either or both cancer of the cervix and cancer of the uterus. It is open to medical graduates normally resident in Australia or New Zealand, who have been awarded an NHMRC grant or an Australian Postgraduate Award (APA), a University Postgraduate Award (UPA) or equivalent award for research. Further information on this scholarship, including the Conditions of Award, is available on the Foundation's website at: www.ranzcog.edu.au/research/mary-elizabeth-courier.shtml .

RANZCOG RESEARCH FOUNDATION SCHOLARSHIPS - 2010

APPLICATIONS NOW OPEN

Arthur Wilson Memorial Scholarship

- A two year scholarship for research in any aspect of obstetrics and gynaecology and related health disciplines.
- Open to graduates in medicine or science, tenable in Australia or New Zealand.
- Value $AU60,000 (ie. annual stipend of $AU30,000).

Fotheringham Research Scholarship

- A two year fellowship for research in any aspect of obstetrics and gynaecology and related health disciplines.
- Open to Fellows of the College of less than five years standing or Members of the College seeking to qualify for Fellowship who are usually resident in Australia or New Zealand*.
- Value $AU50,000 (i.e. annual stipend of $25,000).

Beresford Buttery Travel Grant

- To assist the travel to any country for the purpose of making a particular study of any scientific, research or clinical subject relating to the practice of obstetrical or gynaecological ultrasound.
- Open to medical graduates who are committed to a career providing obstetrical and/or gynaecological ultrasound services in Australia or New Zealand, and who are normally resident in Australia or New Zealand.
- Value $AU3,000.

Luke Proposch Perinatal Research Scholarship

- A one year scholarship to promote research in perinatal medicine.
- Open to graduates in medicine or science, who preferably have had some involvement in medical research in Australia and/or overseas.
- Value $AU20,000.

Taylor-Hammond Research Scholarship

- A one year scholarship for research in clinical or basic research in women's health.
- Open to Fellows of the College of less than five years standing or Members of the College seeking to qualify for FRANZCOG*.
- Tenable in Australia or New Zealand.
- Value $AU20,000.

Brown Craig Travelling Fellowship

- To assist the successful applicant to present a scientific paper at the RANZCOG Annual Scientific Meeting or another relevant interstate or international scientific meeting, or to visit any country outside Australia or New Zealand for the purpose of making a particular study of any scientific, research or clinical subject relating to the practice of obstetrics or gynaecology.
- Open to Members of the College and Fellows of the College of less than five years standing.
- Value $AU2,000-5,000.

NEW SCHOLARSHIP

The RANZCOG Research Foundation is pleased to advise that a new three year scholarship is available for application in 2009:

Mary Elizabeth Courier Research Scholarship

The Mary Elizabeth Courier Research Scholarship was established in her memory by the generous bequest of her late husband, Australian artist, Jack Courier.

The scholarship is for research into cancer amongst women; one or both of cancer of the cervix and cancer of the uterus.

- A three year scholarship for research that is to be undertaken at an institution located in Australia or New Zealand.
- Open to medical graduates who are normally resident in Australia or New Zealand and who have been awarded an NHMRC grant, or an APA, UPA or equivalent award for the research.
- Value $AU90,000
  (i.e. annual allowance for research project costs is $30,000)

APPLICATIONS

There are two application types: general awards and travel awards.

Applicants wishing to be considered for more than one general award should indicate this on their application. Applicants are not, however, able to submit more than one research project application.

Applicants wishing to be considered for both travel awards should indicate this on their application. Applicants are not, however, able to submit more than one travel award application.

Further information and application forms are available from the RANZCOG website:
www.ranzcog.edu.au/research

Alternatively, contact the Research Foundation Coordinator, Georgina Anderson:

t: +61 3 9417 1699
e: ganderson@ranzcog.edu.au

* Applicants for these scholarships are advised that additional information pertaining to eligibility is available on the scholarship website.

Applications Close 30 June 2009

Obituaries

Dr Alan John Ferrier
1954 – 2007

Alan Ferrier was born in Lismore, New South Wales. As a child he suffered from severe asthma and on medical advice, his family moved to Sydney for a better climate.

After graduating from the University of Sydney in 1978, Alan undertook specialist training in obstetrics and gynaecology at the Royal North Shore Hospital in Sydney. He obtained his MRCOG in 1983. From 1986, he spent several years in North America training in gynaecological oncology at institutions such as the Memorial Sloan–Kettering Cancer Center in New York and the University of Toronto in Canada. He obtained the Master of Science in Epidemiology from McMaster University, Canada, in 1991.

