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Sexual health

The Royal Australian and New Zealand College of Obstetricians and Gynaecologists

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Sexual health

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Women's health

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From the President

Prof Michael Permezel
President

I approach the first paragraph of this my first report as President with some trepidation, fearing a President's report may not have the drawing power of an article on homebirth or evidence. One unkind colleague remarked that if I wanted to hide something, I could place it in my President's report. A little harsh, I think. Hopefully, I can hold your attention for a couple more paragraphs before you launch into the exciting exposé of sexual health in this issue of *O&G Magazine*.

My first Council meeting as President will be my 37th Council meeting, but the first without my long-term colleague Dr Ted Weaver. Although continuing as the Chair of the Queensland Training Accreditation Committee, Ted will be a great loss to Council after an enormous contribution in so many ways. As the first Immediate Past-President to sit on Council, he has shown the value of this important role, which will undoubtedly continue to thrive with Past President Dr Rupert Sherwood on the Eighth Council. While work of Council is very rewarding professionally, Ted personifies the great camaraderie among Fellows on Council and its committees. He will be missed. Other Fellows who have left College Council and/or committees after outstanding service include: Vice Presidents Dr Louise Farrell and Dr Digby Ngan Kee, and A/Prof Bob Bryce, who has served over 20 years on the Education and Assessment Committee (in its various forms). A/Prof Les Reti has made a similar contribution to the Continuing Professional Development Committee. It is strange coming to Council week and not seeing them, but time moves on.

By the time this issue of *O&G Magazine* reaches you, the Board will have met and set its strategic aims for the Eighth Council, but in the tradition of the first report in *O&G Magazine* of a new President, I will anticipate some priorities. The most obvious challenge is the forthcoming College accreditation by the Australian Medical Council (AMC) in 2013. Much good work has already been done in preparation for this important event, but a lot more lies ahead.

> 'Global women's health issues now feature prominently in both national and international meetings and probably could have even more focus from the College.'

Global women's health issues now feature prominently in both national and international meetings and probably could have even more attention from the College. At my own hospital, we have a professor of maternal fetal medicine making regular teaching trips to Papua New Guinea; a senior lecturer leaving to spend a year in Timor; one registrar completing her third tour of duty with Médecins Sans Frontières (MSF) – Georgia, Cambodia and now Nigeria; and another returning from eight months with MSF in

Afghanistan. These Fellows and Trainees, like many others, are making a huge contribution to women's health in disadvantaged countries – sometimes at significant risk to their own personal safety. Even the most basic standards of family planning and maternity care are often lacking. A little assistance can potentially do a lot and the College, through its various communication outlets, should acknowledge these contributions – in the hope that others will be similarly inspired.

At home, of course, most women continue to receive the highest standards of healthcare anywhere in the world. Unfortunately, unrivalled financial pressure in the public sector can lead to unwise decision-making – more concerned with reducing operating costs than with minimising expensive litigation that is often paid from another purse. I wonder if they would be making the same decisions if their public hospital indemnity premiums reflected the true cost of their chosen risk-management strategy. Linking risk management to the hospital bottom line seems to be the only approach that is both financially sound and beneficial to patient care.

Provincial and rural practice continues to be under-resourced. While it is unlikely the Eighth Council will see resolution of the obvious numerical deficiencies in sectors of the rural and provincial O and G workforce, the issue deserves the highest priority and both College and government must energetically work together to improve the situation. The strategy begins with looking at entry to the FRANZCOG Training Program and identifying those applicants most likely to become Provincial Fellows (in other words, rural secondary schooling or a rural GP obstetrician who wants to move to specialist O and G), continues through training (for instance, the compulsory rural rotation for all as well as specific programs of intensive provincial training) and also includes ongoing support for rural specialists (such as the locum support scheme). More must be done. Flooding the country with GPs and specialists does not seem to be the most effective solution to the issues in question.

Appropriately, midwives are never far from core business of the College. The College, along with other key organisations such as National Association of Specialist Obstetricians and Gynaecologists (NASOG) and the AMA, made extensive representations to Government with respect to appropriate collaborative arrangements between obstetricians and independent midwives. Critical to best-practice care is the acceptance of agreed referral guidelines. The College met with five senior representatives of the Australian College of Midwives (ACM) nearly a year ago. In an atmosphere of determination and compromise from both sides, the meeting produced a set of Consensus Consultation-Referral Guidelines to be put to each Board for possible ratification. Although endorsed by the Board of RANZCOG, they have not, as yet, been ratified by the Board of the ACM. The Consensus Consultation-Referral Guidelines are

available for perusal with other College guidelines on the College website and I would encourage health services and practitioners to adapt them for their local use.

> 'I look forward to working with the College staff, the Board, Council, Regional Committees and all members and Trainees to deliver the best possible outcomes for women's health in both Australia and New Zealand.'

The College has completed a second round under the National Selection Process for Integrated Training Program (ITP) Trainees. Among the highest priorities of the College is the objective of selecting the best future O and G specialists as new ITP Trainees. Applications for training in O and G have reached new heights, with over 260 applications for approximately 90 positions across Australia and New Zealand. Many excellent Trainees were selected, but inevitably some very good applicants missed out. The process is scrupulously fair; however, every such process could always improve and the College will undertake a review of its selection processes with a determination to ensure that the best future specialists are selected to be the new the level 1 ITP Trainees, while retaining the robust and fair process that is now in place.

Dr Rupert Sherwood has completed his term as President having achieved the objectives outlined in his first Presidential editorial in *O&G Magazine*. Rupert has been a great President of the College, but his duty is not yet done. He will chair the Education Strategy Committee of the Eighth Council, a committee tasked with introducing the training program reforms, the most important of which will apply to Trainees commencing in 2014. The task of smooth transition to the new training program is a large one, but no one is better equipped to oversee these important developments than our immediate Past President.

Many challenges lie ahead for the Eighth Council – some obvious and others yet to surface. I look forward to working with the College staff, the Board, Council, Regional Committees and all members and Trainees to deliver the best possible outcomes for women's health in both Australia and New Zealand.

From the CEO

Dr Peter White
CEO

At the time of writing, it is November and all signs confirm that the year is coming to an end. Nevertheless, I am very aware that, from a College perspective, there is one major event on the calendar requiring much in the way of planning that is still to come. I refer, of course, to the November occurrence of the committee, Council and Board meetings known collectively as 'Council Week'. Mid-November normally sees the third such occurrence of these events during each year, and this year is no exception. By the time this issue of *O&G Magazine* is being read, much College business will have been progressed by meetings of committees responsible for almost every aspect of College activity, from the College Finance Advisory Committee to the assessment of international specialist medical graduates; consideration of applications for elevation to Fellowship; continuing professional development; and statements relating to a range of aspects of women's healthcare and associated clinical practice. The range of activities conducted is wide, as is the nature of the expertise required to ensure the business is given adequate and appropriate consideration.

This Council Week sees the first meeting of both the Eighth RANZCOG Council, as well as the Second RANZCOG Board under the leadership of Prof Michael Permezel as President. I congratulate all who have been successful in being elected to a position on either of these bodies, and thank the members of the two bodies, as well as those who may have offered themselves for election, but not been successful, for their willingness to contribute to the work of the College in such a significant way. Of course, there are others who may not be members of either of these groups who also contribute significantly to College activities and I also thank those individuals for their efforts. As I have indicated many times before, the College is growing in ways that can be observed by a range of measures, including the complexity of tasks that need to be undertaken in order to ensure it evolves in a manner acceptable to the wide range of stakeholders with whom the organisation must interact on a day-to-day basis.

Meetings of the RANZCOG Board and Council represent governance of the organisation at its binational level, the Board being the major governing body of the College. There are, of course, a number of regional committees carrying out many important College functions in New Zealand and the states of mainland Australia that exist to help ensure the work of the College can be conducted effectively at a 'local' level. At a wider consideration, the College also maintains links with like bodies overseas and is a member of organisations that enable RANZCOG to contribute to the specialty and the positive changes that can be brought about in women's health at an international level. One such organisation is FIGO, the International Federation of Gynecology and Obstetrics, which has membership consisting of 125 countries or territories across the world, organised into five regions.

A major event on the FIGO calendar is their scientific congress, the 20th occurrence of which was conducted in Rome in early October. As well as the scientific program, the FIGO Congress also sees significant governance activity in relation to FIGO conducted at two meetings of the General Assembly. Of major significance for RANZCOG on this occasion was the conduct of two elections in which the College had an interest. As readers will be aware, former RANZCOG President, Dr Ken Clark, was a nominee for the position of FIGO President-Elect. Also, the College was seeking re-election to the FIGO Executive Board, its previous term being due to end at the second meeting of the General Assembly held during the Congress. The College had, of course, made the decision to actively support Dr Clark in his

candidacy for FIGO President-Elect, as well as in its quest to retain its seat on the Executive Committee. In the election for President-Elect, Dr Clark was competing with three other candidates, while in the quest for the one available position on the Executive Committee from the Asia-Oceania region, the College was competing with some 15 other organisations.

As part of an overall strategy to increase the international profile of RANZCOG, the College had a presence at the FIGO Congress with an exhibitor booth, as did the Royal College of Obstetricians and Gynaecologists (RCOG). As well as enabling Dr Clark and senior College officers and staff to interact with delegates from the large number of organisations eligible to vote in elections at the FIGO General Assembly, this presence also enabled information relating to the College and up-coming events, such as the RCOG World Congress 2015, a joint RCOG/RANZCOG event to be held in Brisbane in 2015, to be distributed to some of the more than 9000 delegates who attended the Congress.

> 'The College was successful in its quest for a seat on the FIGO Executive Board, being elected clearly from the relatively large number of organisations seeking the same outcome.'

As well as appreciating the need to reach out to its environment and key stakeholders as a well-run, authoritative and rapidly maturing organisation in the two countries in which it primarily operates, there is an increasing realisation of the need for RANZCOG to do the same on a wider stage. This must, of course, be balanced against the costs involved; however, there are many issues on a global scale to which the College can make real and substantial contributions to a solution, and an increased awareness of the organisation can assist in enabling this to occur.

The College was successful in its quest for a seat on the FIGO Executive Board, being elected clearly from the relatively large number of organisations seeking the same outcome. Unfortunately, Dr Clark did not succeed in his bid to be elected as President-Elect of FIGO, the election being a very closely contested affair, requiring three rounds of voting to arrive at a final outcome. The College congratulates Prof Chittaranjan Narahari Purandare from India on his election to the position of President-Elect, and wishes the organisation under the leadership of Prof Sir Sabaratnum Arulkumaran as President well for the next three-year governance period. The College looks forward to making an active contribution to the work of FIGO during that time. On behalf of the College, I would like to thank Prof Ian Fraser who has just completed two terms as an Officer on the FIGO Executive Board in the role of Honorary Secretary for his contributions to the organisation, having decided not to seek re-election to the position at the General Assembly in Rome.

In the space available to me in this column, I wish to address three further matters. The commencement of a new governance term for RANZCOG with a newly constituted Board and Council means that a revised Strategic Plan for the period November 2012 to November 2014 will be compiled. It is anticipated that this will be drafted during the November Council Week, with input from the College Board and senior College staff, and refined in order to be ratified at the meeting of the Board scheduled for February 2013 and Council in March. The next issue of *O&G Magazine* should provide opportunity for the strategic priorities for the period of the Eighth RANZCOG Council / Second RANZCOG Board to be described.

This period will, of course, include the accreditation of the College through the process conducted by the Australian Medical Council for the purposes of accreditation by the Medical Board of Australia and the Medical Council of New Zealand. While some of the strategic priorities will relate to areas intended to complement activity already conducted in relation to the accreditation standards, the focus of the plan will be areas identified as being able to continue to improve the work that the College currently does in relation to its core business, as well as enabling value adding for members, particularly Fellows, in relation to services that are relevant in day-to-day clinical practice and evolving regulatory requirements.

At an organisational level, the decision has been taken to incorporate the responsibility for Continuing Professional Development (CPD) in to the Women's Health Department, seeking to strengthen the connection between the College work in standards and quality assurance with aiding the Fellowship to complete their necessary regulatory requirements in regard to CPD in a manner that ensures participation in relevant, robust activities. I have written previously of the intention of the current Director of Women's Health, Ms Ann Robertson, to step down from the role and advise that a transition process to this end will commence after November Council, with a new Director in place from January 2013.

I am pleased to advise of the appointment of Ms Michele Quinlan to the position and congratulate Michele on her appointment to the role. Some readers will be aware that Michele is currently employed by the College in the role of Manager of Educational Services, and it is testament to the capacities of Michele and her commitment to the College that she has been able to secure this position, which is one of four direct reports to me as CEO. Ms Robertson will remain at the College overseeing some externally funded project work in relation to the Nuchal Translucency Quality Assurance Program, and I take this opportunity to thank her for her commitment over a long period of time to furthering the work of the Women's Health team at RANZCOG. Her in-depth knowledge of the department will be of significant assistance in ensuring that it continues to move forward under the leadership of Michele and the staff.

In relation to regulatory requirements, I wrote in the Winter issue of *O&G Magazine* of the use of protected titles in medicine under the National Registration and Accreditation Scheme (NRAS) in Australia. Under the scheme, medical practitioners are recognised as eligible for registration by the Medical Board of Australia (MBA) under a range of registration standards, with Fellows of the College recognised as specialists in the specialty of O and G and entitled to use the term 'specialist obstetrician and gynaecologist'. Any persons not recognised by the Board in this manner may not use that term to describe themselves, and it is, in fact, an offence under the relevant National Law to do so.

Similarly, the MBA recognises the five subspecialties in which RANZCOG offers certification as fields of speciality

practice. Accordingly, individuals who hold certification in the subspecialties are entitled under the National Law to use the protected titles associated with each of the five subspecialty areas. As such, individuals who do not have certification in the relevant subspecialty, by law, are not permitted to use any of the five protected titles, or similar, slightly altered forms of these titles. For example, Fellows who are recognised as certified subspecialists in the subspecialty urogynaecology are entitled to use the term 'specialist urogynaecologist'. Medical practitioners who do not hold certification in urogynaecology are not entitled to use the term, or, for example, to refer to themselves as a 'urogynaecologist' or similar; for instance, 'uro-gynaecologist'.

While the College recognises that some Fellows without subspecialty certification may undertake practice involving what could be termed, for example, an 'area of special interest', medical practitioners must appreciate the implications of the use of protected titles under NRAS and the possible implications of misuse, either unwittingly or otherwise. The College takes seriously its role as a standards-setting body and has, from time to time since the introduction of NRAS, received reports in relation to the use of protected titles by individuals understood not to be entitled to the use of such. In such instances, and on a case-by-case basis, the College will consider what action it may wish to take. In the first instance this will likely involve writing to the individual concerned; however, it may also include advising the MBA, and the ramifications that may ensue from that.

It would be remiss of me at this time not to acknowledge RANZCOG Councillors who are not returning as members of the Eighth RANZCOG Council. On behalf of the College staff, I thank them for their contributions. In particular, I acknowledge the contribution of retiring Board members Dr Louise Farrell and Dr Digby Ngan Kee for their long period of contribution to the College and, on a personal level, their support of me as CEO.

Additionally, I thank and acknowledge the contribution of Dr Rupert Sherwood, particularly during his period as College President, which came to an end at the College Annual General Meeting in November. The relationship between College President and CEO for the period in which both hold office is particularly important for all facets of the organisation. In particular, it is important for the individuals concerned as they work to progress the organisation and deal with the short- and long-term challenges and strategic needs of ensuring this is able to occur. Yet again, I have been privileged to work closely with an extremely committed and capable individual as College President, who has supplied the College with strong, intelligent leadership over the tenure of his Presidency. The harnessing of knowledge obtained over many years by the introduction of the role on College Council of immediate Past President will once again be evident in the next two years as Rupert's energy and wisdom will not become lost from the day-to-day work of the College. His family, patients and colleagues will undoubtedly benefit from the lessened day-to-day demands on him and I thank him most sincerely for his contributions over the past two years.

In closing, as always at this time of the year, I wish all readers and their families a happy and safe festive season as the end of the year approaches, and I look forward to the challenges and satisfaction that the New Year brings to RANZCOG.

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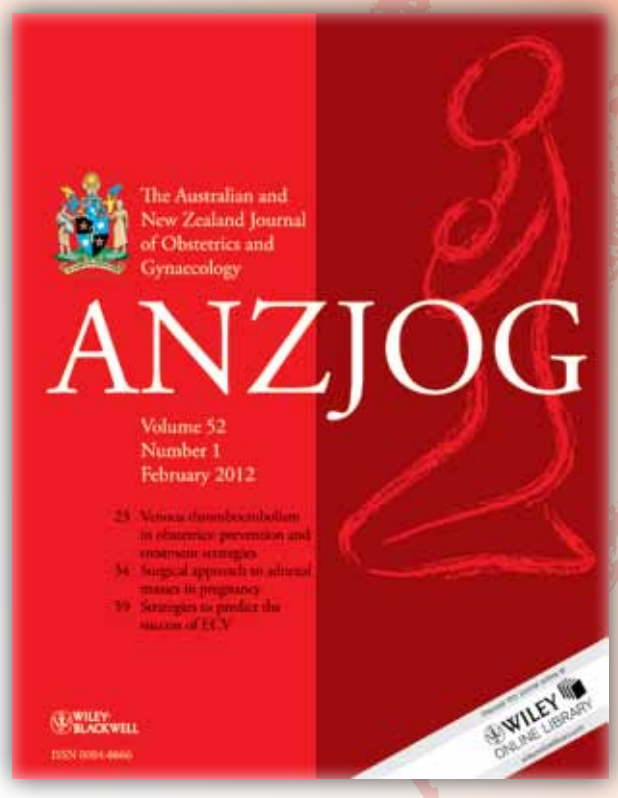

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Editorial

Dr Brett Daniels
FRANZCOG

Sex: all consuming or incidental, pleasurable or painful, joyous or traumatic, procreative or recreational, consensual or criminal – nothing else plays such a protean role in our lives. Working in the area of O and G gives us the opportunity and responsibility to include sexual function within the healthcare service we provide to our patients. Sometimes we imagine that questions about sex are too personal or fear causing damage by bringing latent fears to the surface. But if we don't ask the question then some women will never realise that their pain can be treated or that other people share their experiences. For some women sex has been traumatic. Violence and abuse are a tragic, but real, part of many women's lives. We don't help these women by conveniently omitting that part of our history taking; we help by asking the questions. We ask them with support and without judgement. If we do this often enough and carefully enough then perhaps we will help some women who wouldn't volunteer the information without our prompting.

In this issue of *O&G Magazine* we have articles covering a wide range of sexual issues. Michael O'Connor provides an excellent article on sexual assault, referring to RANZCOG's Response to Sexual Assault module, available from the College website. Thierry Vancaillie provides an article outlining a multidisciplinary approach to vaginismus, while Stephanie Brown discusses sex after childbirth. We hope that you find this issue of *O&G Magazine* useful and that it sheds light on what is sometimes a less-illuminated part of our profession.

Sexual identity and practices

Prof Anthony MA Smith
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A comprehensive study has shed new light on sexual practices and sexual identity in Australia.

What are the patterns of sexual behaviour across different populations in Australia? Are same-sex sexual attraction and experience common? In what ways do they relate to sexual behaviours and health outcomes? Answers to such questions are important in determining the need, and type of interventions necessary, for the management of risky or harmful behaviours.

The Australian Study of Health and Relationships (ASHR) was the largest, most comprehensive population-based survey of sexuality ever undertaken in Australia. In 2001–02, telephone interviews were conducted with a randomly selected sample of 10 173 men and 9134 women aged 16–59 years from all states and territories of Australia.[1] The sample was adjusted statistically to reflect the location, age and sex distribution of the 2001 census, and can therefore be regarded as being broadly representative of the Australian population. For the first time, it provided an in-depth, representative overview of the sexual practices and health of different populations across the nation.

Sexual relationships and experience

The onset of sexual activity was examined with respect to the decade in which people were born.[2] Half the men born between 1941 and 1950 had had vaginal intercourse by age 18 and this median age of first vaginal intercourse declined to 16 for men born between 1981 and 1986. For women, the median age at first vaginal intercourse declined from 19 to 16.[2] The median age of first homosexual experience was higher than the age of first heterosexual experience.

Heterosexual men reported more partners over their lifetime, and in the last five years and in the last year, than did heterosexual women.[3] In all, 15.1 per cent of heterosexual men and 8.5 per cent of heterosexual women reported two or more sexual partners in the last year, although these partnerships were not necessarily concurrent. People who identified as homosexual or bisexual reported more partners than those who identified as heterosexual, and homosexual men and bisexual men and women had had more partners than had lesbians.[4] For example, 38.2 per cent of homosexual and 9.6 per cent of bisexual men reported more than 50 same-sex partners in their lifetime, compared to 0.5 per cent of homosexual and 0.9 per cent of bisexual women.[4] The percentage of heterosexually identified men and women reporting 50 or more opposite-sex partners was 6.6 per cent and 0.9 per cent, respectively.[3]

By far the majority of those who reported ever having been heterosexually active were currently in a regular heterosexual relationship (85.3 per cent of men and 89.5 per cent of women), equivalent to 73.5 per cent of all men in the survey and 77.0 per cent of all women. Only 4.9 per cent of men and 2.9 per cent of women in regular relationships had had concurrent sexual partners in the last 12 months.[5] Among those who indicated they were homosexually active in the year prior to being interviewed (1.9 per cent of men and 1.5 per cent of women), 22.2 per cent of men and 46.9 per cent of women were in a regular homosexual relationship at the time of completing the survey, 7.0 per cent and 2.9 per cent of which reported two or more regular partners, respectively.[5]

Sexual identity, attraction and experience

Here, the terms 'lesbian', 'gay' and 'bisexual' are used to describe only those people who identify by these terms and not those who are attracted to others of the same sex or who have had same-sex sexual experience, but do not identify with these terms.[6] Of those surveyed, 97.4 per cent of men identified as heterosexual, 1.6 per cent as gay and 0.9 per cent as bisexual.[7] For women, 97.7 per cent identified as heterosexual, 0.8 per cent as lesbian and 1.4 per cent as bisexual.[7] Nevertheless, 8.6 per cent of men and 15.1 per cent of women reported either feelings of attraction to persons of the same sex or some sexual experience with the same sex. Indeed, half the men and two-thirds of the women who had had same-sex sexual experience regarded themselves as heterosexual rather than homosexual or bisexual, suggesting that same-sex attraction and experience are far more common in Australia than is indicated by the relatively few people reporting a homosexual or bisexual identity.