Returning to Sydney later in 1991, Alan was appointed senior lecturer in obstetrics and gynaecology at the University of Sydney. He was also elevated to the Fellowship of the RACOG in 1991. Alan was largely responsible for establishing the gynaecological oncology service for the Northern Metropolitan Region of Sydney. Alan soon earned a reputation as a cancer surgeon of exceptional ability. He became a subspecialist gaining the Certificate of Gynaecological Oncology, RANZCOG, in 2000.

Despite an extraordinarily heavy surgical workload, he continued to enjoy practising obstetrics, which he felt brought a happy balance to his professional life. He mastered new laparoscopic techniques and was one of the first surgeons in Australia to apply them in oncology. Alan became an expert at radical trachelectomy with laparoscopic lymphadenectomy. Many of his specialist colleagues benefited from his advice and help with difficult cases. This assistance was given without hesitation and was often life-saving.

Alan was a RANZCOG examiner for many years, a convenor of several postgraduate courses, and a member of various committees, including Chairman of the New South Wales Regional Committee of the RANZCOG. Alan loved to teach and shared his knowledge and techniques generously. He had numerous research articles, book chapters and other publications to his credit and was involved in a broad range of research projects at the time of his death.

He strove to achieve excellence in all that he did personally and professionally. He was renowned for his urbane demeanour and sartorial elegance. Because of his asthma, he was also committed to keeping fit. Despite this, he died in his sleep of a cardiac arrhythmia on 23 December 2007, aged 53 years.

Alan is farewelled as one who honoured his family and practised medicine with enormous skill and compassion. He is survived by his wife Sarah and daughters Katherine and Charlotte.

Dr Robert Ford
FRANZCOG

Dr Keith Hartman
FRANZCOG

Dr Jonathan Stretch
FRACS

[Adapted from an obituary, published in *MJA* 2009; 190 (5): 264.]

Dr Reginald Bowman
1922 – 2007

Reginald Bowman was a gentleman in every aspect of the word. He was born in Sydney, into a medical family, where his grandfather, father and mother were graduates of Sydney University.

He attended Sydney University in 1941 prior to his call up for the Royal Australian Airforce (RAAF), which he entered in 1942. He trained as a pilot and saw operations in a Liberator heavy bomber squadron with Lionel Van Praag, the racing motorcycle champion, as his Captain. He returned to Sydney University to complete his medical studies and graduated in 1951.

Reginald was a resident at St George Hospital, Kogarah, prior to a residency at Crown Street Women's Hospital. Whilst at Crown Street, his interest in infertility was stimulated by Dr Alan Grant, who had recently introduced abdominal oscopy with the culdoscope. On completion of the Crown Street training program, he went to London and sat for and obtained the MRCOG in 1956. On returning to Sydney he set up practice in Macquarie Street and was appointed to the honorary medical staff at Crown Street and Auburn hospitals. In 1969, Reginald was elevated to the Fellowship of the RCOG. He was a Foundation Fellow of the RACOG in 1978.

Reginald died on the 13 December 2007. He is survived by his daughter Janet, his wife Betty having passed away a short time after his death.

Dr Struan Robertson
FRANZCOG
New South Wales

News from the Frank Forster Library

History of medicine websites

Listed below are useful websites dealing with the subject of the history of medicine from both Australian and international sources.

Medical History
(Wellcome Trust Centre for the History of Medicine)
(w) www.pubmedcentral.nih.gov/tocrender.fcgi?journal=228&action=archive
Free online access to this journal.

Australian Medical Pioneers Index
(Barwon Health and Geelong Hospital Library)
(w) www.medicalpioneers.com/
A database of over 3000 pioneer doctors from the 1700s through to 1875.

History of Medicine
(United States National Library of Medicine)
(w) www.nlm.nih.gov/hmd/index.html
A vast and informative collection covering books, journals, archives, manuscripts, photos, digital images, films, videos and prints.

UCSF Japanese woodblock print collection
(University of California, San Fransico)
(w) http://asian.library.ucsf.edu/women.html
Prints in the collection cover areas of women's health and pregnancy from ancient to modern times.