Identifying as homosexual or bisexual was associated with higher levels of education, higher status occupations and living in major cities[7], and homosexual experience was associated with having an English-speaking background, homosexual or bisexual sexual identity, higher levels of education and living in a major city.[4] Men who reported same-sex attraction, regardless of whether they had had same-sex experience, tended to report higher levels of psychosocial distress, as did women reporting any same-sex attraction or experience.[7]

Safer sex, condom use and STIs

Among those reporting casual partners, unprotected sex was more common in heterosexual activity than in homosexual activity among men. Of heterosexually active people, 3.3 per cent reported unprotected sex with casual partners in the last six months, representing 58.5 per cent of heterosexuals who had had casual partners.[8] Among homosexually active males, 2.1 per cent reported unprotected anal sex with casual partners in the last six months (12 per cent of those with such partners). Condoms were used in 21.2 per cent of the most recent episodes of vaginal intercourse.[9] In the previous six months, few people (7.1 per cent) had always used condoms with a regular live-in partner, more (22.5 per cent) had always used condoms with a regular partner who did not live with them, and more again (41.4 per cent) had always used condoms with casual partners.[9] Among men who had used condoms in the 12 months prior to the survey, condom breakage was experienced by 23.8 per cent and condom slippage by 18.1 per cent.[10]

Results suggested that Australians generally have poor knowledge about the transmission and health consequences of STIs.[11] Although the majority of respondents knew that cold sores and genital herpes were caused by the same virus (64.5 per cent of men and 71.4 per cent of women) and that once infected with herpes a person would always have the virus (60.7 per cent and 74.8 per cent), somewhat lower proportions knew that hepatitis B could be transmitted sexually (58.6 per cent and 60.3 per cent) or that gonorrhoea could be transmitted through oral sex (54.4 per cent and 54.2 per cent). Further, relatively few knew that chlamydia could lead to infertility in women (34.4 per cent of men and 57.3 per cent of women) or that it affected both women and men (29.6 per cent and 32.3 per cent).[11] Overall, women were more knowledgeable about STIs than men, as were those who identified as homosexual or bisexual, aged 20–24 years, spoke English at home, had higher levels of education or higher status occupations and had previously been diagnosed with an STI.[11]

> '...instead of being exclusively directed at young people, education about safe sex should also address the needs of people throughout their lives.'

In terms of STI incidences, 20.2 per cent of men and 16.9 per cent of women had ever been diagnosed with an STI or blood-borne virus, and 2.0 per cent and 2.2 per cent, respectively, had been diagnosed in the last year.[12] The most commonly diagnosed STI among women was candidiasis or thrush (31.9 per cent of respondents), although it is recognised that symptomatic thrush is frequently not sexually transmitted. The next most common STIs among men and women were pubic lice or crabs (7.1 per cent), genital warts (4.2 per cent), chlamydia (2.4 per cent), herpes (2.3 per cent) and gonorrhoea (1.4 per cent). Overall, 1.8 per cent of respondents had been diagnosed with hepatitis A and 0.7 per cent with hepatitis B. The respondent's usual general practitioner was the most common location of treatment.[12] Correlates of having been diagnosed with an STI in the 12 months prior to interview included identifying as homosexual or bisexual, having had more than one sexual partner in the previous year, ever having worked as a sex worker, ever having been to a sex worker and ever having injected drugs.[12]

Patterning of sexual practices and sexual identity

There are a number of ways in which ASHR sheds light on relationships between sexual practices, identity and health in Australia. While the majority of respondents were in current relationships, a substantial proportion reported multiple partners in the previous year. This suggests that there is a large segment of the Australian population engaging in either concurrent relationships or serial monogamy. Having multiple partners and not always using condoms are a partial explanation for why STIs and blood-borne viruses appear to be somewhat common in the population. Unfortunately, knowledge of the transmission routes and health consequences of the most common STIs seems quite poor. Most people with STIs present to their general practitioner. This underlines the importance of ensuring that GPs are appropriately trained and resourced to effectively diagnose and treat STIs. It also means that instead of being exclusively directed at young people, education about safe sex should also address the needs of people throughout their lives.

Importantly, although the proportion of people who identified as gay, lesbian or bisexual was small, the proportion reporting some homosexual experience was considerably greater. Since the overwhelming majority of health education and promotion is focused on heterosexuals, the appropriate representation of lesbian, gay and bisexual people in these activities is long overdue. The additional complexities presented by those who have same-sex attraction or experience, but identify as heterosexual should also be addressed where appropriate. Indeed, the results reviewed here clearly emphasise the need for health professionals to be sensitive to the complex interrelationship between an individual's sexual identity and his or her sexual practices and consequent health outcomes.

Acknowledgements

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Chlamydia

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Genital chlamydial infection is the most common treatable, notifiable infection throughout much of the world, including Australia and New Zealand.

Both men and women may be affected by infection with chlamydia, but young women bear the brunt of this infection, which may result in serious reproductive health sequelae.

Local epidemiology
Chlamydia continues to hold the lamentable title of most commonly notified infection in Australia. In 2011, 80 807 notifications of this sexually transmissible infection (STI) were made to the National Notifiable Diseases Surveillance System (NNDSS), almost twice as many notifications as received in 2005.[1] The NNDSS monitors chlamydia through passive surveillance of cases reported to health departments by doctors or laboratories.

Passive surveillance, however, does not allow us to determine if chlamydia notifications are rising simply because more people are being tested. In fact, a recent analysis of the Australian Collaboration for Chlamydia Enhanced Sentinel Surveillance (ACCESS) concluded that there has been a modest increase in prevalence and much of the sharp increase in notification data in recent years is most likely due to increased testing.[2] Regardless of the reason, current rates of chlamydia are cause for concern. It is thought that four- to six-times as many chlamydia infections occur as are notified – notifications just represent the tip of the infection iceberg.

Clinical features
There are significant gaps in our knowledge of the natural history and pathogenesis of chlamydia infection. The exact duration of an untreated infection is not known, though it is thought to be in the order of months to years – this can make it very difficult to determine when a person acquired their infection and makes counselling of couples particularly tricky! It is likely the clinical manifestations of chlamydia are due to a combination of tissue damage from chlamydial replication and host inflammatory response.

Chlamydia trachomatis preferentially infects the columnar or transitional epithelium of the urethra, with spread to the epididymis; the endocervix, with spread to the endometrium, fallopian tube and peritoneum; and the rectum. Most of the time chlamydia is an asymptomatic infection. In men, it may cause a urethritis (typically dysuria and a mild to moderate whitish or clear urethral discharge) and epididymitis. In women, it may cause a cervicitis (mucopurulent discharge and an oedematous, congested cervix that may bleed on contact), urethritis, bartholinitis, salpingitis and perihepatitis (Fitz-Hugh-Curtis syndrome). If left untreated, infection in women may cause inflammation and scarring and lead to well-known reproductive sequelae: pelvic inflammatory disease, tubal factor infertility and ectopic pregnancy. Reactive arthritis can been associated with *Chlamydia trachomatis* infection.

Chlamydia in pregnancy
Adverse pregnancy outcomes have been associated with chlamydia infection, including premature rupture of membranes, preterm delivery and low birth weight. At least 60–70 per cent of exposed infants acquire chlamydial infection, which may result in neonatal conjunctivitis and pneumonia. Screening and treatment of pregnant women is the most effective way to prevent transmission and disease in the newborn.

> ‘Chlamydia control should be a manageable goal: it’s easy to test for and easy to treat. Yet it eludes us. Every effort is required to continue to increase testing in high-risk populations’

Testing
Nucleic acid amplification tests (NAATs), such as polymerase chain reaction (PCR), remain the gold standard for diagnosis of *Chlamydia trachomatis*, owing to their high sensitivity and specificity. PCR testing allows sampling by first catch urine (FCU) in both men and women. It is not necessary to ask the patient to hold their urine prior to obtaining a FCU sample; in fact doing so may result in a lost opportunity if they fail to return for testing. Self-collected vaginal or rectal swabs are also possible, with sensitivity no less than that of practitioner-collected cervical swabs. This simple and efficient method of testing has improved the acceptability of screening to patients and has allowed chlamydia testing to be rolled out in a variety of clinical and non-clinical settings.

Treatment
Chlamydia is easily treated with a single one-gram dose of azithromycin. The National Management Guidelines for Sexually Transmissible Infections[3] also recommend doxycycline 100mg twice daily for seven days as an alternative first-line regimen. Single dose antibiotics, such as azithromycin, are preferred in the management of STIs due to improved compliance. Single dose azithromycin is both safe and effective in pregnant women.

Chlamydia control has long been blessed with an absence of drug resistance. Recent evidence, however, points to a possible increase in azithromycin treatment failures in both men and women, at levels of greater than five per cent.[4] While treatment failure is an uncommon scenario, it could perhaps be kept in mind for recurrent infection, once re-infection has been excluded.

Prevention
Single dose antibiotic treatment, partner testing and treatment, contact tracing; screening and health education form the foundation of chlamydia control strategies.

Infection with chlamydia does not result in adequate immunity to prevent re-infection. Repeat infections are common and may result in higher rates of sequelae. All women with a positive test for chlamydia should be asked to return for repeat screening in three months. Re-screening too soon may result in a false positive result as the DNA of dead bacteria continue to be detected by PCR for three weeks or more after treatment. Innovative ways to encourage people to return for follow up screening have been trialled, including SMS reminders, posting testing kits to the patient's home and offering payments of some kind.

To prevent re-infection of the index case, and ongoing spread within the community, sexual partners should be tested and presumptively treated with azithromycin. Most people feel comfortable to notify their sexual partners themselves, though some may require assistance. The Australasian Contact Tracing Manual[5] provides guidance on the process of contact tracing and specifies that sexual partners for the previous six months be notified. Local sexual health clinics and public health units may assist in the process of contact tracing, and the 'Let Them Know' website can also send messages to sexual contacts of people with a range of STIs. It can be found at http://www.letthemknow.org.au/STI.html .

Education is always an important part of prevention and a positive chlamydia diagnosis provides a great opportunity to discuss safer sex behaviour, including consistent condom use.

Conclusion

Chlamydia is an important sexually transmissible pathogen in Australia that can cause serious reproductive health sequelae. Chlamydia control should be a manageable goal: it's easy to test for and easy to treat. Yet it eludes us. Every effort is required to continue to increase testing in high-risk populations. As chlamydia is often asymptomatic, people may not present specifically for testing. Screening for chlamydia may need to be opportunistic and should be offered to all women under the age of 29, in particular those that have had unprotected sex, recently changed partners or are attending as part of antenatal screening.

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HSV in pregnancy

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Treatment options for women presenting with herpes simplex virus infections during pregnancy focus on preventing transmission to the fetus and neonate.

The herpes simplex viruses (HSV-1, HSV-2) are two of the eight herpes viruses that naturally infect humans (the others being VZV, EBV, CMV, HHV-6, HHV-7, HHV-8). They all establish permanent latency after primary infection and have the potential for reactivation of active or 'lytic' infection. In the case of the herpes simplex viruses, latent infection occurs in the ganglia of sensory neurons and lytic infection generally involves mucocutaneous tissues, but occasionally disseminates to involve the viscera. In addition to episodic lytic infection, periods of asymptomatic shedding occur with the potential to infect others while clinically well. HSV-1 is classically associated with orolabial infection and HSV-2 with genital infection, however, HSV-1 has become an increasingly common cause of genital herpes in recent decades – this does not influence management of HSV infection in pregnancy.

HSV transmission and epidemiology

In Australia, the seroprevalence of HSV-2 is 16 per cent in adult women.[1] However, as HSV-1 now accounts for more than 35 per cent of genital herpes in Australia[2], the prevalence of genital herpes is presumably higher. Genital HSV-1 infections are associated with less frequent recurrences than HSV-2, but a higher risk of transmission to the neonate in the setting of viral shedding at delivery. The majority of neonatal HSV infection in Australia is caused by HSV-1.[3]

Unlike many sexually transmitted infections, genital HSV transmission occurs more commonly in long-term relationships than casual encounters, with a mean time to transmission of three months in HSV-2 serodiscordant couples. Transmission frequently occurs from a partner without symptomatic genital lesions. Condom use, chemoprophylaxis of a seropositive partner and abstinence when active lesions are present can significantly reduce the risk of transmission. Complete abstinence in the third trimester has been suggested as the safest option where there is known discordance.

Neonatal herpes infection

The incidence of neonatal HSV disease is low at 3/100 000 live births[4], measures to reduce the risk of neonatal transmission are summarised in Table 1. North American data suggest the absolute risk is higher for the offspring of seronegative women entering pregnancy compared to seropositive women. This is because, although relatively few women will acquire a primary HSV infection during pregnancy, the risk of transmission to the neonate is much higher: up to 50 per cent for those with primary infection in the third trimester. This contrasts with a rate of neonatal transmission of less than 0.1 per cent from asymptomatic seropositive women.[5]

Over 90 per cent of neonatal herpes is acquired at the time of delivery through contact with HSV-infected secretions. Intrauterine infection is very rare, but may result in chorioamnionitis, intracerebral calcifications and birth defects. A small number of cases are acquired postnatally (including from healthcare workers and other family members with asymptomatic orolabial shedding). Untreated, herpes infection in the neonate frequently disseminates to involve the central nervous system with a very high mortality and morbidity, including permanent neurological sequelae. Importantly, half of infected neonates lack skin manifestations, potentially making early diagnosis difficult.

Table 1. Measures to reduce the risk of neonatal HSV infection.

Setting	Scenario	Preventative measures
Antenatal	Seronegative women with a partner that has a history of genital herpes	Condom use, suppressive antivirals for the partner; abstinence when symptomatic; and complete abstinence in the third trimester
	Women with recurrent symptomatic genital HSV	Suppressive antivirals from week 36 (or earlier if dictated by symptoms) and follow-up of neonate
Intrapartum	Active genital herpes lesions ROM <6 hours; primary HSV infection during pregnancy; primary HSV diagnosed in labour; failure to seroconvert well prior to delivery following primary infection in the first or second trimesters; or primary HSV infection during the third trimester	Caesarean and follow-up of neonate
	Seroconversion well before delivery; or history of genital herpes and no active lesions on genital exam	Vaginal delivery; avoid fetal scalp electrodes, forceps or vacuum delivery; follow-up of neonate
	Vaginal delivery through a birth canal with active lesions or following primary genital herpes in the third trimester	Empiric IV aciclovir for neonate
Postnatal	Orolabial herpes lesion ('cold sore') or herpetic whitlow	Avoid direct contact of lesion with neonate; hand hygiene

Herpes in pregnancy
Overall the clinical manifestations of genital herpes are similar in pregnant and non-pregnant women; however, the recurrence rate tends to be higher later in pregnancy. It is possible for maternal visceral dissemination to occur, even in non-primary infection, though this is rare. The most concerning clinical consequence of genital HSV infection in pregnancy is the potential to infect the neonate.

Primary genital HSV infection during pregnancy
If a new HSV infection is clinically suspected during pregnancy, laboratory confirmation is required. Ideally active lesions are still present at the time of presentation and a swab for viral PCR can be collected as well as type-specific serology. PCR positivity for a HSV type for which IgG is negative suggests a primary genital HSV infection. Regardless of whether there is PCR confirmation, serial serology should be obtained to confirm seroconversion. This both supports the diagnosis of primary infection and demonstrates circulating protective antibody.

> 'Over 90 per cent of neonatal herpes is acquired at the time of delivery through contact with HSV-infected secretions.'

The timing of seroconversion is important in assessing risk of neonatal infection and management of delivery. Seroconversion in the first two trimesters reduces the rate of intrapartum transmission to less than three per cent and vaginal delivery is considered safe in the absence of active lesions. If primary infection occurs in the last four to six weeks of gestation, seroconversion is unlikely to occur before delivery and caesarean is indicated.

It is recommended that primary infection during pregnancy is treated with antivirals for the remainder of gestation, but a consequent reduction in the rate of transmission is unproven.

Recurrent genital HSV infection and pregnancy
In women with a history of genital HSV infection prior to pregnancy, circulating IgG is present. The risk of transmission is much lower and depends on the presence of active lesions at the time of delivery. If present, the risk of transmission is two to five per cent. If asymptomatic, there is a one to two per cent chance of viral shedding at the time of delivery and a 0.02 per cent chance of neonatal infection. Therefore, women with a history of genital HSV should have a careful speculum examination when presenting in labour. If herpetic lesions are identified, caesarean section is the preferred mode of delivery and has been demonstrated to reduce the risk of neonatal HSV infection.[6] If membranes have been ruptured for more than six hours, Australian guidelines suggest proceeding with vaginal delivery.[4]

Although the risk of transmission is influenced by viral shedding at delivery, in practice, current diagnostic tests do not allow this information to be available in time to influence decision-making. Further, many research studies stratified transmission risk by isolation by viral culture, which is rarely performed by diagnostic laboratories.

A Cochrane review regarding antiviral prophylaxis in the third trimester in pregnancy concluded that antivirals from week 36 in women with episodic herpes reduced the rate of active lesions at delivery and reduced the caesarean rate, however, the influence of antiviral therapy on the rate of neonatal HSV infection could not be determined.[7] Neonatal infection may occur in spite of maternal antiviral therapy.[8]

Antivirals in pregnancy
Aciclovir is a deoxyguanosine analogue that blocks viral DNA synthesis. Because the cellular uptake and phosphorylation of aciclovir is facilitated by HSV thymidine kinase, the drug is very selective for HSV-infected cells: the active aciclovir triphosphate form is present in HSV-infected cells at 100-fold concentrations compared to non-infected cells. These drugs generally have a very favourable side-effect profile, but neurotoxicity and nephrotoxicity do rarely occur.

Valaciclovir is a valyl-ester pro-drug that is rapidly converted to aciclovir after absorption. It has a vastly improved oral bioavailability, which translates to a more convenient dosing regimen. Further, the cost of valaciclovir has significantly fallen in recent years.

Aciclovir and valaciclovir are classified as pregnancy category B3 because in animal studies using very high doses teratogenic effects were seen.[9] However, data from pregnancy registries and a large population cohort study of over 800 000 live births in Denmark could not demonstrate any difference in major birth abnormalities compared to the expected rate.[9] In the latter study there were over 1000 babies exposed to aciclovir antenatally and 181 exposed to valaciclovir. In spite of the lack of completely conclusive evidence, aciclovir and valaciclovir are widely perceived as safe in pregnancy and widely used in pregnancy, however antiviral prescriptions in this setting should be accompanied by information on the caveats with current safety data.

When used, aciclovir should be given at a dose of 400mg three times a day for five days for active lesions, or 400mg twice daily for suppression in late pregnancy (200mg twice daily in early pregnancy). Valaciclovir is dosed at 500mg twice daily for three to five days for active lesions or 500mg daily for suppression. Higher doses are used to treat primary infection.

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Pregnancy and HIV

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Treatment with highly active antiviral therapy has made it possible to reduce the rate of transmission between the mother and the fetus.

The provision of highly active antiviral therapy (HAART) to HIV-infected pregnant women can reduce the transmission rate to 0.1 per cent if treatment is successful at achieving an undetectable viral load at delivery.[1] This, coupled with the widespread uptake of universal antenatal screening for HIV in pregnancy, has led to a very low risk of mother-to-child transmission in Australia.

Perinatal transmission of HIV can occur during pregnancy, during delivery or during breastfeeding. There is a higher risk of transmission at each stage when the viral load is high, for example, early infection or very advanced. HAART can reduce transmission in several ways, by reducing maternal viral load in blood and bodily secretions and by transplacental absorption of HAART to the fetus. This supplies pre-exposure prophylaxis to the fetus for the transit through the birth canal. Post-exposure prophylaxis with zidovidine (AZT) is then given to the newborn and breastfeeding is discouraged.

Women and HIV

The goals of antiviral therapy for both men and women are the same. Studies show similar response to HAART for men and women.[2] Recommendations for commencing treatment are moving towards earlier treatment with advantages in preserving immune function, preventing comorbidities such as cardiovascular disease and reducing some HIV-associated cancers.

After diagnosis, reassurance should be given to women about their reproductive options. Throughout a woman's care, discussions should be had about her intentions to have children. Provision of safe and effective contraception is important to minimise unplanned pregnancy. Women not on HAART may use any form of appropriate contraception and are encouraged to use condoms to prevent transmission.

Women on HAART may have their contraceptive options limited due to interactions between antivirals and hormonal contraception. Hormonal contraceptives, including the combined oral contraceptive pill, the progesterone-only pill, the combined hormonal ring and the progesterone implant, are ineffective with efavirenz, nevirapine and boosted protease inhibitors owing to liver enzyme induction. Depo medroxyprogesterone acetate given as an injection every 12 weeks is metabolised completely during each passage through the liver so cannot be induced further. Intrauterine contraceptive devices, both the progesterone releasing and copper bearing, are also suitable.

Preconception

Prevention of HIV transmission to a negative partner is important while trying to conceive. Recommendations include commencing HAART to minimise transmission. In the HTPN 052 trial in HIV-discordant couples, the HIV-infected partners were randomised to initiate or delay HAART. In this study, almost all of the participants were in heterosexual relationships, all participants received risk-reduction counselling and the absolute number of transmission events was low: one among ART initiators and 27 among ART delayers.[3] Other measures, such as screening and treating other STIs, timed sex and artificial insemination, may be considered.

HAART

Choice of HAART is guided by resistance testing, as it is possible to acquire virus that is resistant to some antivirals.[4] Resistant virus can also occur due to poor adherence if there is a prior treatment history. Genotypic resistance testing is a part of standard of care at initial diagnosis. The result is most valuable soon after acquisition as 'resistant virus' is less robust and will be archived with time, while wild virus with no resistance will dominate. If an antiviral combination is commenced that the archived virus is resistant to, this virus will be able to multiply again and become the dominant virus. Resistance testing is also valuable to guide treatment change when virological failure occurs. If a woman needs to start therapy for her health or the health of the fetus, then waiting for the results of resistance testing is not warranted. Treatment changes can be made when results are available.

Both European and US guidelines recommend combinations that should include one or more nucleoside/nucleotide reverse transcriptase inhibitors (NRTIs) with good placental passage (zidovudine, lamivudine, emtricitabine, tenofovir or abacavir). Avoid combining these with efavirenz in the first trimester as it may have teratogenic risks, although this is disputed.

The NRTIs are combined with a boosted protease inhibitor mostly lopinavir/ritonavir. However, some women can experience unacceptable side effects of nausea and diarrhoea with lopinavir/ritonavir and alternatives are atazanavir/ritonavir or darunavir/ritonavir.[5] Choice should be guided by resistance testing, any history of treatment failure and stage in pregnancy. There is some concern about the risk of preterm delivery with protease inhibitors, but results of studies on the association of HAART and preterm delivery are conflicting, with some studies implicating boosted protease inhibitors while others don't.[6]

Screening tests

As well as the usual antenatal screen tests, it is important to assess risk of other sexually transmitted infections then test and treat appropriately. After starting HAART, the viral load should be tested at two to four weeks, at least once each trimester, at 36 weeks and at delivery.[7] The aim is to have an undetectable load at delivery. Liver and renal function should be checked for drug-induced toxicities.

When to start

Women who are pregnant and need HAART for their health should start immediately. This would include women with a CD4 count less than 350, co-infection with hepatitis B or C and any opportunistic infection. Those with a good CD4 count and low viral load can delay commencing treatment until 12 weeks. Those who are already on HAART and become pregnant should stay on treatment even if it contains efavirenz[8] (provided it is working).

Late presenters, after 12 weeks, should start HAART as soon as possible. Consideration should be given to include raltegravir as part of HAART to achieve a rapid fall in viral load, especially if they present after 28 weeks.[9] If they first present in labour the recommendations are for zidovudine infusion during labour and the infant given combination antiretroviral therapy rather than zidovudine monotherapy.[10]

Mode of delivery

Women can have a vaginal delivery if the HIV viral load is undetectable and they do not need zidovudine infusion. They should continue successful HAART throughout delivery. Planned caesarean section combined with intravenous zidovudine is indicated for those with a viral load above 1 000 copies/ml close to delivery.[11]

Post-delivery

A decision can be made whether the woman would like to continue HAART post-delivery on an individual basis. Breastfeeding is not recommended, but if the woman insists and she has had virolgical suppression with HAART prior to delivery, then continuing HAART until rapid weaning carries only a low risk of transmission.[12]

Infants born to women with virological suppression close to delivery receive zidovudine monotherapy. The UK guidelines recommend four weeks and the US guidelines recommend six weeks.

Infant testing is usually done with HIV DNA in the first 48 hours, two weeks post antiretroviral prophylaxis, two months post antiretroviral prophylaxis and an HIV antibody test at 18 months. Maternal HIV antibodies pass the placenta so this test needs to be delayed until 18 months.[13]

Conclusion

Cooperation between HIV treating doctors and the maternity team to ensure timely diagnosis, appropriate choice of antivirals, regular monitoring for virological success, appropriate delivery and antiviral prophylaxis for the newborn can dramatically decrease the transmission of HIV from mother to child in pregnancy.

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Sex after childbirth

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Health professionals have an important role to play in providing women and their partners with information about changes affecting sexual relationships during and after pregnancy. This article provides a brief overview of some of the issues women and their partners may want information about.

Many women and their partners are under-prepared for the extent of change in their sexual relationship during and after pregnancy. Sex and intimacy, while openly discussed and portrayed in the media, remain subjects surrounded by social taboos that make it more difficult for new parents to seek (or find) information about what to expect, and whether what's happening to them is normal. An Australian longitudinal study of over 1500 first-time mothers shows that the majority of women report a loss of interest in sex in the third trimester of pregnancy and throughout the first year after childbirth.[1,2] Common sexual health issues in the postpartum period include: dyspareunia, lack of lubrication, loss of libido and increased self-consciousness about body image.[2,3]

Resuming sex after childbirth

Recent studies conducted in the UK and Australia show that a majority of women (60–70 per cent) delay resumption of vaginal sex until later than six weeks postpartum.[1,3,4] In the Maternal Health Study conducted by our research group, younger women (under 25) having their first baby were more likely to resume vaginal sex sooner, and older women (over 34) were more likely to delay longer than six weeks postpartum. Women who had a vaginal birth assisted with forceps took slightly longer to resume vaginal sex than women who had a spontaneous vaginal birth, vacuum extraction or caesarean section. The majority of women (86 per cent) found it painful the first time they tried to have vaginal sex. This was an issue for women irrespective of method of birth: 84 per cent of women who had a caesarean section found sex painful the first time, compared with 87 per cent of women who had a vaginal birth. Most studies reporting data on timing of resumption of sex after childbirth indicate that a majority of

Recent research has shown that couples are often unprepared for the long-term impact childbirth has on their sexual relationship.

women (between 60–80 per cent) have resumed vaginal sex by three months postpartum[5-7], with few women delaying longer than six months.[3]

Dyspareunia and other sexual health issues

A UK cross-sectional study conducted by Barrett et al found that 62 per cent of women reported dyspareunia (defined as painful penetration and/or pain during intercourse or orgasm) at some time in the first three months postpartum.[3] Other sexual health problems reported by women in this study were: loss of sexual desire (53 per cent of women), vaginal tightness (20 per cent), vaginal looseness or lack of muscle tone (12 per cent) and lack of vaginal lubrication (26 per cent). All of these issues were more common in the period after childbirth, than in the period preceding pregnancy.

> 'Women taking part in the interviews often said that they wished they and their partners had been better prepared for what lay ahead.'

How long do problems persist?

Few studies have collected the longitudinal data needed to answer this question. In our Australian cohort of over 1500 women recruited in early pregnancy, 45 per cent of women who had resumed vaginal sex reported dyspareunia at three months postpartum, 43 per cent at six months postpartum, and 28 per cent at one year, compared with 35 per cent reporting this symptom in the year prior to pregnancy. At 12 months postpartum, 70 per cent reported a loss of interest in sex compared with before pregnancy, 39 per cent reported lack of lubrication, 21 per cent reported vaginal tightness and 12 per cent reported vaginal laxity.

Women's experiences affect their sexual relationships

Few studies report on what women themselves have to say about sex and intimacy after childbirth. In-depth interviews were conducted with a small sub-sample of women taking part in the Maternal Health Study when their first child was around two to three years old. Looking back on the first year, women identified a range of issues that affected their sexual relationships: including:

- chronic tiredness combined with the intense emotional connection between mother and baby, resulting in sex taking a back seat;
- marked changes in lifestyle and roles, leaving many couples feeling disconnected from each other; and
- physical changes associated with pregnancy and childbirth, leading to some women feeling unattractive and self-conscious about their bodies.[1,2]

Women taking part in the interviews often said that they wished they and their partners had been better prepared for what lay ahead.

Getting 'back to normal'

The timing of the 'six-week postpartum check-up' has long been recognised as promoting the common misconception that things will be 'back to normal' by six weeks after childbirth. It is clear that for many women, loss of interest in sex and pain during intercourse may persist well beyond six weeks. The extended timeframe over which women resume vaginal sex during the first postpartum year, and the extent to which sex continues to be painful for many women throughout the first six to 12 months postpartum suggests that the first postpartum year is anything but 'normal' for many women.

Data reported by Australian and international studies consistently show that pregnancy and childbirth have a marked impact on sexual health and intimacy between couples. Yet, there is generally a dearth of information given to couples in pregnancy or after childbirth providing them with information about what to expect and how having a baby may impact on their sexual relationship. From the Maternal Health Study, it is apparent that many women would have liked more information and support from health professionals to deal with the impact of pregnancy, childbirth and the transition to motherhood, on their sexual and intimate relationships.

Optimal time for the postnatal check-up?

There has been much debate about this question.[8,9] From the perspective of sexual and reproductive health, it could be argued that a six-week check-up is too late, especially for women requiring contraceptive advice. On the other hand, six weeks is arguably too early for a visit that traditionally marks the conclusion of maternal postpartum healthcare. For the 60 per cent of women who have not resumed vaginal sex by six weeks postpartum, the questions they may want to ask once they do will need to be brought up in other consultations. There is consistent evidence that maternal health problems such as urinary incontinence and sexual health issues are under-reported and under-recognised by health professionals in the first postpartum year.[10] A large cluster randomised trial of redesigned postnatal care in the UK incorporated a handover from community midwife care to GP care at 12 weeks postpartum.[11] An Australian trial of a late postpartum check-up (for example, at three to six months postpartum) is worthy of consideration.

Information for new parents from Mitec Medical Publishing

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Vaginismus: current approach

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Vaginismus is defined as 'difficulty to allow vaginal entry despite the woman's express wish to do so', assuming the absence of obvious organic pathology, such as imperforated hymen.

In a typical western-style approach, many authors further identify 'primary' and 'secondary' vaginismus, as well as grade the condition from 1 to 4, according to the severity of presentation (Lamont 1978[1]). This stratification is however of little clinical benefit, either from a diagnostic or therapeutic point of view. An argument can be made possibly that someone presenting with 'vaginismus grade 4' will be a greater therapeutic challenge, but the therapeutic approach remains the same. The true incidence of vaginismus is unknown through lack of adequate epidemiology. It is certain that vaginismus is common.

With the introduction, in the late 1990s, of botulinum toxin (BT) for the treatment of vaginismus, there is a tendency today to downgrade vaginismus to a purely mechanical issue that always responds to BT therapy. Injections of BT to treat vaginismus are now even offered in cosmetic surgery outlets. This is the direct result of the efforts by an American plastic surgeon organising courses specifically aimed at spreading the use of BT in the treatment of vaginismus. In a publication, sponsored by the pharmaceutical company manufacturing one type of BT, this plastic surgeon is quoted as saying: 'Plastic surgeons worldwide with their experience using BT are well positioned to learn more about this relatively unknown entity (equals vaginismus) and render treatment.' Vaginismus is now a cosmetic issue on a par with facial wrinkles and male baldness!

The pathophysiology of vaginismus is complex, but mainly based on negative affective appraisal of sexual stimuli and a phobia of vaginal penetration. The foundation for these negative attitudes contains religious, cultural, educational, personality and moral elements. A link between vaginismus and sexual abuse in childhood in general is not clearly established, but certainly present in a number of individual cases.

It is important to distinguish vaginismus from dyspareunia. Dyspareunia means pain with intercourse. Vaginismus per se does not hurt, unless there is an attempt at forceful penetration. Unfortunately, many male partners will attribute pain with attempted intercourse to unwillingness or unpreparedness of their partner and label this 'vaginismus'. Often physicians will agree with this simplistic interpretation. One should note at this point that vaginismus does present in women who are in a same-sex relationship, although the complaint of pain is less likely. Let's also emphasise that vaginismus can be identified prior to becoming sexually active through, for instance, the inability to insert tampons.

Treatment options

Treatment of vaginismus requires a combination of education, physiotherapy and psychotherapy and, most importantly, involves the partner – if there is one. BT is often required to support the efforts of the physiotherapist, but to say that BT will 'cure all cases' is a fallacy or even an insult to the patient. Some sex therapists are able to play a very therapeutic role to achieve a satisfactory result, however, more often than not there is more than one healthcare provider involved.

Education in the context of vaginismus consists of a review of the anatomy and physiology of the genitalia and sexual intimacy. It is no surprise to find that many women are still poorly informed about the functioning of the sexual organs, although the aversion toward touching 'down there' is less and less present in younger women, at least in western culture.

Physiotherapy will focus on the patient's ability to control her superficial and deep muscles of the perineum. The dominant superficial muscle involved is the bulbospongiosus, which flanks the vestibule (or 'vaginal entrance') on both sides. The levator ani, which comprises the pubo-rectalis (PR), pubo-cocygeus, ilio-coccygeus and ischio-coccygeus muscles, is a mixed voluntary and involuntary muscle. Toward the midline and the more anterior aspect of the levator is the PR muscle, which is the dominant voluntary bundle. It is also the most intimately related to the lateral vaginal wall from an anatomic point of view. The bulbospongiosus and PR muscles are essentially V shaped. Thus there are two layers, superficial and deep, of V-shaped muscle, which can be said to be the 'vaginal sphincters'. Contracted bulbospongiosus and PR muscles will prevent vaginal penetration.

The physiotherapist will endeavour to facilitate identification of the muscle by the patient and work to increase voluntary control of gentle contraction and maximal relaxation. A common implement used by physiotherapists is a set of vaginal 'dilators' of increasing diameter and length. The vaginal dilator belongs on the list of 'original medical devices', having been introduced by Dr Sims himself in the 19th century. The term 'dilator' is a misnomer because it implies that the vaginal tissues are fibrotic or otherwise abnormal. Not true. There is no intrinsic tissue pathology. The vaginal wall tissues in vaginismus have a normal pliability. A patient, who waited till late in her 40s to engage in sexual intercourse, may present with some vaginal wall stiffness, but that is the exception. Nevertheless, vaginal 'dilators' are well incorporated in the armamentarium of the physiotherapist and likely will remain there for a while.

The physiotherapist has the professional knowledge and expertise to decide when a patient will need treatment with BT. The aim is to induce paresis of the muscles, which seem to escape normal voluntary control, and provide a window of opportunity to maximise the pelvic floor muscle retraining process. The most common muscle pair is the PR, but often there is involvement of the adductors of the legs as well. The usual dose of toxin is 300 IU Dysport® (Ipsen, Waverley VIC) or 100 IU Botox® (Allergan, Gordon NSW) distributed among the affected muscles. The injections are painful and need to be performed under sedation. There is a delay of ten or more days before the BT achieves the desired paresis, which can last for up to six months.

Psychotherapy is, by necessity, more diverse in its approach. The psychological undercurrents present are different in every case and will require an individualised approach. The psychologist will need to identify the importance of negative appraisal, anxiety, fear, control issues, obsession with cleanliness, catastrophising and harm avoidance in the individual patient and adjust treatment accordingly. The psychologist has an important tool, however, for the treatment of vaginismus: hypnosis. Despite the fact that patients consciously understand how their cultural and educational background have contributed to their current situation, they often will not be able to consciously override the urge to initiate a muscle contraction that prevents penetration, at the time when it matters, despite being successful in the clinical setting. The psychologist teaches the patient how to use the modality of self-hypnosis in order that she develops her imagination to allow muscles to respond appropriately whether during the physiotherapist's treatment, or with partner. At times the psychologist utilises the modality of hypnotherapy (psychotherapy within the state of hypnosis). Very often there are earlier conditioned responses due to inappropriate education, cultural and/or religious beliefs, and at times earlier traumatic sexual experiences. If the patient is amenable to shedding these emotional constraints through psychotherapy, there can be very worthwhile outcomes. In a few instances, it may be necessary to address a broader issue of phobia or anxiety using the appropriate medical therapy.

If there is a partner, then involving the partner is vital for many reasons. A male partner in particular, because of his lack of comprehension, very often contributes to the anxiety the patient undergoes during times of intimacy. Frequently the male partner is also not aware of the extent of the emotions, fear, shame and guilt, for example, that the patient endures because of this problem. Male partners need to be educated on the anatomy and physiology of sexual intimacy just as much as their female counterparts. More importantly, male partners need to understand that vaginismus does not disappear after a single medical consultation (with or without BT). And, most importantly, partners are an integral part of the treatment plan.

Ideally, the psychologist and physiotherapist work together and, in the face of severe cases, are with the patient in the same room at the same time. The treatment consists of removing all pressure of sexual intimacy to start with. Over the subsequent weeks and months, the couple increases gradually the exposure to sexual intimacy, eventually resulting in vaginal intercourse. The aim is to reverse the negative affective appraisal of sexual stimuli through the realisation that intercourse is a beautiful gift to your partner and does not cause discomfort. If BT is considered, it should be integrated into the overall plan, especially from a timing perspective and should not be considered unless physical and psychotherapies have first been tried for several months. The couple should be ready to proceed with attempted penetration when the BT is fully effective. Giving the treatment too early or too late may result in a wasted opportunity or great disappointment.

In summary, vaginismus is a common condition that responds well to a coordinated approach of education, physiotherapy and psychotherapy. However, it should also be said that the underlying issues of negative affective appraisal of sexual stimuli and phobia of vaginal penetration might remain to a variable extent in many patients.

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Sexual assault: a gynaecologist's perspective

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'Rape is a culturally fostered means of suppressing women. Legally we say we deplore it, but mythically we romanticize and perpetuate it, and privately we excuse and overlook it.'[1]
Victoria Billings

Sexual assault is forced sexual violence against an unwilling victim. More than 90 per cent of victims are female. Women not in a relationship, women with intellectual disabilities (up to 90 per cent[2]) and Indigenous women are more at risk. Childhood survivors of incest are also more vulnerable to adult sexual assault. Worldwide, 13 per cent of women and three per cent of men report a lifetime experience of sexual assault. In Australia, one study[3] in 1995, indicated that a female had a 1:4 chance of being sexually assaulted before the age of 18 years. In 2002, another study of more than Australian 6000 women demonstrated a 12 per cent rate of lifetime sexual violence by an intimate partner. Nearly half of those women were pregnant at the time of the assault.

One in five women in Australia will experience sexual assault at some time in their life and one in ten women who are sexually assaulted will be assaulted by their current or past intimate partner. While age is no barrier to experiencing sexual assault, women aged 15–24 years are most at risk. Women who live in rural areas, are Aboriginal or Torres Strait Islander, are experiencing domestic violence, have an alcohol or other drug addiction, suffer from a mental illness, have an intellectual disability or work as a sex worker, experience higher rates of sexual violence than the general community.[4]

Forensic aspects of sexual assault

Whether conviction of assailants assists victims in their recovery is uncertain. However, deterrents to criminal behaviour are important and require that proven perpetrators of sexual assault are punished. Few victims report these crimes and fewer still see their assailants convicted. Careful documentation and examination of victims' injuries is necessary to achieve convictions. Many alleged assailants are found not guilty because of arguments by counsel that the defendant could not be placed at the scene of the crime at the time of the alleged offence. Ageing the victim's injuries can be crucial for this argument to succeed or fail. Bruising or a contusion, for example, changes with time: it may be just a red

Key points

- Sexual assault is primarily a crime of violence and is not motivated by sexual gratification.
- Over ten per cent of women report a lifetime experience of sexual assault.
- Few victims report the crime to police and few assailants (five per cent) are ever convicted.
- Vexatious claims of sexual assault are uncommon.
- Medico-legal considerations often inhibit medical practitioners from becoming involved in victim management.
- The absence of physical signs of assault does not disprove allegations: at least 50 per cent of victims have no detectible injury and only one per cent have major genital injuries: most injuries are bruises or abrasions.
- Most patients when asked about prior sexual assaults take no offence: few (ten per cent) have ever been asked before. Less than five per cent seek professional help.
- Most victims report a fear of dying during the attack.
- The sequelae of sexual assault include anxiety, depression, nightmares, ritualistic behaviour, phobias, sexual dysfunction, substance abuse, marital disturbance and impaired work performance.
- Experienced counselling is an important component of the healing process.
- Victims may obtain closure in some cases by conviction of an assailant.
- Forensic examinations must include careful examination of all relevant parts of the anatomy and care with obtaining, documenting and preserving specimens.
- Gynaecologists need to treat all allegations seriously and manage victims with understanding and respect. An important strategy is to encourage victims to re-establish control over their personal lives.
- Government Sexual Assault Services[2] have expertise in sensitive and professional management of sexual assault victims, including liaison with police and the justice system.
- As of 1 October 2010, the NSW Rape Crisis Centre has provided clinical services for the new National Online and 1800 Counselling Service. The 24/7 service responds to anyone in Australia who has experienced sexual assault, domestic or family violence: 1800 RESPECT (1800 424017).
- RANZCOG has taken a leading role in educating Australian medical practitioners through its publication Medical Responses to Adults Who Have Experienced Sexual Assault: an Interactive Educational Module for Doctors, available via the website: www.ranzcog.edu.au/publication/womens-health-publications/sexual-assault-module.html .

mark in the first two days and then changes to blue to purple on days two to five. Thereafter bruising may be green and then yellow by days seven to ten. Contusions represent extravasation of blood into the surrounding tissues. This extravasation will follow the path of least resistance and thus may not be located at the site of the original injury. So when describing such injuries using the Sexual Assault Identification Kit, remember to describe the size, shape, site and assessment of the age of an injury. Because injuries change over time, a re-examination in three to ten days is useful.

DNA evidence is increasingly used to identify perpetrators of sexual assault. A single strand of hair may be sufficient to identify the assailant. Samples of semen, blood, saliva or skin can be taken and must be kept in dry containers. DNA samples degrade quickly: evidence left on or in the victim's body degrades quickly over two to ten days, especially in moist areas, so sampling must be undertaken soon after the assault. It is important to establish a 'chain of evidence' to avoid claims of tampering with samples. Samples included in the kits should be signed and placed in sealed containers and held in lockable refrigerators or safes. Specimens may be released into the custody of police for transfer to government analytical laboratories only with consent by the victim.

Legal aspects of sexual assault

Legislation on sexual assault has the potential to set standards of acceptable behaviour and change community attitudes to unacceptable behaviour. The issue of what constitutes consent to sexual intercourse is still a contentious one and defence counsels often argue that consent was given. In NSW, the old crime of rape was amended in 1981 to divide the crime of sexual assault into the following categories:

- Sexual assault inflicting grievous bodily harm. Penalty: up to 20 years in prison.
- Sexual assault inflicting actual bodily harm or using a weapon. Penalty: up to 12 years in prison.
- Sexual intercourse without consent. Penalty: up to ten years in prison.
- Indecent assault. Penalty: up to six years in prison.

This division of the old statutory crime of rape encouraged guilty pleas to lesser degrees of sexual assault. Australian and New Zealand legislation that is relevant to specific states and territories includes the following:

- NSW Crimes Act 1900, especially Section 61I;
- Crimes Amendment (Consent-Sexual Assault Offences) Act 2007;
- Vic. Crimes Act 1958 especially Section 38;
- Victorian Crimes Amendment (Rape) Act 2007;
- Qld Criminal Code Act 1899, especially Chapters 22, 30 and 32;
- WA Criminal Code, especially Section 326;
- Tas. Criminal Code Act 1924, especially Section 185;
- NT Criminal Code of the Northern Territory, especially Section 192;
- ACT Crimes Act 1900, especially Section 92;
- Commonwealth Crimes Act 1914 Part IIIA; and
- New Zealand Crimes Act 1961.

In New Zealand, there is debate as to whether a European model of inquisitorial fact finding might be more suitable than the current English style of adversarial justice, particularly for historic offences. New Zealand is also exploring the opportunities for 'restorative justice' whereby victims can have a voice to explain to a convicted offender what harm he has caused and the means by which those harms can be alleviated. It also allows a victim to understand what happened, why it happened and why it happened to them.[6] In Australia, similar systems are in place by way of Victim Impact Statements. These can be used for assessment of financial compensation.[7]

> 'The high percentage of women affected by sexual assault means that they will often present to gynaecologists with a range of functional gynaecological symptoms as part of their chronic post-traumatic stress disorder.'

Medical aspects

Victims are concerned about the twin problems of pregnancy and contracting a sexually transmitted infection (STI) from the assault. Government sexual assault services manage these problems. In NSW there are 52 HELP centres. Pregnancy is rare.[8] One Australian audit found that less than one per cent of victims conceived as a result of sexual assault. In the USA the rate of pregnancy following sexual assault is estimated as five per cent. Victims are offered emergency post-coital contraception with either ethinyl oestradiol (100μg) with levonorgestrel (0.5mg) (Yuzpe) or high-dose levonorgestrel (0.75mg) (Postinor), given within 72 hours of intercourse and repeated 12 hours later. These methods are effective in approximately 75 per cent of cases, but pregnancy tests should be offered several weeks later to exclude failures. STIs can include chlamydia, trichomonas, gonorrhoea (risk 6–12 per cent[9]), herpes simplex, syphilis (risk 0–3 per cent[9]), hepatitis B and C and HIV. Prophylaxis against HIV is controversial, but offered. Testing for these STIs, including follow up serological testing six weeks to three months later, is good practice.

RANZCOG's role in education and management

In 2005, a RANZCOG multidisciplinary working party produced a 150-page training handbook entitled: Medical Responses to Adults Who Have Experienced Sexual Assault. It was designed to be incorporated into both GP and specialist training programs to prepare doctors to care for patients who have been sexually assaulted. It contains:

- a comprehensive look at the range of health outcomes experienced by adults who have been sexually assaulted;
- scenarios though which doctors can become familiar with signs alerting them to the possibility that their patient has experienced sexual assault;
- self-learning tasks that provide the opportunity to explore a range of responses to the disclosure of sexual assault; and
- a section on self-care for doctors and a list of contacts for referrals to sexual assault services, plus a list of further resources and additional reading in specialist areas.

Concluding remarks

Few gynaecologists feel comfortable managing women who are sexual assault victims. In the acute phase of post-traumatic stress it is usual for women to be poor historians and are understandably highly distressed. Medical practitioners often fear giving evidence in court, but prior workshop training in court procedures is useful. The high percentage of women affected by sexual assault means that they will often present to gynaecologists with a range of functional gynaecological symptoms as part of their chronic post-traumatic stress disorder. Gynaecologists need to be aware of the possible underlying reasons if they are to avoid embarking on a range of unnecessary and unhelpful investigations. Few women resent questions being asked about possible sexual violence. Their illogical shame and guilt prevent them from volunteering that information. Competent management of such patients can be a rewarding and vital element in a woman's recovery from sexual assault.