New books available for loan

Little J. *Catherine's gift: Inside the world of Dr Catherine Hamlin*. Sydney: Macmillan, 2008.
Call No: 618.10092 LIT

Weiner C, Buhimschi C. *Drugs for pregnant and lactating women*. New York: Churchill Livingstone, 2004.
Call No: 615.70432 WEI

Brown P. *Sex, childbirth and motherhood through the ages*. Chichester, West Sussex, UK: Summersdale Publishers Ltd, 2004.
Call No: 306.8743 BRO

Eden J. *Polycystic ovary syndrome: a woman's guide to identifying and managing PCOS*. Crows Nest NSW: Allen & Unwin, 2005.
Call No: 618.11 EDE 2005

Thomas D. *Reading doctor's writing: race, politics and power in indigenous health research, 1870-1969*.
Canberra: Aboriginal Studies Press, 2004.
Call No : 362.849915 THO

More E, Fee E, Parry M (eds). *Women physicians and the cultures of medicine*. Baltimore: The John Hopkins University Press, 2009.
Call No : 610.82 WOM

If you would like to suggest further 'history of medicine' websites or borrow one of the above titles, please email the Librarian (Diane Horrigan) at library@ranzcog.edu.au .

News from the Historical Collections

Ros Winspear
Coordinator
Historical Collections Committee

Gifts to the Historical Collections

- Professor S Arulkumuran (UK)—collection of books; RCOG heraldic china plate
- Dr Keith Barnes (ACT)—rare book – Armamentarium Chirurgicum, 1655
- Mr Arthur Day (Vic)—glass figurine of obstetrician with baby
- Dr Peter Dobson (Vic)—MRCOG case records; RACOG gown
- Dr Janet Duke (Vic)— Sophie Xeros print of painting based on an original anatomical work in the College Collection
- Dr Ray Hyslop (NSW)—New Zealand Congress ephemera
- Professor Warren Jones (SA)—carved wood wall plaque (Sepik); collection of medals
- Dr Philip Deck (ACT)—various medical instruments that had belonged to his grandfather John Field Deck (1835-1929)
- Dr Arthur Day (Vic)—diaphragm tampon c1987 and Saf-T-Coil intra-uterine device

Donations to the Friends of the College Collection

The College wishes to thank Dr Struan Robertson and Dr Euan Howell of Victoria, Australia, for their generous donations to the Friends of the College Collection. These funds support the ongoing costs of developing, maintaining and conserving the collections.

Have you changed your address or email account recently?

Have you notified the College of these changes?

If not, please update your contact details via the RANZCOG website (www.ranzcog.edu.au) and follow the link to 'Update contact details' or call 03 9417 1699 to notify the College of your changed contact details.

Interested in donating to the Historical Collections?

We always welcome enquires regarding donations to the Historical Collections.

It is necessary to be highly selective when acquiring items due to the limitations of storage space and the cost of conserving and maintaining items in the collections. We usually avoid collecting duplicates. However, this policy may be varied in special circumstances, for example, rare books, a superior example of an item, or where the provenance is of particular interest or value.

If you have any items that you believe might be of value to the Collections and you would be interested in donating them, please see the instructions below:

- Compile a list of items with a brief description. For books include author, title, publisher, place and date. For archival and personal papers, include details. For museum items, include a brief description and the history of how you acquired it and attach a photograph.
- Email or post the list to one of the Historical Collections staff at the College.
- Contact the staff by telephone if you wish to discuss any items.

We look forward to hearing from you and would be delighted to consider any items you may wish to donate.

Staff contact details:

Librarian: Di Horrigan Tuesday 9am-5pm
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RANZCOG
Research Foundation

DID YOU KNOW?

RANZCOG RESEARCH FOUNDATION FACT SHEET

- The RANZCOG Research Foundation encourages and supports research in the fields of obstetrics, gynaecology, women's health and reproductive sciences and specifically provides support for scientific and clinical research through research fellowships, scholarships and travel grants. The Foundation especially supports the development of the research careers of trainees and early career Fellows of the Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG).

- The RANZCOG Research Foundation works closely with the RANZCOG Executive, Council and Council Committees to further the needs for research and research training in the broad fields of obstetrics, gynaecology, women's health and reproductive sciences.

- For almost 50 years, the RANZCOG Research Foundation has been supporting research training for promising young Australian Fellows and scientists who undertake high quality research and research training at an early stage of their careers.

- The RANZCOG Research Foundation disburses approximately $120,000 annually towards basic and advanced research training in obstetrics, gynaecology and in women's health.

- Scholars have a strong record of subsequent achievement in research and in academic careers in Australia and overseas.

- The RANZCOG Research Foundation has sponsored young Fellows and scientists in undertaking innovative research in a number of exciting projects in recent years. For example, stem cells from human endometrium.

- The RANZCOG Research Foundation recently made the decision to enhance its support for RANZCOG trainees in their research endeavours during the FRANZCOG training program.

Helping to drive research excellence in women's health

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