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Case report: sexual assault as the hidden agenda

'Jillian' was a career Navy sailor employed as a driver. The sailors who were her frequent passengers would often make jokes about her driving skills. In 1986, Jillian was sexually assaulted by a Navy officer. He told her that should she notify the Navy police he would make sure that her annual personal appraisals were so bad that she would never be promoted. The assault was never reported. Two years later Jillian began presenting to her gynaecologist with a series of physical complaints: dyspareunia, dysmenorrhoea, menorrhagia as well as loss of libido and relationship difficulties. All of these were treated seriously and investigated: STI checks, pelvic ultrasound, and laparoscopy. All these investigations proved negative. The gynaecologist was aware of the sexual assault, but never offered counselling. Jillian left the Navy and became a Commonwealth public servant. A year later she committed suicide. The gynaecologist was left wondering if he could have managed the situation better.

Controversy in the classroom

How do we make progress in sexuality and relationships education in Australia?

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Family Planning Queensland (FPQ) has supported teachers and schools in their development and implementation of education for children and young people for more than 40 years. Despite the media's fondness for presenting articles on sex education as controversial, the evidence base is clear and unambiguous. We know sexuality and relationships education (SRE) contributes to a wide range of positive health and wellbeing measures

SRE contributes to reducing teenage pregnancy rates and improving sexual health by delaying early sex and improving contraceptive use. It helps children and young people to understand appropriate and inappropriate behaviours and be less vulnerable to exploitation and sexual abuse. It helps children and young people confidently navigate their way through puberty, into adolescence and adulthood, developing vital life skills along the way. These life skills include discernment, negotiation and communication, self-awareness, setting boundaries, understanding consent – saying yes, maybe or no, seeking help and respecting others rights.[1,2]

SRE is most effective when it is age appropriate, linked to explicit curriculum outcomes and delivered by teachers who have ongoing relationships with children and young people. And yet, there is no jurisdiction in Australia where implementation is consistent across all schools. This vitally important area is still subject to partisan whims, moral panics and has few political champions. We know 91 per cent of Queensland parents support school-based sexuality and relationships education[3], however, this is rarely reflected in media coverage.

In August 2012, the Australian Curriculum, Assessment and Reporting Authority (ACARA) released the Shape of the Australian Curriculum: Health and Physical Education paper, following an extensive consultation period. From then until February 2013, this document will be used to guide the development of a national curriculum, including learning areas in SRE. The extent to which this will actually change anything in the consistency of what SRE is provided to young people in the absence of monitoring and accountability mechanisms is debatable.[4]

However, the ACARA processes are attracting media and community attention and some familiar polarities are emerging, so it is timely to consider what effective advocacy might be in this important area of public health.

The first challenge for health advocates is to resist being drawn into debates on lists of biomedical content areas. Questions like 'when and if should children be told about abortion?' are not designed to make progress, but rather to derail it. Another problem with a knowledge only approach is that it places SRE in the 'priority soup', up against other health areas competing for limited available time. Programs are too easily designed to rely on didactic presentations from experts, rather than educative processes that actually engage young people as active participants in learning.

A year 9 teacher wrote in an FPQ workshop evaluation in 2011: 'Knowing about luteal phases or the difference between bacterial and viral STIs isn't going to help young people if they don't have the confidence and skills to negotiate, or care enough about themselves to want to.'

Good SRE programs provide spaces for young people to learn through interaction and discussion, focus on emotions, values, norms, relationships, safety, their world and experiences more effectively in order to be helpful. In our experience, there is very little focus on the mechanics and biology of sex.

According to a school-based health nurse, writing in a FPQ workshop evaluation, the most common question actually asked by young people in anonymous question box activity is: 'How do I know if someone likes me?'

A second challenge is to move away from framing young people's needs along risk paradigms. Health and Physical Education curriculums in Australia have frequently adopted a risk-based model, focusing on when and how young people experience risky health behaviours and exploring reasons and approaches to change these behaviours.[5] By shifting to a strengths-based approach, and approaches grounded in health literacy, we can make much more progress in what is offered to young people in this the 21st century.

The World Health Organisation defines health literacy as an individual's ability to gain access to, understand and use health information and services in ways that promote and maintain good health. It can be useful to consider health literacy in terms of three dimensions:

1. Functional: the acquisition of information relating to knowledge and services with respect to a health-related question;
2. Interactive: understanding and skills to actively and independently engage with a health issue and to apply new information to changing circumstances; and
3. Critical: the ability to selectively access and critically analyse health information in order to take action.[6]

Taking this kind of approach to the development of sexual health literacy also provides a clearer communication bridge between the health and education sectors. It draws focus to how SRE is taught, rather than what is being covered; and puts young people's learning at the centre of the process, rather than on the periphery.

A developmental and staged approach to SRE, with the goal of sexual health literacy, is also consistent with the evidence base of

children's sexual development. Sexuality does not suddenly get switched on when the hormones of puberty start coursing through our bodies.[7] Children are learning about themselves, their bodies and their relationships from the moment they are born. SRE programs need to reflect this reality and there are some excellent examples of age-appropriate resources being used in early childhood settings.

A third challenge for health advocates is to not undermine the role of teachers while supporting greater access for young people to SRE. The research in this area is unequivocal. Comprehensive SRE is most effective when delivered by teachers in an ongoing way. Teachers need to be supported by professional development opportunities, access to up-to-date resources and policy and curriculum endorsements.[4]

Moving away from thinking about SRE as delivery of specified program content, to a paradigm of facilitating the ongoing learning of children and young people is the most powerful contribution we can currently make to supporting the new curriculum.

FPQ is a member organisation of Sexual Health and Family Planning Australia (www.shfpa.org.au) and has a range of resources and programs to support schools' delivery of sexuality and relationships education (www.fpqteachers.com.au).

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Contested ground

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Sexuality education in New Zealand schools is a highly contested area, if the amount of noise in the media in the last few years is anything to go by.

Arguments reign over whether sexuality education is insufficient, leading to negative outcomes, through to there is too much and it encourages young people to become sexually active, resulting in negative outcomes and moral degradation.

The question needs to be asked: what do we expect from sexuality education? If we do not expect every young person to leave school as an expert in mathematics, why would we expect them to be getting everything right regarding their sexual behaviour and relationships? The success of school-based learning should be measured in terms of learning outcomes, rather than health behaviours.

However, sexual and reproductive health and sexual violence statistics are concerning and remind us there are negative outcomes associated with some sexual behaviour. We in the health and education sectors agree these risks are important enough to educate young people about them.

New Zealand has relatively high birth rates in the 15–19 age group, and the corresponding high rates of abortion[1] indicate unintended and unwanted pregnancies. Rates of sexually transmitted infections and unwanted sexual contact statistics[2] tell us that young people are not getting the information they want or need, or are not acting on it, and that some are experiencing negative health outcomes.

International evidence shows that good-quality, comprehensive, sexuality education has a protective function as young people who have had good education are more likely to delay having sex, reduce the number of sexual partners and increase condom or contraceptive use. Some programs have been found to reduce the frequency of sex.

Sexuality education is more effective if taught by trained educators; and when activities, instructional methods and behavioural methods that are appropriate to the culture, developmental age and sexual experience of the participants are used.[4] There is also evidence that sexuality education is most effective if it starts before young people become sexually active.

In December 2001, it became a requirement for sexuality education to be taught within a broader health program from Year 1 up to and including Year 10.[5] A new curriculum, The New Zealand Curriculum (NZC), was introduced in 2007.[6] It is a statement of official policy relating to teaching and learning in English-medium New Zealand schools.

Sexuality education is one of seven key areas of learning in the subject health and physical education. Each curriculum level under health and physical education – running Level One to Eight across 13 year groups – outlines the basic learning aims under the headings personal growth and development; safety management; personal identity; relationships; identity, sensitivity and respect; interpersonal skills; community resources; and rights, responsibilities and laws.

It will surprise many non-educators to discover that the NZC does not have a fixed body of expected knowledge. It does not prescribe the type, amount and depth of content knowledge to be taught.

Subject guidelines on how to operationalise the curriculum are still being developed. The core statement on health and physical education, published in 1999, remains the official guidance for developing programs. In it, the aim of sexuality education is identified as providing students with the 'knowledge, understanding and skills to develop positive attitudes towards sexuality, to take care of their sexual health, and to enhance their interpersonal relationships, now and in the future.'[7] Sexuality is therefore viewed holistically, within the context of social and emotional development and not just as means by which certain public-health outcomes can be achieved.

Schools are required to develop their own curriculum and programs based on the NZC outline. Boards of Trustees, the schools' governing bodies, are required to consult with their community, including students, at least every two years on how the school intends to implement the health curriculum, of which sexuality education is a part.[8]

Teachers are expected to interpret the NZC Achievement Objectives and identify students' prior knowledge and experiences, to decide what their students' need to learn in order to be able to achieve and progress in their learning.

Sexuality education programs require a response to all aspects of the curriculum. As a school community develops its own curriculum, the NZC gives direction to the principles that 'underpin and guide the design, practice, and evaluation of curriculum at every stage'.[9] Additional direction is given to the development of the values to be encouraged, modelled and explored (excellence; innovation, inquiry and curiosity; diversity; equity; community and participation; ecological sustainability; integrity; respect); key competencies required for learning (thinking; using language, symbols, and texts; managing self; relating to others; participating and contributing), and effective pedagogy underpinning effective teaching (supportive learning; reflection, relevance, shared learning, knowledge and experience; and teaching as inquiry).

Sexuality education is eminently suitable as a subject to develop these values and competencies in young people, and lends itself

ideally to using the effective teaching pedagogy such as drawing on experience, reflecting and interactivity.
What all this means in practice, however, is that there is huge variation between schools regarding their programs, including the comprehensiveness of content of their programs, and the quality of delivery and approach, and therefore student learning.

The status of sexuality education within a crowded curriculum means programs can be very brief in some schools, and are not long enough to meet the time characteristic of more than a few hours for effective programs.[10]

Parents have the right to withdraw their children from the sexuality component of the taught health program. This results in some young people missing out on accurate information and the opportunity to develop attitudes and skills that are health promoting in the broadest sense.

> '...young people want sexuality education to be taught in the context of relationships, treating them as "legitimate sexual subjects" and include topics such as pleasure, abortion, teenage parenthood, emotions, dealing with breaking up and diversity.'

The Youth 2007 survey of over 9000 secondary school students found that 36.3 per cent (n=2 931) reported ever having had sexual intercourse. Sexual activity levels were higher in 16 and 17 year olds.[11] With sexuality education compulsory only until Year 10, there is no requirement to provide sexuality education for the ages when students are increasingly likely to be sexually active.

In 2006, the Education Review Office (ERO) evaluated the quality of sexuality education in years 7 to 13 in 100 schools.[12] The evaluation found some highly effective and ineffective schools with the majority of programs not meeting students' learning needs effectively. Of schools reviewed, 20 per cent had substantial weaknesses. Two areas of particular weakness in two-thirds of the schools were the assessment and tracking of student learning, and the need to improve performance 'significantly' in the area of meeting the needs of diverse groups of students. This included meeting the needs of Maori and Pacific students and non-heterosexual students.[13]

Schools needed to improve on undertaking two yearly community consultation and including students' voices in this process. Failure to do so risks young people disengaging.

New Zealand studies have found that young people's needs are not being met in sexuality education programs. There is a strong focus on health pragmatism and safer sex discourses[14], particularly for older age groups. By contrast, young people want sexuality education to be taught in the context of relationships, treating them as 'legitimate sexual subjects'[15] and include topics such as pleasure, abortion, teenage parenthood, emotions, dealing with breaking up and diversity.[16]

In order to improve sexuality education, ERO recommended school-wide guidelines, safe and inclusive learning environments, and the provision of support service information. The contributions of external providers need to be integrated into programs and their quality and effectiveness monitored, while any resources used need to be reviewed.

The adequacy of professional development for teachers needed investigation. Since the review, there has been a cut in pre-service training and in funding for in-service training options for teachers, resulting in even fewer professional training opportunities and supports. The recommendations to government Ministries to strengthen the quality of sexuality education, post-2007 ERO report, have not yet been met.

The experience of Family Planning since the ERO review is that many schools are still struggling with community consultation and developing program content and many teachers are still uncomfortable with teaching sexuality education. It seems evident that we are a long way from achieving consistently good practice in the teaching of sexuality education.

Family Planning provides teacher training programs and consultancy services, alongside publishing resources that teachers can use to base the development of their teaching programs on, appropriate to their students' needs and community wishes.

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Do special needs require special treatment?

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Sexual and reproductive health issues in girls and young women with intellectual disabilities.

Sexual health is a state of physical, emotional, mental and social wellbeing in relation to sexuality; it is not merely the absence of disease, dysfunction or infirmity. Sexual health requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination or violence.

So, as clinicians involved in women's health, we are involved in ensuring that our patients achieve optimal sexual health and ensuring that they have access to appropriate and reliable contraception. How does this work for those women with intellectual disabilities?

In many respects, the answer to the question is that the care and principles are clearly no different. Yet, at other levels, the needs are actually different, just as they are individually different for each woman under our care.

For the families of young women with disabilities there may be a considerable level of anxiety about how they will cope with menstruation.[1] For the young woman with a significant intellectual disability, reaching menarche may be a very distressing event. The unexpected appearance of blood from a body part that has never before bled can be distressing and disturbing. Some of this distress could have been prevented with education, but rather than some discussion in a classroom or by a female relative, this may have required repeated instruction and actual demonstration by other female family members of bloodstained pads – with demonstration and reiteration of the normality of this bleeding – and then the repeated demonstration of how to remove the bloodstained pads, dispose of them and trial runs or practice in wearing pads. Most mothers don't do this for their daughter without a disability, yet this is what may be required to assist a young woman with an intellectual disability or an autism spectrum disorder. Quite different and challenging – yet the endpoint is no different to usual – trying to ensure that the young woman has an understanding of menstruation as a normal physiological process.

We manage heavy and painful menses as gynaecologists – trying to ensure that our patients' quality of life, their participation in school, sport, work and social activities are not affected by their menses. We intervene if our patients have seizures or migraines with their menses, or have exacerbations of mood problems. So if our patient has an intellectual disability – the aims are the same – although the

Case studies

'Clare' is a severely intellectually disabled 19-year-old woman who is wheelchair dependent, requires assistance with feeding, dressing and toileting. She has been on two anticonvulsants for epilepsy, which had been reasonably controlled during childhood. She is in nappies at night, with timed toileting during the day. She has limited communication skills. Her periods began quite late at 17 years old (probably because she was relatively underweight). When her periods began, she appeared to be distressed, would refuse food and there were significant problems with toileting and pad changes. The frequency of seizures dramatically increased with the onset of pubertal changes and it became apparent that they worsened particularly with menses. These problems were not reduced with the use of nonsteroidal anti-inflammatory drugs (NSAIDs).

The oral contraceptive pill (OCP) was commenced (using a 50mcg ethinyl oestradiol pill, microgynon 50, owing to the anticonvulsants) – and was used continuously. Minimal breakthrough bleeding is occurring and Clare is no longer missing school, which is an important physical and social activity for her. Her seizures are back under control. An alternative might be depo medroxy progesterone acetate – potentially using some oestrogen as add back.

'Tegan' is a 13-year-old girl with autism spectrum disorder and an intellectual disability who attends a special school. Despite educational efforts, she gets distressed at the time of her periods, which are occurring every month and last ten days although they are not particularly heavy. Her periods interfere with her ability to participate in swimming – one of the few physical and social activities that she enjoys. She was tried on the OCP (which was challenging as she does not like taking tablets), but she became particularly moody. An alternative OCP was tried with less moodiness, but she had a lot of breakthrough bleeding.

A levonorgestrel intrauterine system (IUS) was inserted under a brief general anaesthetic. Her parents report that with the levonorgestrel IUS, not only is there now minimal PV bleeding, but there has also been an improved participation in school and swimming, and they are delighted by the increased personal privacy and dignity for their daughter with fewer staff and family now involved in menstrual hygiene care.

criteria of distress or what amount of menses disrupts their quality of life and participation in activities may be different.[2] If menstruation is going to impact on her capacity to participate in social activities or swimming, or she is getting increased seizures at the times of menses – then we have a role in ensuring that factors relating to her reproductive physiology do not negatively impact on the young woman's quality of life.

For the prepubertal girl with an intellectual disability, there is often family concern regarding the potential impact of menstruation. Some of the family concern arises from the recognition that their daughter is now at risk of pregnancy, sexual abuse and symptoms that will impact on her quality of life. This particularly applies if the mother has experienced heavy or painful menses.

Sexuality and the desire to explore this aspect of life is present in the majority of people and thus this applies to young women with intellectual disabilities. We have a responsibility to ensure that the sexual relationships are not abusive – so the level of disability between two young people having a sexual relationship probably needs to be similar. Access to contraception needs to be considered and planned, recognising that methods that require 'remembering', such as condoms and daily pills are probably not the most appropriate.

Consultation with families prior to menarche is helpful[1,3] – to have the discussions regarding normal pubertal changes, normal development of sexual interests and normal adolescent (often) rebellious activities. However, this also gives you the opportunity to inform families and the young woman about the range of options that are available to ensure that menses will not have negative impact on their sexual and reproductive health – and that we are willing and able to assist. There are some resources available through agencies such as Family Planning. Most special development schools will run appropriate programs regarding sexual health and contraception. Nevertheless, families may still struggle to get access to reliable and accurate information. Having these consultations early, rather than several years after the family has struggled with menstrually related problems, is much easier.

Although requests for sterilising or permanent, irreversible procedures (hysterectomy, tubal ligation or endometrial ablation) still arise occasionally, they are only very rarely required.[3,4] As they are considered special medical procedures, since 1992, following Marion's case in the High Court of Australia[5], special court or guardianship approval is required (the actual regulations are different in each state and vary for under and over 18 years old).

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Tibolone and libido: not a trivial pursuit

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In view of Tibolone's effect on preserving or enhancing libido, it is an effective alternative for those seeking hormone replacement therapy for dysfunctional menopausal symptoms.

The use of tibolone needs to be seen in the context of the use of hormone replacement therapy (HRT) for ameliorating menopausal symptoms with consideration of their side effects and long-term consequences. Loss of libido at a time of already debilitating symptoms and changed lifestyle may be clinically very important. The use of tibolone for compensation may not be a trivial consideration.

The publication of the Women's Health Initiative (WHI) study in 2002[1] resulted in prescriptions for HRT being in the doldrums for the last decade, with declarations of unacceptable risks of HRT in terms of increased hazards of serious sequelae such as stroke, breast cancer, venous thromboembolism and cardiovascular complications associated with its use. The reporting of an increased relative risk in adverse effects, while real, had the effect of alarming women as to an exaggerated risk compared to the real numbers of an increased risk of breast cancer. As a consequence, practitioners tend to focus on treating predominantly vasomotor symptoms (for the shortest duration in the transition period of the menopause) and overlook HRT's wider prophylactic role. Vasomotor symptoms may have a cascading effect on many organ systems and they can be quantified in terms of severity (Greene score). They may be associated with considerable cognitive deficits (Maki, AMS conference 2012).

HRT may have the effect of improvement in cognitive information processing recognising that the best may be a transdermal oestrogen, for example, oestradiol. Micronised progesterone (Utrogestan®) appears to have the safest profile of the current progestogens. Alternatively, transdermal oestradiol plus the progesterone component in the form of a Mirena intrauterine system (IUS) may be ideal. These modalities of delivery are most likely to mitigate against the increase the major morbidities associated with prolonged use of HRT – thromboembolism, stroke, breast cancer and cardiovascular events.

Table 1. Contraindications for prescribing Tibolone.

Undiagnosed genital bleeding
Women over 60
Women with risk factors for stroke – eg hypertension, smoking, diabetes and atrial fibrillation.
Pregnancy and lactation
Known past or suspected breast cancer
Known or suspected oestrogen-dependent malignant tumour
Endometrial hyperplasia
Previous or current venous thromboembolism (DVT, pulmonary embolism)
Known thrombophilic disorders (eg protein C, protein S or antithrombin deficiency)
History of arterial thromboembolic disease (eg angina, myocardial infarction, stroke or TIA)
Acute liver disease or with abnormal liver function tests
Porphyria

Despite the well-publicised adverse long-term effects of HRT, there is evidence in a meta-analysis of randomised controlled trials that there is a decrease in both cardiovascular events and mortality in those commencing HRT under the age of 60.[2] This has led to the concept of a 'window of opportunity' for the efficacy of HRT close to the onset of menopause. Two trials, the Early versus Late Intervention Trial with Estradiol (ELITE) and Kronos Early Estrogen Prevention Study (KEEPS), will seek to address this issue.[3]

Tibolone is one alternative in the armamentarium of HRT although cost may be a consideration at $45–55 per month, as it is unsubsidised both in Australia and New Zealand. It is derived from naturally occurring steroids.[4] It is given in a daily oral dose of 2.5mg for the relief of hot flushes, sweats and other troublesome symptoms resulting from a surgical or natural menopause (which may be also premature) in the postmenopausal woman. After being taken orally, it is rapidly metabolised into the three compounds that characterise its therapeutic effects. The 3α hydroxyl and 3β hydroxyl metabolites have predominantly oestrogenic activity and the third, a Δ4–isomer of tibolone and the parent compound, has predominantly progestogenic and androgenic activities. The mechanism of action of oestrogens, and hence tibolone, on hot flushes is unknown, but they may act by modulating central noradrenergic activity, which plays a role in thermoregulation, narrowing the thermoneutral zone.[5,6]

In vitro studies demonstrate reduction in the levels of active oestrogens in breast cancer cells. It has atrophic effects or weakly proliferative effects on the endometrium. Tibolone has a unique benefit in that it does not cause an increase in breast density as conventional oestrogen containing HRT.[7] Conventional HRT is problematic because of the increased breast density which results in false positive recalls with breast screening and difficulty in discerning true pathology because of the increase in breast density.

It is less common to have bleeding with tibolone.[8] It is very important to make sure the woman does not have undiagnosed vaginal bleeding on commencement of tibolone and that there are no other contraindications to its use (see Table 1).

Tibolone has a trophic effect on mood and libido, which may be its unique feature compared to other HRTs, possibly a consideration for its preferred use in the treatment of menopausal symptoms. It preserves bone mineral density, as measured with DEXA, with a reduction in bone resorption. The androgenic effects decrease high-density lipoprotein cholesterol, triglycerides and lipoprotein and may increase blood fibronolytic activity. It improves vaginal dryness and vaginal atrophy.

The individual demands of the patient are often at odds with the clinical trial data and assessment of risk is both subjective and does not take account of the impact of menopausal symptoms on an individual's day-to-day life satisfaction. Sexual functioning and performance involves a multiplicity of organ systems that include anatomical, physiological, endocrine, psychological and social features of performance and response. Implicit in low libido are symptoms consistent with female androgen insufficiency (low libido, decreased energy and wellbeing) or hypoactive sexual desire disorder.

Tibolone as HRT in the postmenopausal woman has possible therapeutic advantages to preserve libido. This may be a consideration where the monotony and the mundane combine to produce the mediocre and finally the melancholic in relation to libido or lack of it. Tibolone with HRT and daily oral DHEA provided significant improvement in sexual function postmenopausally in a randomised controlled trial.[9] However, the evidence suggests that tibolone, with respect to maintaining libido, should not be considered a panacea or placebo to reverse the reality or the concept of low libido being part of the pension plan. Neither is it the female equivalent of silendafil, which may be effective just to treat arousal.[10] Silendafil for women does not increase desire. It may increase orgasm because of the physiological function to increase blood supply to the clitoris. It only works with normal testosterone levels.

Tibolone improves sexual function in postmenopausal women, but this does not imply it has an effect on female sexual dysfunction.[11] Tibolone was compared with continuous combined transdermal oestradiol (E2/norethisterone acetate (NETA) (50 microg/140 microg) in naturally postmenopausal women with sexual dysfunction. Improved sexual function was assessed by the Female Sexual Function Index (FSFI). A 25 per cent satisfying sexual event rate was found with a reduction in sexuality-related personal distress in the tibolone group. The FSFI, is a detailed 19-item questionnaire, which includes sexual desire, arousal, lubrication, orgasm, satisfaction and pain.

The Cochrane review[12] cautions against the long-term safety of tibolone compared to combined HRT and there is uncertainty over its risk profile. The LIBERATE study[13] confirmed that tibolone can significantly increase breast cancer in high-risk women who had been surgically treated within a five-year period for breast cancer (for whom usual oestrogen and combined HRT therapies are contraindicated). This study was adequately powered to detect the risk of breast cancer recurrence. The risk was an average of 15 extra recurrences every 1000 women each year. Over 70.1 per cent of recurrence events were distant metastases ultimately leading to death. On the basis of these findings the trial was stopped at 3.1 years. Unpublished data, according to the Cochrane review from the Million Women Study (Beral 2007), suggested a higher risk of fatal stroke with tibolone versus other hormonal therapies (RR 1.58, 95 per cent CI 1.06 to 2.37). The risk of stroke compared to placebo was assessed in the LIFT study[14] which was stopped after 33 months because unexpectedly there was 2.3 more events every 1000 women per year. The study participants were between 60 and 85. Its effects were to decrease the risk of fracture and breast cancer but an increased risk of stroke. Thus tibolone should not generally be used in elderly women.

While tibolone may be the preferred HRT for decreased desire in the postmenopausal period, AndroFeme® (cream containing one per cent w/v (10mg/ml) Testosterone B.P. (17β Hydroxyandrost-4-en-3-one) is the treatment of choice for low libido as an isolated symptom in the menopause. It should only be used where testosterone levels are measured and low levels identified.[15] Measurement of testosterone includes total T, free T, or sex hormone binding globulin (SHBG) and FAI. Androgen values should be in the lowest quartile of normal ranges for reproductive age women (free T<5.0 pmol/L or FAI).[2] There is no safety data on long-term use of AndroFeme®. It is administered as 0.5ml of cream (5mg of testosterone) as a starting dose applied once daily to the inner aspect of the upper arm or outer thigh. The dose is absorbed within 30–60 seconds. The dose is varied according to the severity of the symptoms and the clinical response. A follow-up blood test should be done within three weeks of initiating treatment. Levels should be maintained at the upper limit of normal therapeutic range for females.

When considering therapeutics in the postmenopausal woman, the question of low libido is a challenging one based on available evidence. Tibolone is an option for treating low libido in postmenopausal women, requiring HRT for symptomatic control. It has a low side-effect profile but published longer term health risks need to be evaluated for the individual and it should be avoided in those over 60 years of age.

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Male sexual dysfunction

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Male sexual function is multifactoral and changes to health, age and lifestyle can all result in dysfunction or the perception of it. Open discussion with a medical practitioner is the first step to finding effective treatment.

Male sexual function has three components: libido or sexual desire; erectile function or arousal; and orgasm/ejaculation.

Libido

Libido in men (and women) is driven by testosterone. Desire disorders may present as hypoactive desire disorder (often lifelong), inhibited desire (may be situational) and desire discrepancy (an increasingly common disorder in couples).

Desire problems in younger men mostly have a psychological basis (often around commitment issues). Older men experience a slow decline in testosterone levels at about one per cent a year from the age of 40. This may not only reduce libido, but may also result in a controversial condition called partial androgen deficiency in the ageing male (PADAM). This title is not approved in Australia. As men age, higher levels of sex hormone binding globulin reduce the amount of bioavailable testosterone.

The clinical symptoms of PADAM are said to be deceased libido, erectile dysfunction (ED), depression, fatigue, decreased muscle mass, decreased bone density and increased visceral fat. Yet it should be noted that depression is a significant cause of low libido in men of all ages. Depression and any concomitant health problems have the tendency to lower testosterone levels.

Testosterone is a requirement for nocturnal erections and has a minor role in the quality of sexually induced erections. Testosterone, through its receptor sites in cavernosal tissue, helps improve the action of PDE5 inhibitors that otherwise have poor results in hypogonadal men. Treatment with testosterone may increase libido and provides an improved sense of wellbeing. However, it may also aggravate prostate disorders (this remains controversial), raise haematocrit and aggravate symptoms of sleep apnoea.

Erectile function/dysfunction

ED is defined as the inability to achieve and maintain an erection sufficient to permit satisfactory sexual intercourse. ED is a systemic condition often associated with other potentially serious medical conditions usually vascular and involving endothelial dysfunction, such as diabetes, coronary artery disease and peripheral arterial disease.

Until the late 1980s, ED was suspected to be mainly psychological in origin. ED is now regarded as a mainly physiological disorder as penile erection is a neurovascular event. The most common pathological factor for ED is vascular disease, such as that caused by diabetes, hypertension, smoking and hyperlipidaemia. The present worldwide prevalence of over 150 million men with ED is likely to increase in the coming years, exceeding 300 million men by year 2025, particularly due to the increasing incidence of obesity and diabetes.

The incidence of ED increases with age; smoking; alcohol use; obesity and metabolic syndrome; diabetes; hypertension; hyperlipidaemia; and depression. Some medications, including beta blockers, thiazide diuretics and psychotropic medication, contribute to ED. Asking proactively about ED may expose unknown hypertension, diabetes and ischaemic heart disease as between 39 and 64 per cent of male patients with cardiovascular disease suffer from ED.

> 'Older men require more stimulation to achieve an erection, have less intense orgasm and reduced ejaculatory volume.'

Most doctors are skilled at taking a general medical history, but have a level of discomfort in discussing sexual matters. Patients with a sexual problem may have the same discomfort in discussing the problem, so difficulties may not be revealed. However, sexuality may remain important in men and women despite the onset of ill health and the changes of ageing.

Older men require reassurance that changes in their erectile function is a natural process and does not necessarily require treatment other than adjustments to sexual technique. Older men require more stimulation to achieve an erection, have less intense orgasm and reduced ejaculatory volume. Use of condoms can be a problem because of the difficulty maintaining the erection. Repeating the sexual act (refractory period) may require days rather than hours.

Treatment

Initial treatment should be focused on lifestyle changes and management of current medical conditions.

Oral medication

The introduction of sildenafil (Viagra™) in 1998 heralded a revolution as the first oral medication for ED. Tadalafil (Cialis™) and vardenafil (Levitra™) have since followed. These medications belong to the class of selective PDE5 inhibitors that relax corpus cavernosal smooth muscle through the action of nitric oxide on cyclic GMP. They have proved safe and effective for most causes of ED, except severe vasculogenic and neurogenic ED. They are contra-indicated in men who use nitrate medication or the recreational drug amyl nitrate. PDE5 inhibitors also have a role in the treatment of psychogenic ED. Each of the three types has the potential for side effects, which include headache, facial flushing, blocked nose and gastric reflux.

Penile injection

Prostaglandin E1 (PGE1) also known as alprostadil is the medication with the least risk of fibrosis or priapism (prolonged erection). PGE1 is prescribed for men where oral medication does not work or is contra-indicated. It is marketed in Australia as Caverject Impulse™, a neat package where the powder is mixed with water and the dose dialled all within the barrel syringe. Combination mixes available through compounding pharmacies are known as PGE1, phentolamine and papaverine (Trimix). These mixes may have a higher risk of fibrosis and priapism. The treatment of priapism initially involves taking two 60mg pseudoephedrine tablets if the erection remains after two hours.

Vacuum erection devices

These devices create an erection by extraction of air from a cylinder placed over the penis. The vacuum created causes increased blood flow into the penis that is held by a rubber constriction ring. The technique requires practice and preferably the assistance of a partner.

Penile implants

Surgically implantable penile prostheses have been in use for 30 years. These days, implants are inserted as the last resort due to the effectiveness of the other ED treatments. A three-piece inflatable device (penile rods, scrotal pump and fluid reservoir) gives the best cosmetic and functional result. There are low rates of mechanical failure and infection.

A note about ED post radical prostatectomy

Surgery for prostate cancer is a now a common procedure. If the neurovascular bundle on each side of the prostate cannot be saved, then ED will inevitably follow. Treatment with oral PDE5 inhibitors does not work without intact nerves owing to the lack of neurotransmitters. Even with intact neurovascular bundles, the return of erectile function may take from six to 36 months to occur (if ever). The quality of erections also depends on the pre-surgery erectile function. Initial treatment is either PGE1 injection therapy, or oral medication, taken either daily or as required. It is important to keep testing with oral medication from time to time because as soon as oral medication becomes effective, injections can be stopped.

There is some evidence of benefit being on continuous oral medication in the presence of neuropraxia owing to the positive effect of PDE5 inhibitors on the endothelium within the cavernosal tissues.

Orgasm/ejaculation

Male ejaculation disorders are premature or rapid ejaculation, inhibited or delayed ejaculation and retrograde ejaculation. Premature ejaculation (PE) is the commonest disorder, though can be misdiagnosed owing to a common male misconception of how long the intra-vaginal ejaculation latency time (IELT) should be.

There is consensus that ejaculation occurring before 1.5 to two minutes after penetration represents true PE. Ejaculation just before or on penetration can be an extremely distressing condition.

PE can be primary or secondary. Primary PE arises in the ejaculation centre in the medial pre-optic nucleus of the hypothalamus and is no longer regarded as a purely psychological problem, rather neuro-biological. However, it can be accompanied by a secondary performance anxiety that often complicates the situation. Secondary PE may be caused by stress and anxiety, relationship problems or ED.

Men with PE are often reassured with explanation of normal IELT. The traditional behavioural techniques such as the stop-start and squeeze techniques remain popular treatments. The ejaculation-inhibiting effect of some of the selective serotonin reuptake inhibitor anti-depressant medication can be a successful treatment in severe cases.

Inhibited ejaculation is usually an issue with sexual intercourse rather than with masturbation. It can arise where arousal from penetrative intercourse does not match the arousal obtained from masturbation. This condition may be seen in certain personality types. If a man is unhappy in a relationship, and particularly if his partner wishes to conceive, then he may be unable to ejaculate in that situation.

Retrograde ejaculation often occurs after surgery for a tight bladder neck or benign prostate hypertrophy. Neurological conditions and diabetes may decrease bladder neck tightness where the sensation of orgasm is intact, but the semen is directed into the bladder.

Pink Viagra

Women, medication and libido – who wants a threesome?

Dr Bella Ellwood-Clayton
Sexual anthropologist

Somewhere in Continental Europe. Two women in their 30s are touching up their make-up in a chi-chi restaurant bathroom. The brunette takes a little spray bottle out of her handbag, pulls up her A-line skirt and sprays her inner thigh. The other woman raises her eyebrow and the brunette smiles, explaining, 'I'm on a date. It's Eros Breeze…'

Given recent technological advances, the increase of understanding in neurobiology and our sex-fuelled culture, it's difficult to even imagine the future of postmodern libidos. At present, there are a number of drug options for women experiencing sexual problems. But almost all of the drugs targeting female libido aren't on sale at a pharmacy. Many are being trialled, for the second or third time, while most have been flat-out rejected by the regulators such as the Australian Therapeutic Goods Administration (TGA) and the American Food and Drug Administration (FDA) because they haven't been considered safe or effective enough for public consumption. Yet, with these drugs there is constant trial and error, oftentimes with surprising results. As such, many drugs experience a rebirth and are used in different ways, for different purposes, by different companies and in different countries, making it all rather complicated.

It is only a matter of time, however, before one of these drugs, or a close relative, will come out on top. Not usually a gambling woman, I have a number of reasons to be confident. First off, given the commercial success of Viagra, finding its female equivalent is an obvious goal. Second, the number of drug-company-backed researchers in hot pursuit of a sexual fortifier for women is similar to the backing received for walking on the moon – lots of hard science, lots of hard cash. Third, a whole new related discipline has been created called 'sexual medicine.' Fourth, recent advances in brain research promise discoveries about where desire is located in the human brain and how to amplify it, this will inform the creation of an elixir that changes not only our body's reaction to stimuli, but how we think about it. It's likely that research on sexuality in relation to hormones and blood flow will also become more compelling. Fifth, marital sex has become the bedrock of measuring marital happiness, with divorce or adultery a common response to lack of sexual satisfaction. And, sixth reason, our sexuality is already increasingly medicalised. Sex drugs are part of our common landscape: the contraceptive pill and hormone replacement therapy, now ordinary aids in our sophisticated modern life.

Medicine has replaced magic, and doctors and lab researchers have replaced the shamans and herbalists of yesteryear. We can turn a man into a woman, stop female fertility, alter melancholy and reverse some of the effects of menopause. Well, then, what can the enterprise of medicine do for our tired, lagging libidos?

When researching my book, Sex Drive: in Pursuit of Female Desire, I grouped the drugs that target female desire by whether they affect blood flow, the hormonal system or the central nervous system. Looking at the blood flow drugs, we have Viagra and its groupies, Cialis and Levitra. All are classed as phosphodiesterase 5 (PDE5) inhibitors, which increase blood flow to the genitals by raising the levels of nitric oxide, which encourages relaxation and dilation of the blood vessels. Limited research shows that women who take Viagra experience increased blood flow to their vagina and clitoris. Some research has shown that PDE5s can counter the negative sexual side effects associated with taking selective serotonin reuptake inhibitor antidepressants and that it may be helpful to women with arousal disorders. But as for women in the mainstream population, studies so far have been disappointing. Other sex drugs targeting blood flow include NMI-870, Femprox and ArginMax.

On the hormonal front, testosterone has been given to men for many years. Researchers are currently looking at how it might benefit women. 'Androgen deficiency' in women is, of course, controversial. While some researchers believe it can cause lethargy and lack of desire in women, it is difficult to measure and there is no definitive testosterone level that correlates to low libido. Yet there is agreement that total circulating and available testosterone in women in their 40s is about half that of women in their 20s. An increasing body of research shows testosterone therapy causes improvement in desire and pleasure for women. Safety concerns associated with testosterone include masculisation, risk of exposure to children and pets, and a possible link to breast cancer.

Intrinsa, a testosterone patch was rejected by regulators in the USA, Canada, Australia and Asia, before gaining approval in Europe in 2006. It's only available for women with diagnosed sexual problems, or women who have premature menopause as a result of surgery. It was rejected in the USA not because it wasn't shown to work – in fact, the panel voted 14 to three that the trials showed a meaningful improvement in desire and pleasure – but because data on safety was considered inadequate.

Given that no testosterone product has been government-approved to treat low libido in women in the USA, Asia or South-America, it has led to the off-label use of testosterone products commonly used for men, but in lower doses. Discussing this practice, Australian expert Dr Susan Davis and her colleague Esme Nijland suggest that an uncontrolled trial of the safety of testosterone is already happening in the community. Testosterone sprays of different sorts are also currently being tested. So too is Libigel, a testosterone gel applied to the arm. Drugs based on dehydroepiandrosterone (DHEA) can be bought in the USA and Canada, but are not available in Australia. AndroFeme (a cream) is approved in Western Australia. This cream has been used in some short-term studies. Longer studies are required to better understand long-term safety.

The purported benefits of hormone replacement therapy (HRT) include a reduction of vaginal dryness and increase of overall sexual function. Tibolone, for instance, a synthetic hormone with estrogenic and testosterone effects, is mainly used for HRT in postmenopausal women. It is available in the UK, other parts of Europe and Australia, although it is not approved in the USA.

Women in the USA are increasingly opting for what is known as bioidentical hormone replacement therapy, and not only to treat menopausal symptoms, but as a way to increase sex drive, vitality and beauty via youthfulness. With celebrities such as Oprah Winfrey and Robin McGraw, the wife of talk-show host Dr Phil, fronting the trend, it has become an 'it' drug. Blood tests are taken to determine a woman's hormonal levels, resulting in a calculated prescription of bioidentical oestrogens, progesterone, pregnenalone, testosterone and/or DHEA, followed by regular hormone monitoring. However, no studies exist on their long-term effects.

Lastly, there are the drugs that affect the central nervous system. Flibanserin was rejected in 2011, because it wasn't considered effective or safe. Bupropion, originally an antidepressant and smoking cessation aid, is currently used off-label for women with chronic low libido. Several studies have shown it improves women's desire, although side effects include skin reactions and, in some cases, psychiatric disturbances. Bremelanotide is currently in pending phase 2 trial discussions in the USA. Previously the drug, nicknamed the 'Barbie drug' (melanotan II), was used as a sunless tanning drug. Studies have shown that when given to female rats, they showed a somewhat more interest in males. As for human females, a few small studies have displayed positive effects for genital arousal and desire.

What can we make from all this? Is it possible that rather than prescribing 'pink Viagra' – the moniker for the entire enterprise – there may be another more powerful prescription? After all, studies show that divorce or the start of a new relationship can revitalise an otherwise lethargic libido. So, could be novelty be just what the doctor ordered? Before trying a new drug – or, indeed, a new partner – consider these relationship improving options: sex therapy, mindfulness practices, manufacturing distance or danger, and rechanneling libido. Sexual prime is a function of 'sexiness' – and that can peak at any age.

Body dysmorphic disorder

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'Everything has beauty, but not everyone sees it.'
Confucius

Body dysmorphic disorder (BDD) is a type of mental illness. It is a somatoform disorder characterised by a preoccupation with an imagined deficit or a slight physical anomaly in appearance; and has often been referred to by clinicians as 'imagined ugliness'. Such individuals are highly convinced of the validity of their claim, which causes significant distress and impairment in social and occupational functioning. BDD patients tend to have difficulty working or going to school, experience difficulty in sexual relations and may become housebound. Sometimes, the distress experienced can even lead to unnecessary cosmetic procedures, acts of self-mutilation, suicidal ideations, suicide attempts and may even require hospitalisation.

BDD is differentiated from standard concerns of body image by its severity and chronic nature. BDD patients are consumed by their perceived defect making it difficult to think of anything else. Nearly all individuals with BDD engage in time-consuming behaviours adopted to examine, disguise or improve the body part. Such behaviours are usually conducted in a meticulous and ritualised manner, and patients find them very hard, if not impossible, to resist. Such compulsions include excessive grooming, touching, contorting, skin picking, hair pulling, mirror checking and glancing at reflective surfaces. On the other hand other patients go to lengths to avoid being confronted by their reflection. Camouflaging with make-up, hats, clothes or hands is also very common; many making sure they are never seen without these safety measures in place. Excessive reassurance seeking and comparing the 'defected' part with that of others is also characteristic of BDD.[1]

BDD is closely associated with several other mental illnesses, including obsessive compulsive disorder (OCD), major depressive disorder (MDD), social phobia and anorexia nervosa; patients with BDD reporting similar symptoms to the aforementioned conditions. These include (but not exclusively): compulsions and rituals, lowered mood, loss of self-esteem, a sense of personal guilt and worthlessness, suicidal ideation, fears of negative evaluation, with a resultant avoidance of social situations, feelings of social defectiveness and shame, marked body image disturbances and dissatisfaction, an ensuing drive to 'enhance' appearance as well as an undue emphasis on physical appearance during evaluations of self-worth.

Prevalence

Currently, the prevalence of BDD is unknown. Preliminary data suggest that it may be about two per cent in the general population.[2] However, due to the secretive nature of BDD patients, it is possible that prevalence rates are higher. Of relevance to the current article, BDD prevalence in aesthetic and beauty clinics has been projected to be eight times higher than community samples; with 14 per cent prevalence in dermatology patients[3] and nine per cent prevalence in cosmetic surgery patients.[4] BDD patients will most often initially present themselves to dermatologists, cosmetic surgeons, gynaecologists and other medical professionals; and it may be up to 10–15 years before they seek help from mental health professionals. This can lead to improper treatment, and

Mirror, mirror – patients with BDD frequently return for repeat cosmetic surgery procedures and are unable to 'see' the change that the cosmetic surgeon is referring to.

unnecessary economic and psychological suffering. It is, therefore, essential that other medical professionals are aware of BDD and can recognise the signs and symptoms.

Gender differences

The most commonly perceived flaws in BDD relate to the face; hair; skin and nose, especially the shape and size of the nose; thickness and projection of the lips; or look of the cheeks or chin. Although other body parts can be affected including genitals, thighs, buttocks, abdomen, hands, feet, shoulders, hair and back. There is a general consensus that BDD afflicts equal numbers of men and women, ranging from 1.4 to 2.2 per cent of men and 1.9 to 2.5 per cent of women.[5] Yet consistent gender differences have been documented in terms of the specific body areas triggering fixation; male distress was predominantly associated with baldness, body build and genitals, whereas major female concerns tended to centre upon skin, breast size and overall body weight.[6] These discrepancies reflect culturally mediated gender norms and suggest that existing social values exert an impact on the content of BDD symptoms.

> 'It is important that training guidelines for practitioners be established and that long-term outcome, psychosexual and safety data be published.'

Although, to date, large-scale surveys have reported a low prevalence of female BDD patients with a genital preoccupation, cases can be found both in the literature[7] and in specialist body image/psychological clinics. When genital preoccupation in females does occur it tends to be part of multiple concerns about the body. With regards to genitals, most of these women report their labia are either bulky, asymmetrical, misshaped, too long or protruding. However, when gynaecologists are consulted, in the large majority of cases, size and shape of the labia were within normal ranges.

Treatment for BDD

Though a full appraisal of available treatments for BDD is beyond the scope of this article, the most efficacious modalities to date relate to pharmacological and/or psychological interventions. Selective serotonin reuptake inhibitors are recommended as the current medication of choice for BDD; while cognitive behavioural therapy is also reported to have moderate therapeutic success.

Cosmetic surgery

In contrast, the results of cosmetic surgery are unpredictable in BDD and most commonly give rise to long-term dissatisfaction. Several studies assessing cosmetic procedure outcomes for BDD have found that these medical treatments tend to be ineffective; BDD diagnoses, psychiatric comorbidities and high levels of functional handicap remained at follow-up, despite subjective reports of initial patient satisfaction.[8] Patients with BDD frequently return for repeat cosmetic surgery procedures and are unable to 'see' the change that the cosmetic surgeon is referring to.

The number of vulvoplasty and labioplasty procedures rebated by Medicare in Australia has more than doubled in the past ten years, with nearly 1500 procedures in the financial year 2009–10[9]. As more women are seeking 'vaginal rejuvenation' procedures, lessons from the cosmetic surgery literature must be taken into consideration. At present, no psychosocial studies have been completed on the prevalence of BDD in women seeking labiaplasty either in Australia or internationally.[10]

With these facts in mind, a number of recommendations can be made with regard to genital cosmetic surgery:

- Mandatory psychological screening for all women seeking vaginal 'rejuvenation' procedures, to detect those with underlying mental health issues, including BDD.
- Gynaecologists to define when the degree of protrusion, or hypertrophy, of the labia is no longer a minor defect (which would exclude a diagnosis of BDD).

Sometimes it can be difficult to distinguish BDD patients from those seeking plastic surgery for aesthetic reasons, due to similar levels of body dissatisfaction and preoccupation. However, a number of authors have now established that BDD patients also experience higher levels of anxiety, depression and social dysfunction compared to other cosmetic surgery patients.[11] These latter symptoms can be used to distinguish BDD patients.

In addition, it should be noted that few validated long-term safety or outcome data are presently available in this relatively new field of genital cosmetic surgery. It is important that training guidelines for practitioners be established and that long-term outcome, psychosexual and safety data be published. The genital plastic surgeon must have sufficient training in sexual medicine and mental health to withhold these procedures from women with mental impairments, including BDD.

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Josephine's tubes

Prof Caroline de Costa
FRANZCOG

'At seven in the morning I awake all filled with you. Your image, and the intoxicating pleasures of last night, allow my senses no rest. Sweet and incomparable Josephine, how strangely you work upon my heart…one night has taught me how far your portrait falls short of yourself…'
Napoleon Bonaparte, Paris, December 1795.

As the recent exhibition in Melbourne of Napoleonic memorabilia demonstrates, the little Corsican who became Emperor of the French remains one of the most fascinating characters of all time. Since his death, in 1821, there have been more books published about him than days have passed. Yet there are possibly still aspects of the Napoleonic saga that remain unexplored. In particular, could the tiny microbes *Chlamydia trachomatis* or *Neisseria gonorrhoeae* have played an as yet unacknowledged role in the events that convulsed Europe in the early years of the nineteenth century?

A portrait by Gros of Napoleon's first Empress, Josephine, hangs at her house, Malmaison, once a country residence, now surrounded by the dormitory suburbs of Paris. Against a classical background, Madame Bonaparte displays flawless skin and silky hair with spit curls each side of her forehead. Her expression is good humoured, but thoughtful, her mouth firmly closed: like many women of the times, before orthodontics and anaesthetics, she had problems with her teeth, which were decayed or absent, so that when she spoke she covered her mouth prettily with her hands. Her voice was said to be low and musical; despite living nearly all her adult life in France she never lost the Creole accent of her native Martinique.

At the end of his life Bonaparte wrote of her: 'She was the most alluring, most glamorous creature I have ever known. A woman in the fullest sense of the word – changeable, spirited and with the kindest of hearts.' Yet 13 years after they were married, he divorced her and married 18-year-old Marie-Louise, daughter of the Emperor of Austria. 'Divorce,' he wrote, 'has become a stern duty for me.' Admired and loved though Josephine might be, she had failed to provide her husband with an heir.

Surprisingly, though, at the time of the divorce, Josephine and Napoleon had between them several children. Josephine was the mother of a son, Eugene, and a daughter, Hortense, Napoleon's step-children and always treated with great affection by him. In 1806, Napoleon's mistress Eleonore Denuelle had given birth to a son and, in 1809, another boy was born, to the Polish patriot Marie Waleska, with whom Napoleon had an affair during his Polish campaign. It was simply that Napoleon and Josephine were unable to conceive a child together. From her story, it seems likely that Josephine's secondary infertility was due to tubal factors, acquired after the births of the children during her first marriage and during the turbulent years of the French Revolution.

She was born Marie-Josephe-Rose de la Pagerie in 1763, into a family of indolent and impoverished sugar growers and slave owners who valued their connections to the French aristocracy. At the age of 15, after little formal education, she travelled to France for an arranged marriage with 17-year-old Viscount Alexandre de Beauharnais. The union was a disaster from the start; Alexandre had a much older mistress to whom he was devoted, and soon dispatched his young wife to a convent. Nevertheless, she had two children by him in the first three years of the marriage, both normal pregnancies and births. Soon after the second birth, fed up with her husband's errant ways and clearly growing more savvy with the world, she found herself a lawyer and arranged a separation that gave her an income and a comfortable life, probably with the attention of several lovers.

> 'The tone of Josephine's letters in the middle years of her marriage, and descriptions of the times, suggest anticipating missed periods which in fact arrived, and she soon sought medical help…'

All this changed with the arrival of the Revolution in 1789. Alexandre was initially a supporter, one of those who met at Versailles in June 1789 and established the first National Assembly. He rejoined the army and took part in campaigns against Austria and Prussia. However, by 1793, he had attracted the displeasure of Robespierre and, in July 1794, he was led to the guillotine. In April that year, Josephine, as his wife, was also imprisoned; imprisonment meant a rather social incarceration with other members of the aristocracy, and it is known that in this time Josephine had a short liaison with General Lazare Hoche.

She was saved from the same fate as Alexandre by the downfall of Robespierre in mid 1794, and emerged to a Paris throwing itself into a frenzied search for pleasure, considered a necessary aftermath to the austerity of the Revolution. Her immediate problem was how to survive herself, and provide for her children, in these new conditions. In 1795, the Directory replaced the Convention (which had replaced the National Assembly); through a friend, Josephine met Paul Barras, the most powerful of the Directors, and soon became his mistress. In late 1795, at a dinner she hosted in Barras' house, she met Napoleon Bonaparte. She was 32, he 26.

He was determined to marry her; he had wanted to marry for some time, and now believed he had found the right person. She was not immediately in love with him, but the marriage held certain financial advantages for her, and she found him 'amusing'. Barras supported the proposal, and offered Napoleon, as a wedding present, command of the Army of the Alps, to fight Austria and Piedmont in Italy. A civil ceremony duly took place

in March of 1796. Napoleon, with his Corsican origins, would certainly have wanted children as soon as possible, and, no doubt observing the polite and healthy children of her first marriage, was sure that Josephine would soon supply him with several fine sons.

His campaigns in Italy were enormously successful (for the French, at least) and he sent for Josephine to join him there, which she eventually did, though she dallied for a time with a young lieutenant, Hippolyte Charles. However, from this time onwards, as Naploeon rose to political as well as military power, it appears that she became increasingly and genuinely attached to him, and increasingly anxious as she failed to conceive the desired offspring. With current knowledge of pelvic pathology, it seems very plausible that between the birth of Hortense, in 1783, and her marriage to Bonaparte, in 1796, Josephine contracted either chlamydia or gonorrhea, quite possibly subclinically, and developed salpingitis with subsequent infertility.

Gonorrhoea is one of the oldest known human illnesses; there are references to the condition in ancient Chinese writings, the Bible and the works of Galen, although the gonococcus itself was not identified until long after Josephine's death, by the German dermatologist Neisser, in 1879. Chlamydial sexually transmitted infections (STIs) have probably been around just as long, even though the organism responsible was only fully recognised in 1965. Effective treatments for both conditions were of course completely unknown to physicians in Josephine's lifetime.

The tone of Josephine's letters in the middle years of her marriage, and descriptions of the times, suggest anticipating missed periods which in fact arrived, and she soon sought medical help, first from her own doctor, Martinet, and then from Napoleon's, Joseph Corvisart. It was Corvisart who advised her to visit the spa town of Plombières, which she did first in 1798, and several times later. A visit to Plombières had proved fruitful for her sister-in-law Julie, who had conceived a daughter after six years of infertility. However, no amount of bathing and douching improved Josephine's prospects of conception.

Meanwhile, Napoleon, following the disastrous Egyptian campaign, in late 1799, took part in the coup in Paris that forced the resignation of the Directory and the appointment of a three-man consulate; Napoleon himself became the most powerful of these Consuls. By his political manoeuvring and military skills he made himself virtual master of France and proceeded to impose a dictatorship that nevertheless consolidated many of the gains of the Revolution. In 1804, after several attempts upon his life, Napoleon was proclaimed hereditary Emperor of the French, and Josephine his Empress, to remove all possibility of changing the regime by assassination. However, the absence of an heir meant that the actual question of succession remained unanswered and Josephine grew more and more desperate in her search for a cure to her problem.

Napoleon had spectacularly defeated the Austrians at Marengo in 1800, which made him enormously popular in France. However, war continued intermittently with the British who formed a new alliance with the Austrians, Russia, Sweden and Naples. Britain won a great victory at sea in 1805, but elsewhere the French armies were successful and an uneasy peace was established with the Austrians. The Russian Tsar, Alexander I, tired of the alliance with the British, met Napoleon at Tilsit on the Russian-Prussian frontier in 1807, and the two men divided Europe between them, Napoleon taking the west and Alexander the east. In the following

Josephine and Napoleon: grand passion was theirs, but no children. Could an STI have been to blame?

years though, the relationship soured; Napoleon abandoned his plans to try to marry Alexander's younger sister and instead, following his divorce from Josephine, married Marie-Louise. A year later a son, known as the King of Rome, was born. Feeling more confident of his relationship with the Austrians and other temporary allies, Napoleon, in the spring of 1812, took the decision to march on Moscow, to sort out Alexander once and for all. With nearly half a million men he set out east. Meeting the Russians at Borodino, the battle (its 200th anniversary being observed this year) was not decisive and both sides suffered huge losses, made even greater by the eventual retreat of the invading armies from Moscow in the winter of 1812. The Austrians and others withdrew their support and the French themselves, for all their courage, had lost their former enthusiasm for their Emperor's ideas of conquest.

War continued into 1813, and in October the French Grande Armée was defeated at the Battle of Leipzig. The British pressed in from Spain and in Italy the Austrians took the offensive. These allies entered Paris in early 1814, and in April Napoleon abdicated. Banished to Elba, he returned in 1815 for the Hundred Days, in an attempt to overthrow the Bourbon Restoration, a regime unpopular from the beginning with the French, but his defeat at Waterloo led to permanent exile on St Helena.

Marie-Louise declined to join her husband on either Elba or St Helena. Josephine died of a fever, at Malmaison, in May 1814, otherwise she might well have done so.

In brief then can be seen the enormous military achievements and popularity of Napoleon's earlier years of power, coinciding roughly with the first ten years of his marriage to Josephine and followed by his increasingly ambitious and dictatorial approach after 1805. All of which led to the need for further wars that, from 1810 onwards, worked to lead to his downfall.

Suppose, though, that Josephine's tubes had been functioning normally at the time of her marriage in 1796. Might things have worked out differently? Suppose that a son had been born in late 1796, another conceived in Italy and born in early 1798. Then perhaps two or three more, daughters and sons, born around the turn of the century. Josephine would still have been in her thirties at this time.

Certainly there would have been no divorce in 1809. Napoleon would have had no need or wish to abandon the mother of his children. Moreover, in the custom of the times, he would have been in a position to arrange marriages between these children – the legitimate heirs of the new French Empire – and the offspring of other European rulers, thereby achieving peace and stability without recourse to the devastation that in fact ensued. Faced with several legitimate direct heirs, Napoleon's ambitious and squabbling siblings would have had much less claim on him – their attempts at grasping power were also a cause of much unrest in Europe at the time.

Not only might politics have taken a different direction, Napoleon's own character might have developed differently. From 1805 onwards many observers have described him as increasingly dictatorial, difficult and irrational. Perhaps, pursuing family life at Malmaison, surrounded by his family, tending the roses, playing hide-and-seek, he might have mellowed, become more affable, more relaxed. Less inclined to rush off to military solutions, less ambitious territorially, more inclined to peace. Then there might have been no march on Moscow, no restoration of the vain and inept Bourbons, no Battle of Waterloo and no need for the revolution of 1832.

On St Helena, Napoleon wrote: 'A son by Josephine would have completed my happiness…it would have secured to me the possession of the throne, the French people would have been much attached to the son of Josephine, and I should not have set my foot upon an abyss covered with a bed of flowers.' Thus did Napoleon tacitly acknowledge the impact of Josephine's tubes upon the course of European history.

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ENT complaints in pregnancy

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An understanding of the ENT manifestations of pregnancy, appropriate treatment options and their attendant risks will facilitate an informed consultation allowing safe and acceptable treatment options to be instigated.

A significant number of changes occur throughout the female body during pregnancy. Although most of these physiological and hormonal processes produce no harm to the expectant mother or fetus, some can become pathological and cause considerable discomfort and anxiety.

Up to 80 per cent of pregnant women require non-pregnancy related medication, and the majority of these are for ENT causes. Although most symptoms are transient and minor, it is important for practitioners to recognise the aetiology of these symptoms in order to manage and reassure the patients.

Table 1. A summary of ENT manifestations in pregnancy.

Ear	Nose	Throat
Tinnitus Hearing loss Otosclerosis Autophony Unilateral facial nerve paralysis Balance/dizziness External ear canal	Rhinitis Smell Epistaxis Pyogenic granulomas	Dysphonia Gastroesophageal reflux

Ear

Tinnitus. Tinnitus is the most common auditory complaint during pregnancy with proposed theories of pathogenesis including hyper dynamic circulation, increase in Perilymph fluid pressure, and hormonal changes. Various studies have suggested that up to 33 per cent of pregnant women report tinnitus as compared to about ten per cent of non-pregnant women. It is important to realise that tinnitus has been speculated as an early warning sign of gestational hypertension or preeclampsia and is important for such patients to have their blood pressure carefully monitored.

Hearing loss. Hearing loss as a manifestation of pregnancy is not commonly reported in the literature. There have been case reports of sudden sensorineural hearing loss during pregnancy but the prevalence in pregnant women is the same as the prevalence in the population at large. Reported cases of sudden onset of sensorineural hearing loss (SNHL) during pregnancy have all resolved postpartum.

Otosclerosis. Otosclerosis is one of the most common causes of acquired hearing loss and is widely accepted as being related to pregnancy. It is now considered that otosclerosis is simply more prevalent in women of childbearing age and that pregnancy, and the hormonal changes associated with it, have no deleterious effects on hearing loss. Current management is entirely conservative and supportive with any surgery delayed until after pregnancy and breastfeeding.

The fluxes in oestrogen and progesterone levels have been postulated as affecting sensory nerve function and this may have a role to play during sensorineural hearing deterioration during pregnancy. Most of the literature suggests that the hearing loss associated with this hormonal sensory dysfunction occurs in the first trimester in the range between 125 and 500HZ. This cannot be regarded as a true functional hearing loss.

A hyper coagulable state that can occur as part of a normal pregnancy, has been postulated as leading to vascular occlusion of the microcirculation in the inner ear and if any high-frequency hearing loss occurs this needs to be considered.

Another process that may lead to a transient sensorineural hearing loss is preeclampsia. Preeclampsia or toxaemia of pregnancy, is a syndrome in which hypertension occurs from 20 weeks gestational age in the presence of proteinuria and endothelial dysfunction. It has been suggested that the cochlea as an end organ may be affected during the episode of resultant vasoconstriction resulting in ischemia, ultimately producing a hearing deficit. Early diagnosis of these warning signs can prevent unnecessary harm.

Autophony. This is a classic complaint from patients suffering from a patulous Eustachian tube (PET). The typical patient with PET has lost a dramatic amount of weight, resulting in shrinkage of the peritubal mucous membrane. It is commonly seen postpartum in women who have had excessive weight gain during pregnancy. Management should consist of informative reassurance alone.

Unilateral facial nerve paralysis. Bell's palsy has an increased incidence during pregnancy. Most Bell's palsy appears to be concentrated in the third trimester, which may be due to the suppression of herpes simplex virus reactivation in early pregnancy and the increased susceptibility to infection and reinfection in late pregnancy.

The third trimester is also the time when the extracellular volume is at its maximum, supporting the theory that fluid retention leads to perineural oedema and then to facial nerve palsy.

Management of Bell's palsy in pregnancy requires careful consideration of both the mother and the fetus. Management tends to be conservative with eye care being of paramount importance. The use of oral steroids during pregnancy was thought to be associated with an increased risk of fetal cleft lip and palate especially when used in the first trimester. Following a review by the Committee on Safety of Medicines in May 1998, it is now the general consensus that there is no convincing evidence that corticosteroids increase the incidence of congenital abnormalities and that doses of prednisolone up to 40mg daily are unlikely to have any systemic effect on the fetus.

Balance. Vertigo and dizziness are frequently experienced during

pregnancy and are among the most common complaints from pregnant women to primary care physicians. Most are due to non-vestibular causes. Meniere's disease does not appear to be significantly affected by pregnancy and should appropriately be treated conservatively by salt and caffeine restriction alone.

Postpartum vertigo may be caused by many things; the abrupt changes in middle ear and intracranial pressure secondary to labour can lead to trauma of the vestibular system including perilymph fistula formation. If postpartum vertigo occurs, and persists, patients should be assessed by an otoneurologist.

External ear canal. Bleeding polyps of pregnancy can occur in the external ear canal most frequently in the second and third trimesters. The pathogenesis of these lesions may be hormone mediated with the dilatation and proliferation of blood vessels.

Nose

Rhinitis. Rhinitis of pregnancy occurs in about 22 per cent of pregnancies and can begin during any trimester. Rhinitis of pregnancy is defined as nasal congestion during pregnancy without other signs of respiratory tract infection, with no known allergic cause, and with complete resolution of symptoms within two weeks of delivery.

Female sex hormones, which continue to rise throughout the antinatal period, have been implicated as the main etiologic factor. Another theory postulated is an increase in sensitivity to allergens in women who may have a pre-existing subclinical allergy. Uncommon sequelae of rhinitis of pregnancy include an exacerbation of intercurrent asthma leading to significant effects on quality of life.

Management of rhinitis of pregnancy should be conservative; nasal lavage with any commercially available salt water spray has no deleterious effects on either the mother or the fetus. It reduces contact time with potential antigens, soothes the nasal lining, minimises the mucus aggregation and reduces the risk of an intercurrent subclinical infection.

While observational studies have examined the use of low-dose, water-based, surface-acting steroid sprays in both asthma and rhinitis of pregnancy, and while no deleterious effects to the fetus have been identified, the only randomised controlled trial for allergic rhinitis in pregnancy failed to demonstrate any additional benefits of low-dose, water-based, surface-acting steroid sprays as compared to saline douches. Hence their use in rhinitis of pregnancy is not recommended.

First-generation oral antihistamines, such as chlorphenamine, are considered to have no increased teratogenic effects. However, second-generation products such as Loratidine have been linked with hypospadias.

Smell. Olfactory perception is frequently reported as being disturbed during pregnancy, predominantly in the early stages of pregnancy. It has been described as either an increase or a reduction in sensitivity. Clinical studies confirm that smell intensity tends to increase in pregnancy although with no hyperacuity. By using the University of Pennsylvania smell identification test it is possible to demonstrate that a pregnant cohort has a higher self-rated olfactory sensitivity than a non-pregnant cohort. The abnormalities in smell and taste during pregnancy may be explained by feto-protective mechanisms to avoid poisons and by enhanced ingestion of sufficient salt level to expand fluid volume and to ingest a varied diet. Management should consist of informative reassurance alone.

Epistaxis. Epistaxis during pregnancy is common and may occur in up to 20 per cent of pregnant women compared with six per cent of non-pregnant women. Causes may be due to increased vascularity of the nasal mucosa as a result of hormonal changes. The most common cause of nose bleeding in pregnancy are the so-called bleeding polyps of pregnancy (also known as gravida granuloma) or diffuse nasal haemangiomas. The latter tend to be less common, but cause more severe bleeding.

> 'ENT-related symptoms are common during pregnancy and it is important for practitioners to be aware of the conditions and the underlying physiological and hormonal processes that occur affecting the ear, nose and throat.'

An interesting fact, supported by the literature, is that women demonstrating epistaxis during the antinatal period are more likely to have postpartum haemorrhages (10.7 per cent as compared to 6.2 per cent in those with no nosebleeds). Management of acute epistaxis must always prioritise the safety of the mother. Control of the bleeding should be conservative either by tamponade, chemical cautery or surface-acting ointments.

The bleeding polyp of pregnancy is thought to arise due to the sensitivity of the nasal mucosa to sex hormones associated with glandular hyperplasia and increased vascularity. In most women these pyogenic granulomas tend to resolve postpartum. It is always important to examine the oral cavity of women with such granulomas because their prevalence in the oral cavity is higher than the prevalence in the nose and may be a cause of very stressful oral bleeding.

Throat

Dysphonia. Disturbance in the quality of voice is another common complaint during pregnancy. In fact, owing to the increased lubrication of the vocal cords, a better quality of voice can occur in the first and second trimesters. When dysphonia occurs and number of etiological factors must be considered including altered breathing support, nasal obstruction and laryngopharyngeal reflux.

Vocal fatigue. Vocal fatigue does occur in pregnancy, leading to a reduction in maximum phonation time. This is essentially owing to alterations in the volume of the thoracic cage due to the enlarging uterus.

There are a few published cases of laryngopathica gravidarum, which relates to transient changes within the laryngeal mucosa and is considered a hormonal response of the larynx resulting in oedema of the mucosa.

Reflux. Gastroesophageal reflux is thought to occur in approximately 30–50 per cent of pregnancies with the causative

factor predominately being a decrease in the lower oesophageal sphincter pressure secondary to the influence of progesterone. Laryngopharyngeal reflux is considered to play a major role in most dysphagia, dysphonia, throat clearing and globus symptoms during pregnancy. These symptoms often occur in the absence of classic heartburn symptoms.

Conservative management via lifestyle and dietary modification should be the first step, including avoidance of eating late at night, elevation of the head of the bed, abstaining from tobacco and alcohol, and the avoidance of known dietary triggers such as fatty food, chocolate and caffeine.

If symptoms persist, treatment should take place with liquid alginates such as Gaviscon liquid three times a day after meals and before retiring at night. There is little evidence that the use of proton ion pump inhibitors, or histamine antagonists is indicated to control reflux of pregnancy.

Conclusion

ENT-related symptoms are common during pregnancy and it is important for practitioners to be aware of the conditions and the underlying physiological and hormonal processes that occur affecting the ear, nose and throat. Practitioners should have an overview of the aetiology, clinical severity, natural history and optimal treatment of these conditions to appropriately and safely reassure and treat women during pregnancy. With the potential for ENT symptoms to be early warning signs for impeding crisis, most ENT-related symptoms during pregnancy are resolved spontaneously postpartum and avoidance of unnecessary treatment can reduce the risk to both mother and fetus.

Are you doing O&G in China?

RANZCOG has recently been approached by RACS, who have run a project in China called Project China over the last 20 years. RACS is now in the early stages of establishing the China-ANZ Project, which seeks to develop a more strategic approach to relationships between specialty colleges and institutions in Australia, New Zealand and China.

RACS is undertaking, in the first instance, a stocktake of existing programs, both formal and informal, undertaken by Australasian individuals and academic institutions in China, with a view to better coordination of activities between colleges in China.

RANZCOG does not currently have any formal programs in China, however, it would be useful to hear from any Fellows or members who have an interest in, or do independent work in China under another umbrella or as individuals; with a view to information exchange/networking/collaboration with our RACS colleagues and the potential for forming a working relationship with RACS in China in the future.

Please email our Asia Pacific Senior Coordinator, Carmel Walker (cwalker@ranzcog.edu.au) for further discussion.

Dr Kenneth Clark
Chairman, Asia Pacific Committee

Carmel Walker
Senior Coordinator, Asia Pacific Services

Hair loss and Mirena

An unexpected adverse effect of an levonorgestrel intrauterine system device.

Dr Philippa Sexton
Principal House Officer
Princess Alexandra Hospital

Levonorgestrel intrauterine system devices (L-IUD) are used by thousands of women in Australia each year for menorrhagia, contraception and post-menopausal endometrial protection. It is routine to discuss possible complications prior to insertion, however, there are less well known adverse effects that can still hold significance for the patient.

Case presentation

AJ is a 43 year old with two children who was referred to a gynaecology clinic for management of menorrhagia and dysmenorrhoea. She had two previous uncomplicated spontaneous vaginal deliveries with no previous significant gynaecological or medical history. Recent ultrasound demonstrated a 1.7cm subserosal fibroid in anterior uterine body. She took no regular medications.

AJ proceeded to have a hysteroscopy dilatation and curettage with Mirena® insertion on 24 November 2011. The operative findings were of a normal endometrial appearance and anterior polyp. Histopathology was benign.

Approximately six weeks after IUD insertion, AJ noticed that her hair was falling out in large clumps. She presented to two locum medical officers with her concerns the second of which, on 6 February 2012, arranged appropriate investigations (see below).

On 7 March 2012, AJ returned to gynaecology clinic for a routine three-month follow up. Her menorrhagia had improved and she no longer suffered dysmenorrhoea. She enquired if her L-IUD could be the cause of her alopecia as she was continuing to lose clumps of hair despite her normal investigations.

On examination, there were seven distinct areas of alopecia areata on her scalp. After a brief review on MIMS and UpToDate and discussion with AJ, the L-IUD was removed.

Investigation findings

In consideration of the differentials (see box, below) the locum medical officer arranged FBC, electrolytes, Vitamin B12, CRP, ESR, CCP Ab, ANA Ab and cortisol which were all within normal limits eliminating autoimmune and vitamin deficiency causes. Her thyroid function had last been assessed in September 2011, as normal. Scalp swabs and scrapings sent for m/c/s and mycology showed no pathogens or fungi isolated. In addition, there was no history of anxiety, stress or hair pulling.

Diagnosis and outcome

On 17 April 2012, AJ was reviewed in the gynaecology clinic. Since removal of L-IUD she had no further areas of alopecia and had noted new hair growth in areas of areata.

Table 1. Investigation results.

Investigation	Result	Reference interval
Vitamin B12	369pmol/L	>150
CRP	4mg/L	0-10
ESR	3 mm/h	1-12
CCP Ab	<1U/mL	<5
ANA Abs	Negative	<1:80
Cortisol	335 nmol/L	160-650 am
ELFT	Within normal limits	
FBC	Within normal limits	
Scalp swab m/c/s	No pathogens isolated	
Scalp scraping mycology	No fungi seen or isolated	

Differential diagnosis

Tinea capitis	Fungal scalp infection
Thyroid disorders	Usually autoimmune thyroid disease
Atopic dermatitis	Inflammatory skin disorder often flaky, scaly, red and itchy when on the scalp
Vitiligo	Acquired skin depigmentation
Trichotilomania	Nervous hair pulling. Usually presents with broken hairs of varying length
Cicatrical alopecia	Patchy hair loss with folliculitis decalvans as result of range of pathologies such as lupus erythematosus
Androgenetic alopecia	Gradual hair loss in a typical pattern
Secondary syphilis	Moth-eaten pattern of hair loss
Telogen effluvium	Diffuse hair thinning

Patient presented with unexplained hair loss.

Six weeks after IUD removal, hair regrowth could be seen.

At 20 weeks, hair regrowth was very well established.

Again, at 20 weeks, hair growth has returned to normal.

Given that she had a positive dechallenge test (in other words, symptom resolution post removal), AJ was diagnosed with alopecia resulting from an adverse effect to her L-IUD.

Discussion

Alopecia areata is hair loss, usually reversible, in sharply defined areas, usually involving beard or scalp.[1] It is listed in the Mirena product information as an uncommon adverse effect occurring in ≥0.1 per cent to <1 per cent, based on information collected during controlled clinical trial comparing copper IUD with Mirena.[2]

A paper by Paterson et al (2007) reviewed the New Zealand Intensive Medicines Monitoring Program (IMMP) data on alopecia.[3] IMMP had five reported cases of alopecia related to L-IUDs from 1998 to September 2006. The IUD as causality was probable in two cases, both of which had a positive dechallenge test, and possible in three.

The authors used data collected between March 2000 and February 2001 to estimate the incidence of alopecia, as this cohort had been specifically followed up for systemic side effects. The authors' estimated incidence based on three cases indentified in 1670 women inserted with the L-IUD was 0.18 per cent. This was adjusted to 0.33 per cent if the responder population was used as the denominator. These figures are in line with the Mirena product information.

Key points

- Alopecia is a potential adverse effect of a commonly used medicated device in obstetrics and gynaecology.
- The risk of alopecia as listed in the product information is higher than that of perforation which should routinely be discussed with all patients prior to insertion.
- Available evidence suggests that if L-IUDs are removed alopecia will resolve as demonstrated in this case. Accordingly, practitioners need to be aware of the possible causality in order to counsel and manage patients appropriately.

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2 Mirena Product Information. Bayer July 2011.
3 Paterson H, Clifton J, Miller D, Ashton J, Harrison-Woolrych M. Hair-loss with the use of the levonorgestrel intrauterine device. *Contraception* 2007;76 :306-309.

Journal Club

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

Ovarian cancer staging

The authors of this study sought to determine whether there was a benefit to comprehensive surgical staging in women with ovarian cancer that grossly appeared to be confined to the ovary. Surgical staging for ovarian cancer comprises exploratory laparotomy, peritoneal washings, total abdominal hysterectomy, bilateral salpingo-oophorectomy, bilateral pelvic and para-aortic lympadenectomy and peritoneal biopsies. With laparoscopic treatment of early-stage ovarian cancer becoming more common, the authors sought investigate whether complete staging had advantages over less comprehensive surgery. In particular, they were concerned that laparoscopy may not be as sensitive as laparotomy in identifying metastatic disease, especially in peritoneum overlying small bowel mesentery. The study was a retrospective design including 86 women who had undergone surgical staging for ovarian cancer where the disease appeared grossly to be confined to the ovaries. They found that 29 per cent of these patients were upstaged after pathological examination, 17 per cent with disease in the peritoneal, omental or adhesion biopsies, six per cent with disease in lymph nodes and six per cent with disease in the uterus or Fallopian tubes. The authors reported that in their study the location of the positive peritoneal and adhesion biopsies were all in areas easily accessible by a laparoscopic approach. In the same issue, a panel of gynaecological oncology consultants and Fellows discuss the study. While agreeing that comprehensive surgical staging would be their choice for these patients, and that laparoscopic staging was reasonable they commented on the limitations of a retrospective study. In particular, they noted that it can be difficult to gather information from operation notes. In this study it was not explicitly stated what criteria were used to determine the number and location of biopsies.

Garcia-Soto AE, Boren T, Wingo SN et al. Is comprehensive surgical staging needed for thorough evaluation of early-stage ovarian carcinoma? *Am J Obstet Gynecol* 2012; 206:242.e1-5.

Cranberries and urinary tract infection

Urinary tract infections (UTIs) are a relatively common clinical problem, with about ten per cent of women experiencing at least one infection in a year. Some women unfortunately experience recurrent UTIs and various methods have been used to prevent them. Cranberry products have previously been shown to be effective in the prevention and treatment of UTIs. It is thought that the mechanism of action is of cranberry by prevention of the adhesion of bacteria (especially *Escherichia coli*) to uroepithelial cells. Cranberry products are available as juice, syrup, capsules or tablets. According to the authors there is some concern that processed cranberry products contain reduced levels of the active ingredients proanthocyanidins compared to juices. The authors have previously published Cochrane reviews on cranberry products in 1998, 2004 and 2008. Their current paper aggregates data from 24 studies with a total of 4 473 participants. Their previous review, in 2008, included only ten studies. Of the 24 studies, 11 were not included in the meta-analysis due to design issues. The results of the meta-analyses showed that, compared with placebo, water or no treatment, cranberry products did not significantly reduce the incidence of urinary tract infections in women with recurrent UTIs, pregnant women or any other subgroup of participants included in the analysis. The authors conclude that the publication of large negative studies since their last review accounts for the difference in results between the two reviews. Interestingly, the authors also report that many participants found stopped drinking the cranberry juice during studies, raising questions of its acceptability to women.

Jepson RG, Williams G, Craig JC. Cranberries for preventing urinary tract infections. Cochrane Database of Systematic Reviews 2012, Issue 10. Art. No.: CD001321. DOI: 10.1002/14651858.CD001321.pub5.

LLETZ and preterm birth

An increased risk of preterm birth following cervical procedures, including large loop excision of the transformation zone (LLETZ), is a standard part of the information provided to women prior to treatment for cervical dysplasia. This study examined the records of 44 000 women who had either a cervical punch biopsy or excisional treatment between 1987 and 2009. Of these women, 4776 had singleton births prior to their cervical cytology, while 14 265 gave birth after cytology. In the study, 1078 women had singleton births before and after their cytology, allowing a within woman analysis of preterm birth in this group. For the group of births after histology nine per cent were preterm, while 6.7 per cent were preterm in births prior to histology. The relative risk for preterm delivery after biopsy only was 1.33 (95 per cent CI 1.04-1.70), while for treatment (LLETZ or cone) the relative risk was (95 per cent CI 1.15-1.83). In the within woman analysis including only women who had actually given birth before and after cervical excisional treatment the relative risk for preterm delivery was 0.94 (95 per cent CI 0.62-1.43). The authors comment that the rate of preterm delivery following cervical biopsy is lower in their study than in previous papers, however, their results do provide a more reassuring expectation for women requiring treatment for cervical dysplasia.

Castanon A, Brocklehurst P, Evans H et al. Risk of preterm birth after treatment for cervical intraepithelial neoplasia among women attending colposcopy in England: retrospective-prospective cohort study. *BMJ* 2012; 345: e5174.

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Acting your age

An intensivist's view of the issue of ageing doctors.

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The medical profession is ageing in parallel with the wider community. About one-quarter of Australia's medical workforce is at least 55 years old and, if US data is applicable, it is likely that more doctors will choose to continue working into their late 60s or 70s than previously.

Although ageing has been discussed by medical boards and colleges in Australia and overseas, almost none have developed policies or position statements recommending practice changes for the older practitioner.[1] Partly this has been because of concerns regarding age discrimination and also because of government objectives supporting increased workforce participation by older people.

Ageing is likely to affect some aspects of medical practice more than others and different medical specialties in different ways. Intensivists, like obstetricians, have a working lifestyle that includes irregular hours, late-night calls and call-backs and the stress of unexpected, potentially life-threatening emergencies. In addition to the intellectual demands, both specialties involve some procedural work, requiring dexterity and good visual acuity. These are all factors that would need to be considered in developing recommendations specific to these specialties.

What kinds of health issues are faced by older doctors?

Doctors generally enjoy above-average health and are less likely than the general community to suffer lifestyle-related illnesses such as smoking-related illnesses and ischaemic heart disease. However, depression is more common and the suicide rate is higher among some subgroups, such as anaesthetists. Anaesthetists and emergency physicians also have the highest rates of substance abuse.[2]

There is also evidence that poorer health is seen among rural and remote practitioners, and those working excessive hours or shift work. Some doctors are also vulnerable to stress and burnout, which have been shown to be particularly problematic for intensivists. However, other data suggest that the current generation of ageing doctors has improved work-life balance and lower levels of psychological distress compared with their predecessors.[3]

Like the rest of the community, doctors have increasing rates of chronic illness as they age, including, importantly for proceduralists, osteoarthritis and declining visual acuity. Older doctors have been said to be at risk of the 'four Ds' – depression, drink, drugs and dementia. Of 41 doctors over 60 referred to the NSW Medical Board, 22 per cent had depression, 29 per cent substance abuse, 54 per cent had cognitive impairment and, alarmingly, 12 per cent were found to be demented.[4]

> 'Doctors identified by their peers as ageing well adopt practice changes intuitively. They take longer with consultations, avoid professional isolation and areas of unfamiliar practice, and reduce procedural work.'

What age-related neurocognitive changes are relevant to medical practice?

Verbal skills and semantic memory (facts, words and meanings) are typically well preserved in ageing, which means that doctors with significant impairment may 'present well' and conventional mental state testing may miss significant problems. Adaptive and critical thinking and processing speed are most affected – very relevant to dealing with emergencies, along with hearing, visual acuity, depth perception, colour discrimination and manual dexterity.[5]

There is some evidence that older doctors are better than their younger colleagues at tasks that rely on non-analytic strategies or pattern recognition, such as formulating initial diagnoses. What we recognise as 'experience' therefore has some scientific validity. However, most studies (though not all) suggest that older doctors perform worse than their younger colleagues in many other areas. Surgeons aged over 60 have higher operative mortalities, especially for procedures with low volume or high complexity, such as pancreatectomy or cardiac bypass surgery, and older doctors are also more likely to be investigated and disciplined by licensing bodies.[6] Cognitive decline is frequently accompanied by a loss of insight, which potentially limits the role of self-regulation.

How to age well

Doctors identified by their peers as ageing well adopt practice changes intuitively. They take longer with consultations, avoid professional isolation and areas of unfamiliar practice, and reduce procedural work. They show insight into the effects of ageing on their practice and the need to adapt their working hours and choice of work.[7]

Long-term planning for retirement, including financial planning, a transitional phase of semi-retirement and the need to cultivate a variety of non-medical interests and relationships early in one's career are all important.

Proper personal healthcare is essential. Self-treatment and corridor consultations should be scrupulously avoided and every doctor beyond middle age should see a general practitioner annually, at least.

Mandatory retirement: should we jump before we are pushed?

In Australia, retirement for judges currently is mandatory, at age 72, and for pilots, at age 65. Pilots also undergo physical and mental examinations every six months beyond 40 years of age. Few authorities support such a draconian approach for doctors. It does not fit with our contemporary understanding of cognitive ageing, which is highly variable in onset and severity, nor with government objectives that promote continuing workforce participation by older people.

Nevertheless, there are arguments for set retirement, including the reluctance of many doctors to relinquish their medical identity and the loss of insight that often accompanies cognitive decline.

Competency assessment

In Ontario and British Columbia, peer assessments are now mandatory every five years for practising physicians over 70.[8] Competency assessment for older doctors has been widely discussed, but there is a lack of consensus about how this should be done. Universal continuing education requirements may not be adequate to detect subtly impaired practitioners and there are obvious difficulties in approaching a senior colleague who may previously have been a mentor, supervisor or examiner.

Australian intensivists virtually all work in group environments where 'incidental' peer review occurs more or less continuously, but solo practice is more common among obstetricians and gynaecologists, who may therefore be more vulnerable to undetected impairment.

Adaptive practice

Transitional activities such as teaching, mentoring, tribunal, medico-legal and college work can provide opportunities to capitalise on the strengths of senior doctors, while allowing them to avoid potential areas of weakness. The American College of Emergency Physicians, one of very few such organisations to have published a policy on ageing practitioners, recommends the abolition of night work (substituting some weekend cover), consistent shifts at set times rather than variable shift arrangements and the substitution of some high-acuity work with an increased role in teaching or administration.[9]

There have been discussions at various times in the Australian and New Zealand College of Anaesthetists, including a detailed review by Prof Barry Baker in 2001, who recommended no night calls from 60 years of age and mandatory retirement at 65.[10] Prof Baker retired soon after, true to his word, but his proposals were never adopted.

The Australasian College of Intensive Care Medicine is in the advanced stages of developing a position statement that also recommends consideration of reduced night call for older intensivists, reduced 'front line' exposure to major resuscitation and 'buddying' with senior trainees to assist with emergency procedures.

While such measures are feasible in the public hospital sector, there is a trend for older intensivists, like many other specialist groups, to retreat into private practice,[11] where opportunities for continuing education, peer review and peer support are often more limited.

Conclusion

With the general trend towards a longer working life for doctors and the community at large, issues faced by ageing practitioners need to be addressed by the profession. A more supportive, understanding and adaptive medical culture needs to develop in relation to older doctors, and the professional colleges should take a lead in this process. Insight into the vicissitudes of ageing and planning for retirement should play more of a role in college continuing education programs, which perhaps need to be tailored for older practitioners. As we enter an era of increasing demand for healthcare services, we need to develop strategies that will allow us to retain the wisdom and expertise of our most senior colleagues, while ensuring that they can continue to practise confidently and safely.

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Applications invited for RANZCOG Board of Examiners

Fellows and Diplomates of the College are invited to apply for membership of the RANZCOG Board of Examiners.

Examinations are an integral part of the College's services and examiners are pivotal in ensuring that the College runs high-quality examinations that are transparent, reliable, valid and fair. RANZCOG has only one 'panel of examiners', the Board of Examiners, from which come the Diploma, Membership and Subspecialty examiners for each relevant Written and Oral examination. The aim of having a combined Board of Examiners is to allow an exchange of knowledge between Diploma, Membership and Subspecialist examiners.

Fellows and Diplomates who are appointed to the RANZCOG Board of Examiners provide a pivotal service in the ongoing development and assessment of trainees in specialist, subspecialist and general practice obstetrics and gynaecology.

Duties

Examiners can utilise their expertise by being involved in the following activities:

- Developing questions for the Multiple Choice Question (MCQ) examinations and the Short Answer Question (SAQ) written examinations
- Developing cases for oral examinations
- Participating in standard setting activities
- Marking examination papers against established criteria
- Examining candidates at the Diploma, Membership or Subspecialty Oral Examinations

Additional information

Availability

All examiners appointed to the Board are expected to make themselves available for at least one examination activity per year.

Method of Application

To be considered for appointment, an application must be submitted to the Education & Assessment Committee. An application form is available on the College website http://www.ranzcog.edu.au/education-a-training/board-of-examiners.html. The completed application form, together with a current curriculum vitae should be emailed to kgilliam@ranzcog.edu.au or, alternatively, sent by mail to College House, 254–260 Albert Street, East Melbourne, VIC 3002.

Enquiries

Any questions regarding applications should be directed to Kate Gilliam, Education & Assessment Committee coordinator on +61 3 9412 2962 or kgilliam@ranzcog.edu.au .

The ageing O and G

A/Prof Ted Weaver
FRANZCOG

Several problems face a standards and training body, such as RANZCOG, in determining what to do with its ageing cohort of Fellows.

The population of Australia topped 21.5 million at the most recent census in 2012[1], and in 2006, 14.3 per cent of working specialists were over the age of 60 (see Table 1), and data from RANZCOG has shown that 26 per cent of its workforce is aged 60 or more (see Table 2). Similarly, the USA is 'greying' and so are its physicians. In 2006, 18.3 per cent of the physician workforce was 65 years or older.[2]

Questions raised about this cohort of Fellows include the following:

1. Should they be compelled to retire at a certain age, from some practice, for example, complex surgery, or from all practice?
2. Should they be treated differently from younger Fellows, and assessed for CPD in alternative ways?
3. Should they be re-certified in the same way as a younger Fellow, as they are practising Fellows of the College, and given that the public has certain expectations of what a specialist O and G can do?
4. Should they look to redefine their careers to promote their longevity in the workforce?

Retirement from practice

In the past, it has been traditional for specialist O and Gs to retire at around age 65. Until recent times, hospitals had regulations stipulating that senior consultants had to retire at this age. Since the advent of anti-discrimination legislation and the fact that the average ages of male and female mortality have risen to their highest levels in history[1], it now seems likely that many practitioners will work past the age of 65. Coupled with this is the fact that many practitioners do not want to retire, and some may not be in the financial position to do so, given that their nest egg for retirement may have been significantly eroded by the global financial crisis of 2009–10. Thus it seems reasonable to suspect that the cohort of 'baby boomer' O and Gs within RANZCOG will continue to work until their late 60s or early 70s. A recent article from the USA highlights the problems inherent in re-credentialing an 80-year-old practitioner for O and G privileges.[3]

Table 1. Specialists, 1986–2006.

	1986	1996	2006
Total (no.)	8 973	14 950	18 259
Rate per 100,000 persons(a)	57.7	84.2	92.0
Proportion who were (per cent):			
Female	16.3	24.5	28.7
Born overseas	34.1	35.3	41.6
Recent arrivals(b)	3.5	5.5	8.6
Aged 60 and over	11.4	11.5	14.3
Working part time	10.7	13.2	17.1

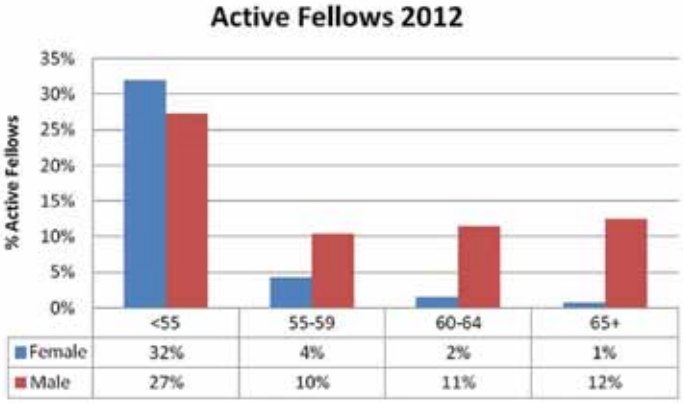
(a) Rates calculated using 2006 Census usual resident count.
(b) Recent arrivals are persons who were born overseas and arrived in the five years prior to the relevant Census year.
Source: ABS 2006 Census of Population and Housing.

It is impossible to generalise about the calculation of an individual's 'use by' date, given that humans age in such variable ways. There is no question, however, that as we age our cognitive and physical abilities decline. The problem here can be that doctors do not have the insight to realise their performance is deteriorating.[4] It is important also to realise that it is not ageing alone that causes deterioration in performance. Drag et al[5] showed that 78 per cent of surgeons aged 60–64 performed within the range of younger surgeons on computerised cognitive testing; 38 per cent of surgeons aged 70 and older compared favourably with the younger surgeons. The authors concluded that older age does not necessarily inevitably preclude cognitive proficiency.

Choudhry et al, in a systematic review on the relationship between the length of clinical experience and quality of care, concluded that physicians who have been in practice the longest may be at risk for providing lower quality care[6], which begs the question as to how CPD programs for ageing Fellows should be structured.

The problem for a regulatory bodies, such as the Medical Board of Australia (MBA) and RANZCOG, is the variability of practice from doctor to doctor that occurs, such that to make a blanket rule for all practitioners of a certain age is likely to be unfair. In 2009, the

Table 2. Proportion of active Fellows by age bracket.



MBA introduced mandatory reporting requirements, and Section 140 (c) of National law defines 'notifiable' conduct as when a practitioner:

> 'placed the public at risk of substantial harm in the practitioner's practice of the profession because the practitioner has an impairment;'[7]

Given that it is impossible to generalise, it seems reasonable that consultant O and Gs:

- need to be aware of the ageing process;
- refrain from practice if impaired physically or mentally;
- must ensure a smooth handover of patients under their care on retirement;
- not ignore the 'shoulder tap' from a colleague about their performance; and
- recognise their reporting obligations to the Medical Board of Australia with respect to unsafe practice.

Continuing recertification

How then to approach the problem of recertification? Given that it seems clear practice abilities wane with age and that different O and Gs will redefine their scope of practice as they age, it would seem reasonable for RANZCOG to consider the following:

- That appropriate CPD programs be modified or developed to cater for this cohort of practitioners within the College and their varied scopes of practice.
- That an annual health check be done, by the practitioner's usual medical attendants, with a confidential report being supplied to the College, prior to a practitioner being re-certified. This report should include a letter from the practitioner's GP detailing any chronic medical conditions likely to affect performance, and should include annual ophthalmic examinations and a hearing test.

That a formal performance review, possibly including a practice visit (this could replace the need for CPD and maintenance of a log book) be carried out. This is in line with suggested policies of other colleges in this area.[8] The main problem with this is in designing an equitable system, and resourcing that system, as it would inevitably rely on those doing the practice visits giving their time *pro bono*.

It would seem reasonable that the work profile of senior staff could change once they reach 60 years of age. At this time, it may be prudent to excuse a senior O and G from the 'on call' roster, given that they may be more prone to the effects of fatigue and may not recover as well from a disturbed night's sleep.

Senior clinicians have a wealth of experience, which should be utilised more than it is. Given that new Fellows of RANZCOG are exposed to less clinical material during their training than in previous times, it seems obvious that senior O and Gs should be more involved in mentoring junior consultants. There are many informal examples of this happening, with senior consultant O and Gs, for example, assisting at complex surgery, but these sorts of arrangements could be extended to labour ward coverage, assistance with operative vaginal birth and other areas of practice as deemed necessary by the junior consultant.

This could happen hand in hand with a phased withdrawal from surgery and a decrease in the complexity of cases done as first operator by the senior consultant. Hospitals and health jurisdictions should be looking to create employment opportunities for such senior staff, or to redefine their clinical roles.

Academic O and G is at a low ebb in Australia at present, and senior staff provide an excellent resource to develop expanded roles in teaching of registrars, resident, medical officers and medical students. Other areas of potential involvement could include research, administration, medico-legal work, medico-political advocacy, College work and hospital governance.[9]

A career change for ageing doctors?

Christine Jorm, in her recent book Reconstructing Medical Practice[10], reviews extensively the problems faced by those in specialist medical practice, areas such as professionalism, and explores why doctors have become alienated from the healthcare system. It seems clear from this book that senior doctors have an opportunity to act as a catalyst for change in how medicine is practised in future. Some reasons for this are the following:

- Senior staff are widely experienced and are often vocal advocates about systems of healthcare, and are less fearful of being 'punished' by the health system, for example, by a state

department of health, for speaking about a systemic problem in healthcare, and have 'nothing to lose'.
- They are often respected within their hospitals and their opinions acknowledged.
- They are in a position to influence junior staff, who can also act as agents for change.
- It is a desirable attribute in a RANZCOG Fellow that they actively contribute to their hospital to ensure that patient outcomes and systems of care are the best they can be.[11]

Therefore, as doctors age, there is an opportunity to engage senior doctors in hospitals. This may be a need to encourage career changes in some of these clinicians and health jurisdictions and universities should look to canvass interests of senior doctors in undertaking teaching, mentoring, research and clinical roles in hospitals, given the dire shortage of clinical academic staff in O and G nationally.

RANZCOG, as the standards and training body overseeing these ageing practitioners, needs to develop reasonable and realistic processes for re-certification of older practitioners; to ensure they are continuing to do CPD appropriate to their current scope of practice; and needs to actively develop programs in this area. It also needs to publicise ageing as an issue confronting the College and attempt to introduce sensible regulation in this area, to pre-empt anything done by an external regulator.

The College also has an obligation to act as an advocate for older practitioners, to educate the public that age may be no barrier to successful, safe practice and to work constructively with health jurisdictions to look creatively at ways that older doctors can look realistically at a career change, from, say, a busy private practice in O and G, to a career in public medicine, entailing clinical work, teaching, mentoring and research. Doing this may usefully prolong a Fellow's career span, and will do much to improve the teaching of registrars, residents and medical students.

Summary

Ageing doctors need to be cognisant of the ageing process and their waning powers and should listen to advice of colleagues, friends and spouses about when to retire. They should have an opportunity to re-structure their working life to work 'smarter' and in a different scope of practice. They need to influence their professional bodies to develop reasonable systems of re-certification and clearly need to work hard to spend their accumulated superannuation before the Gen Y children inherit it all!

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Q&a

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

Q *What should a general gynaecologist know about AMH and should AMH be part of the general workup for any subfertile couple?*

A/Prof Anusch Yazdani
FRANZCOG CREI

a Anti-Müllerian hormone (AMH) is a dimeric glycoprotein that is a member of the transforming growth factor-beta family. The gene is located on the short arm of chromosome 19 (19p13.3).

Where is AMH produced?

AMH is gonadal in origin. In the female, AMH is produced by the granulosa cells of the antral follicle. It is produced by testicular Sertoli cells in males.

What is the function of AMH?

In the female, AMH has been implicated in the recruitment of primordial follicles and FSH-sensitive follicles in the early antral stage. The current theory of female oogenesis dictates a peak of approximately seven million primordial follicles at 16 to 28 weeks of gestation, which are rapidly lost in the prenatal period, culminating in a total oocyte count of less than three million at birth. This loss, by poorly defined mechanisms, continues inevitably until puberty, which commences with an oocyte count of less than one million. Folliculogenesis, the transition of the primordial to the ovulatory follicle, occurs over a period of approximately 290 days, of which only the final weeks are dependent on follicle stimulating hormone (FSH). As such, AMH levels are undetectable at birth and rise rapidly at puberty in the female. AMH levels then decline over the reproductive lifespan, paralleling the number or antral follicles and, by association, the remaining pool of primordial follicles.

In the embryo, AMH plays a critical role in sexual differentiation. AMH mediates the regression of the Mullerian (paramesonephric) ducts during male fetal development.

In males, AMH levels are high in the fetal and postnatal periods. AMH levels drop at puberty and are maintained at low levels throughout adulthood. AMH function is poorly defined in adults, but has been implicated in testicular function, including spermatogenesis.

How is AMH measured?

AMH levels are determined by serum samples. In the female, there appears to be some variation in the menstrual cycle and suppression with oral contraceptive use, though this is not normally clinically significant. There are substantial assay variations and practitioners should be familiar with the methodology and reference ranges of their chosen facility. Diagnostic testing in the asymptomatic patient should be accompanied by pre-test counselling, with an understanding of what the result means and how this would be used to guide management.

How is the AMH measurement used?

Female reproduction

AMH levels correlate with the pool of antral follicles and, by association, the total pool of primordial follicles. AMH levels correlate with the total antral follicle count (AFC), an ultrasound assessment of the number of specific antral follicles in the early follicular phase of the ovarian cycle. These two tests have largely surpassed other tests of ovarian reserve, such as early follicular phase estimations of oestradiol or FSH.

In general, reduced ovarian reserve has been variably associated with a limited reproductive life span (time to conception), reproductive performance (ovarian response) and reproductive success (as defined by fertilization or clinical pregnancy rates), as well as early menopause.

The AMH measurement can therefore guide:

1. Reproductive timespan. The estimation of the reproductive timespan of a patient is a difficult and perilous extension of the AMH assessment. This is even more important by the 'screen' detected low AMH, that is, a low AMH in a patient without clinical infertility. At any given age, AMH levels follow a parametric distribution, with a minority of patients in the upper and lower centiles of the distribution. The interpretation of the AMH should therefore occur with the aid of an assay specific nomogram. In the 'screen' detected population, interpretation of the AMH is complicated by the limited correlation of AMH levels with other reproductive parameters, such as reproductive success and performance. While it is tempting to correlate a low AMH with a limited reproductive timespan, the evidence for this in screen detected populations is limited and the AMH must be interpreted within the reproductive context of the patient. In this population, there is a paucity of evidence to guide testing intervals, the role of assisted reproduction and fertility preservation. Management options should be individualised in the context of an informed decision-making process. In patients presenting with infertility, a low AMH may guide the practitioner to recommend more efficacious treatment in an expedited timeframe.
2. Reproductive success. A literal interpretation of the theory of oogenesis predicates poor reproductive outcomes with a reduction in the total oocyte pool, as the most competent oocytes are lost early in the reproductive lifespan. There is some evidence to support reduced fertilisation rates, reduced implantation and increased pregnancy loss in infertile patients with reduced AMH levels.
3. Reproductive performance. AMH levels can be used to predict poor and excessive ovarian response to stimulation in assisted reproduction. Low AMH levels predict cycles that require higher

doses of FSH and lower oocyte yields at the time of retrieval. Similarly, a high AMH correlates with an increased risk of ovarian hyperstimulation syndrome. For this reason, AMH assessment is routinely performed in assisted reproduction in Australia.

4. Ovulatory function. AMH levels are useful in the assessment of menstrual disturbances and amenorrhoea. For example, a high AMH is associated with conditions such as polycystic ovary syndrome (though this is not part of the diagnostic criteria) while an unrecordable AMH may be associated with primary ovarian failure. Unfortunately, some conditions, such as long standing hypogondadotropic hypogonadism may also be associated with a low AMH. Importantly, the AMH level alone is not diagnostic conditions such as premature ovarian failure.
5. Fertility preservation. More recently, AMH levels have been used to assess and guide the impact of chemotherapy or destructive procedures on ovarian reserve.

Male reproduction

In the paediatric population, AMH is helpful in assessing testicular function, obviating the need for dynamic testing in the assessment of pubertal disorders. The role of AMH is limited in the assessment of adult male fertility.

Disorders of sexual differentiation (DSD)

AMH assessment may be useful in the assessment of DSD, where it may be used to assess gonadal function.

Tumour markers

AMH levels increase in some neoplastic conditions, such as granulosa cell tumours, analogous to inhibin B. AMH may therefore be used in both diagnosis and therapeutic follow up.

Conclusion

AMH plays an important role in male and female reproductive function. AMH levels need to be interpreted within the reproductive context of each patient. In assisted reproduction, AMH levels correlate well with specific reproductive outcomes.

RANZCOG members are invited to submit questions, tips or interesting cases to *Q&a*.
Please send entries to *Q&a* @ *O&G Magazine* via:
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(fax) +61 3 9419 0672
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Open days at College House

Penelope Griffiths
Director of Corporate Services/
Deputy CEO

The College participated in the Open House Melbourne Scheme for the first time on the weekend of 28 and 29 July 2012.

This was the first time the College participated in Open House Melbourne and we were thrilled with the number of visitors who ventured out on a fairly cold and miserable weekend. Over 100 buildings throughout Melbourne took part in the scheme and overall there were 134 900 visits to buildings across Melbourne – a 26 per cent increase from the previous year.

The College had over 200 visitors over the two days. Visitors were given a guided tour by a College staff member. Ros Winspear, Archivist and Records Manager, Diane Horrigan, the then Librarian, and Grainne Murphy, Museum Curator, kindly volunteered to take tours around over both days. Each tour lasted about 25 minutes.

When each tour reached the museum, the College Curator, Prof Caroline de Costa was on hand to give the visitors a presentation about the collection.

Other College staff kindly volunteered to work throughout the weekend and provided a presence throughout the building and helped guide people around the building. Open House Melbourne also provided volunteers to assist throughout the weekend.

There was lovely feedback from many of the visitors about the tour and the magnificent building, its lovely features, including the dome, and the array of artwork.

Consideration will be given as to whether the College participates in future Open House weekends. If the College does participate again, it is planned to encourage more Fellows to attend and be available to give short presentations throughout the building.

Thank you to Prof de Costa and College staff who helped prepare the building look magnificent or who helped over the weekend.

College House was visited by more than 200 people over the weekend of the Open House Melbourne event. This was the first time the College participated. Visitors were directed to enter via the side driveway, sign in and wait for a tour guide.

Each group of visitors was given a tour of the buildings by a member of the Historical Collections staff; above Ros Winspear guides visitors through the atrium and explains the artwork in the courtyard.

Librarian, Di Horrigan, shows the visitors the Frank Forster Library and describes how it came into being.

The visitors to College House were fascinated by the historical displays in the museum and the talk given by Prof Caroline de Costa.

Birthing in the Pacific

Tracey Wheeler
Fundraising Coordinator

Carmel Walker
Asia Pacific Services Senior Coordinator

Every year the staff at College House nominate a charity to support through their fundraising efforts. This year an event was held to bring together staff and representatives of the chosen charity.

This year RANZCOG College House staff elected to raise funds for the Birthing in the Pacific (BIP) Project. The BIP Project was chosen as the staff charity for 2012 in view of the link between the aims of the project and the RANZCOG Pacific Midwifery Leadership Fellowship (PMLF) program conducted in Sydney and hosted by the Liverpool and Nepean Hospitals. The RANZCOG PMLF program is funded by a grant from the Australian Leadership Awards (ALA) Fellowships under the auspices of AusAID.

BIP, established in 2010, by the Soroptimist International South West Pacific Project, focuses on Millennium Development Goal (MDG) 5: Improve Maternal Health. This target aims to ensure that at least 90 per cent of births worldwide are attended by skilled health personnel by 2015. The BIP project endeavours to: minimise and reduce the risk of maternal and infant morbidity and mortality by improving maternity skills of midwives and nurses in PNG.

On 31 October 2012, a special event was held at College House to bring together four Papua New Guinean (PNG) midwives currently undertaking the PMLF program as well as the program facilitators at Liverpool Hospital, Shushila Boswell and Richard Gilfillan, and representatives of Soroptimist International, Maggie Mitchell and Linda Baynham, to meet staff for an information sharing session. Each of the visiting PNG midwives gave a presentation on their work environment, the challenges in providing midwifery services in PNG, what they are learning from the PMLF program and what they are intending to implement back in their own hospitals on return home. The session then moved onto an overview of the BIP Project, presented by Maggie Mitchell, and concluded with a gift of a Karum Work Billum to each of the midwives from Maggie. Each billum contains all the tools of trade to assist in delivery, and these were greatly appreciated by the PNG visitors.

'The opportunity to link with RANZCOG in our mutual goal of making pregnancy and childbirth safer in the Pacific region was very successful and we hope this relationship will continue,' said Maggie Mitchell, representing Soroptimist International.

The CEO, Dr Peter White, said, 'It was a pleasure welcoming Fellows from the RANZCOG Pacific Midwifery Leadership Program

Members of College House staff with representatives from Soroptimist International, Liverpool Hospital and midwives attending the PMLF program.

to College House for the first time and sharing the program with our staff was a valuable exercise and well appreciated by the staff. The fact that the Soroptimist International Birthing in the Pacific project complements beautifully our own work in the Pacific, has made this year's staff charity a great example of linkages across sectors and the value of the contribution we can all make.'

> 'The BIP project endeavours to: minimise and reduce the risk of maternal and infant morbidity and mortality by improving maternity skills of midwives and nurses in PNG.'

Soroptimist International is committed to a world where women and girls together achieve their individual and collective potential, realise aspirations and have an equal voice in creating strong, peaceful communities worldwide. Soroptimists inspire action and create opportunities to transform the lives of women and girls through a global network of members and international partnerships. Soroptimist International is active at all the major UN centres around the world. It holds General Consultative Status with the UN Economic and Social Council, (ECOSOC), official relations with several agencies and technical bodies, and a network of permanent representatives at all of the major UN centres.

The goal of the ALA Fellowships program is to develop appropriately trained current and aspiring leaders in priority areas, who, in the short to medium term, will be in a position to advance key regional policy objectives and increase institutional capacity of partner countries. ALA Fellowships are designed to complement individual bilateral country programs by offering flexible learning opportunities that address current and emerging needs at the country, sub-regional and regional levels. The AusAID ALA Fellowship program has funded 26 Pacific midwives to participate in the program since 2010, with eight further midwives from Solomon Islands, PNG, Vanuatu and Fiji booked for Fellowship placements in Liverpool and Nepean Hospitals in April 2013.

Left: Linda Baynham, Soroptimist International, chats to Elizabeth Natera, PNG midwife, and Shushila Boswell, program facilitator. Right, top: Helen Pock, PNG midwife, collects a Karum Work Billum from Maggie Mitchell from Soroptimist International. Right, centre: Elizabeth Natera and Shushila Boswell enjoy morning tea at College House. Right, bottom: Mark Beaves, manager of the Fetal Surveillance Education Program, swaps stories with McKenzie Maviso, PNG midwife.

Staff news

New appointments

Effie Margiolis recently joined RANZCOG as the Manager of Workforce and Evaluation. In this role she will also be involved with co-ordinating work for the College's reaccreditation with the Australian Medical Association, due to be finalised in the latter part of 2013. Effie has previously worked in various senior management roles, spanning more than twenty years' experience. She has worked in complex service-oriented not-for-profit professional membership organisations, predominantly in the education and health sectors, and also brings strong government and business relationship management skills to her new position.

Delwyn Lawson started with the College at the end of October as a Continuing Professional Development Officer – a maternity leave role covering for Sarah Kavanagh. She previously worked in a range of administrative roles in New Zealand and the UK as well as also as an English teacher in Hong Kong. She has an LLB(Hons)BA and a Grad.Dip. Teaching (Secondary).

Departures

Sarah Kavanagh left her role in Continuing Professional Development in October to commence maternity leave. We wish her all the very best for this exciting time.

Diane Horrigan left RANZCOG in September for an opportunity to work at Cabrini Health as the library manager. We thank Di for all her hard work in the Frank Forster Library and wish her well for this next step in her career.

Fiona Cunningham resigned from her position as Education Co-ordinator and left the College in November. We wish Fiona all the best for the future and thank her very much for her contribution to the College.

Michelle Holzman went back to her native South Africa on leave in October. Unfortunately, Michelle is going to stay in South Africa and won't be returning to Australia in the foreseeable future. We wish her all the best and hope to see her back in Australia.

Notice of Deceased Fellows

The College was saddened to learn of the death of the following Fellows and Honorary Fellow:
Dr James Marshall Stewart, New Zealand, on 11 April 2012
Dr Liam Wright, New Zealand, on 19 August 2012
Dr Satish Prasad, QLD, on 23 August 2012
Dr William Henry Kitchen (Honorary Fellow), Vic, on 1 October 2012
Dr John Warwick Newman, NSW, on 19 October 2012

Medical pamphlets

RANZCOG members who require medical pamphlets for patients can order them through:
Mi-tec Medical Publishing
PO Box 24
Camberwell Vic 3124
ph: +61 3 9888 6262
fax: +61 3 9888 6465
Or email your order to: orders@mitec.com.au

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

An invitation to join PSRH to support reproductive health in the Pacific

and advance notice of

PSRH Biennial Reproductive Health Meeting

The Pacific Society for Reproductive Health (PSRH) is a Charitable Trust, registered in New Zealand in 2007. Our aim is to improve reproductive, neonatal and perinatal in the Pacific by developing the Pacific workforce. Our objectives are:

1. To establish a supportive network of health professionals involved in reproductive health in the region
2. To use this network as a support mechanism for exchange of ideas, knowledge and experiences, and other resources thereby contributing to the improvement of reproductive health services and programs
3. To foster continuing professional development for Pacific Island health professionals in order to enhance quality of care in reproductive health and workplace satisfaction.
4. To establish professional linkages with reproductive health expert groups through affiliation with groups such as nursing and midwifery bodies, obstetrician and gynaecological experts and other NGOs working with and across the Pacific Island Countries.

Membership

Our members are clinicians and public health professionals who have a common interest in the health of women and children. Our multidisciplinary membership includes midwives, nurses, doctors and other health professionals from 15 Pacific Island nations as follows: American Samoa, Australia, Cook Islands, Federated State of Micronesia, Fiji, Kiribati, New Zealand, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu.

Visit the PSRH website to see contact details for your PSRH country liaison officer http://www.psrh.org.nz/contact.aspx. Your country liaison officer will be able to assist with opportunities through PSRH, membership or any other enquiries.

How do I join?

An application form is available to download from the membership section on our website. http://www.psrh.org.nz/membership.aspx. Please fill in and send to the PSRH secretariat by email eo@psrh.org.nz or fax +64 9 5235253. For members in Pacific island countries, please contact your PSRH Liaison officer to make payment if this is more convenient.

We are keenly aware of the need to upgrade our membership lists, in Australia and New Zealand in particular, and we encourage past members, with whom we have lost contact, to renew their membership to support PSRH. As ever, we are keen to welcome new members to PSRH in the common interest of collaboration and networking between sexual and reproductive health professionals in our region.

Biennial Reproductive Health Meeting
Apia, Samoa, 9–12 July 2013

Join us for another major O&G educational event in the Pacific as we bring together representatives from all member countries, disciplines and areas of reproductive health interest for an exciting three-day scientific program focusing on the theme of Adolescent Sexual and Reproductive Health. A number of clinical workshops for Pacific healthcare workers will be held in conjunction with the meeting – details to be unveiled in the near future.

Keep tabs on what's happening and register your interest in attending the PSRH meeting with Frances Turrell at eo@psrh.org.nz, or your PSRH country liaison officer.

Dr Alec Ekeroma
President PSRH
alec@psrh.org.nz

Ms Frances Turrell
Executive Officer PSRH
eo@psrh.org.nz

Carmel Walker
PSRH Liaison Officer – Australia
cwalker@ranzcog.edu.au

Obituary

Prof David Lindsay Healy
1948 – 2012

The College community has been saddened to learn of the death of Prof David Healy on 25 May 2012, following a period of illness. David was an outstanding contributor to both the profession and the College throughout his career.

Born in Melbourne, on 30 September 1948, David graduated from Monash University with a BMedSci (Hons) in 1971, an MBBS (Hons) in 1973, and a PhD in 1979. Following clinical years at Prince Henry's Hospital and the Royal Women's Hospital in Melbourne, he was awarded a prestigious National Health and Medical Research Council Applied Health Science Fellowship, which enabled him to work at the US National Institute of Health Pregnancy Research Branch in Bethesda, Maryland, and at the Medical Research Council Centre for Reproductive Biology and the Royal Infirmary, both in Edinburgh, Scotland.

On returning to Australia, in 1985, David was appointed as a consultant obstetrician and gynaecologist at the Queen Victoria Medical Centre and as a specialist with Monash University's IVF program, joining the Department of Obstetrics and Gynaecology as a Senior Lecturer with Prof Carl Wood. In 1990, he was awarded a Chair at Monash and, in 1994, was appointed Chairman of the Department. From 1991–94, he served as Associate Clinical Dean of the Monash University Faculty of Medicine, and was Head of the Reproductive Medicine Clinic from 1997. In 2002, he became the Chair of the Australian University Departments of Obstetrics and Gynaecology, and was awarded an Honorary Fellowship of the RCOG for his many achievements.

As a researcher, David was the first obstetrician and gynaecologist to be awarded a Wellcome Trust Senior Clinical Research Fellowship – an award he used to extend his research activities in reproductive medicine. With Henry Burger, David de Kretser and Rob McLachlan, among others, he led research into antiprogesterones, inhibins in reproduction, relaxin in pregnancy and the use of GnRH analogues for IVF. This latter work helped build the foundations for current successful IVF technology, and contributed to the worldwide reputation of Monash University and of Melbourne in this field. He wrote 255 research articles and 78 book chapters, as well as editing eight other books. In 1992, with colleagues, he established the Jean Hailes Foundation – now Jean Hailes – where he remained a Founding Board Member until his death.

He was also an outstanding teacher, very encouraging of medical students and junior doctors, and committed to ensuring the highest possible standards in academic endeavours and research. These attributes were particularly evident in his enormous contribution to the RANZCOG Research Foundation. He was a member of the Board of the Foundation from 1998–2010, Chairman of the Scholarship Selection Committee from 2003–05, and Chairman of the Board from 2005–10. Under his leadership the number of prestigious awards offered either directly by the Research Foundation, or administered by the Foundation for other bodies, rose to 13; many young researchers in our specialty have benefited greatly from one or more of these awards. David also oversaw the establishment of the Collaborative Bachelor of Medical Science Scholarships and the RANZCOG Research Project Grants. Under his direction the Foundation attracted a number of significant bequests and donations. He was also a member of the Victorian State Committee 1988–91, of the ANZJOG Management Committee 1998–2008, and Chair of the latter committee 2004–08.

Throughout his professional life David was dedicated to increasing women's access to high-quality reproductive health care. As the first Australian doctor to use mifepristone in clinical practice, for the treatment of intra-uterine fetal death, at the Queen Victoria Medical Centre in 1985, he always remained an advocate of making the drug available to Australian women, often presenting his views in the media, sometimes at considerable personal risk.

David served on the boards of many learned societies, both nationally and internationally. Of particular note was his election as President of the International Federation of Fertility Societies. The first Australian to occupy this post, he was in office at the time of his death.

The College extends its condolences to David's family, especially his children Ross and Meagan. His wife Lyn predeceased him.

Prof Caroline de Costa
FRANZCOG
Cairns