

# Standards of antenatal care



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**The development of modern obstetric care demonstrates clear survival benefits for the fortunate who can access it. However, the evidence accumulated in the West cannot automatically be transferred to poorly-resourced communities elsewhere.**

Western style obstetric care grew from ancient observational knowledge and practices. More recently, over the last three decades, evidence-based obstetric practice has emerged. Antenatal care is provided to a wide range of women from varied backgrounds, each with different individual needs. How can care best be provided in light of the changing preferences and needs of societies? All of the following remain important topics for debate.

What should be the standard of antenatal care for pregnant women? Which pregnancies should be seen? What constitutes a 'higher risk' pregnancy? How often and by whom? Is our current routine practice evidence-based? Is pre-pregnancy a better time for initiating individual risk assessment?

What information should be shared and how is this best done? In a free-to-all service, how is the level of care decided? How do we address the need for equity of care access around the world, given the wide variance of resources?

While antenatal care is not new, the concept of universal access to free maternity care as an investment by society is relatively new. It started in 1943, with the New Zealand National Health Service and was followed in 1948 by a similar British system, spreading in some form to other countries. This concept, that maternal and fetal health is seen as a desirable investment for undeveloped parts of the world, is illustrated by the recent United Nations resolution to support Ghana and other African nations embarking on a free national maternity service.

The body of knowledge passed down to individual medical practitioners of 'midwifery' became concentrated in teaching from the first lying-in hospital in 1739 at Queen Charlotte's Hospital in Jermyn St, London.

A clinical guide to *Best Obstetric Practice* was subsequently published. In the second edition of 1930, the definition of antenatal care was, 'the whole art of preventive obstetrics', which stands today. The purpose of this 'art' entailed 'a careful watch of the woman throughout pregnancy, with immediate institution of action whenever the least departure from the norm is detected'.

Even in the 1930s, many of the then known dangers to women were considered preventable. Watson states: 'The stillbirth rate falls 50 per cent with proper antenatal supervision and the death rate from toxemias, haemorrhages and labour complications is considerably diminished.'

The nature of the dangers to women and their pregnancies have changed considerably over time. In Europe, 80 years ago, rickets, tuberculosis and scarlet fever were key risks to the survival of women and their fetus. Obstructed labour meant death sooner or later and confinement was often accompanied by haemorrhage and puerperal infections.

Today's concerns and avoidable risks in western society are different to those described by these early obstetricians who practised the art of 'midwifery', although women of the developing world retain these same risks. Today, raised BMI with attendant diabetes and co-morbidities together with hypertension are increasing risks to pregnancies. Women choose to defer conception into the third and fourth decades and such delayed fertility brings its own problems. Assisted reproductive techniques allow pregnancies in circumstances never previously possible. Both developed and undeveloped nations experience the complications of HIV and hepatitis C.

There are several sources of woman-centred antenatal information which are evidence-based on both the RANZCOG and RCOG websites, with 18 *Green-top Guidelines* on aspects of antenatal care, often with 'lay person' summaries.<sup>2</sup> The evidence-based NICE guidelines are extensive with recommendations frequently updated.<sup>3</sup>

In 2001, the *Three Centres Consensus Guidelines on Antenatal Care*<sup>4</sup> commented on the following basic care issues: appropriate number of visits; models of care; smoking cessation; asymptomatic bacteruria; routine investigations; measurement of blood pressure and symphyseal fundal height (SFH); urinalysis by dipstick; auscultation of the fetal heart; gestational diabetes mellitus (GDM); group B streptococcal disease (GBS); hepatitis; HIV; syphilis; and rubella screens.

The RANZCOG guideline *C-Obs 30: Suitability Criteria for Models of Care and Indications for Referral Within and Between Models of Care*<sup>5</sup> and the New Zealand *Section 88* guidelines<sup>6</sup> advise on the best practice surrounding referral to secondary care.

Table 1 (opposite) summarises the current evidence for aspects of antenatal care relevant to practice in Australia and New Zealand.

We constantly review the way in which we practise obstetrics as part of ongoing professional development and the information we use is constantly being updated.

There is increasing evidence that the secondary care referral for pre-existing medical and prior obstetric referrals are best made before conception with a multi-disciplinary team approach. RANZCOG (*C-Obs 30*)<sup>5</sup> and the New Zealand *Section 88* guidelines<sup>6</sup> offer clear guidelines for appropriate referral of women to specialists.

**Table 1. Current evidence for aspects of antenatal care in Australia and New Zealand.**

	Topics	Recommendations
<b>Education</b>	Breastfeeding	Both group and individual sessions are effective. Follow through into postpartum is important.
	Diet	Interventions to limit weight gain reduce GDM* (Olsen 2007).
	Smoking cessation	Effective use of nicotine (Rigotti 2006).
<b>Late pregnancy complications</b>	Breech, ECV*, twins, hypertensive syndromes, VBAC high head, post-maturity, etc	Benefit from individual counselling by specialist. It is important to document and communicate in regard to plans.
<b>Maternal screening</b>	Past obstetric and family history	Accurate documentation gives best risk assessment.
	BMI assessment	GDM recognition. Allows advice in regard to limitation of weight gain.
	STI and BV*	Reduces prematurity and fetal complications.
	Blood haemoglobin (Hb)	Anaemia detection, haemoglobinopathies, rhesus antibodies, reduced blood transfusions.
	Previous infections	Rubella, syphilis, hepatitis C, HIV. Allows for appropriate interventions.
	Polydose	GDM diagnosis improved.
	Domestic issues	Use of screening questions improves recognition.
	Mental health	Benefits of ALPHA program/direct questioning improves outcomes.
	Urine dipstick	Proteinuria in community automated point of care testing recommended for preeclampsia detection.
<b>Fetus</b>	Anomaly screening	Decision aid and leaflets both effective for pregnancy screening (Graham 2000 Becker 2004). Women prefer one on one discussions.
	Gestational age confirmation	First trimester dating and viability, assists induction of labour (IOL) and other decisions.
	Fetal growth	Scans and Doppler assist identify FGR*.
<b>Examination</b>	SFH* measurement	Incomplete evidence regarding benefits. Individualised GROW charts.
	Fetal heart auscultation	No benefit over fetal movement enquiry. Reassurance only.

\* GDM = gestational diabetes mellitus      \* BV = bacterial vaginosis  
 \* ECV = external cephalic version      \* FGR = fetal growth restriction  
 \* SFH = symphyseal fundal height

Careful documentation and explanation of the outcomes of such discussions is very important, so that management plans can be accessed as required.

All this evidence is, however, fruitless without good lines of communication, both with the woman and with other members of the team. Communication is the essential art which enables wisdom and good practice to reach all women, whatever their circumstances.

#### **Antenatal interventions NOT routinely recommended:**

- Repeated maternal weighing
- Breast or pelvic examination
- Iron or vitamin A supplements
- Routine screening for chlamydia, cytomegalovirus, hepatitis C virus, group B streptococcus
- Toxoplasmosis, bacterial vaginosis
- Routine Doppler ultrasound in low-risk pregnancies
- Ultrasound estimation of fetal size for suspected large-for-gestational-age unborn babies
- Routine screening for preterm labour
- Routine screening for cardiac anomalies using nuchal translucency
- Gestational diabetes screening using fasting plasma glucose, random blood glucose, glucose challenge test or urinalysis for glucose

- Routine fetal-movement counting
- Routine auscultation of the fetal heart
- Routine antenatal electronic cardiotocography
- Routine ultrasound scanning after 24 weeks.

#### **References**

1. RANZCOG Statements ([www.ranzcog.edu.au/womenshealth/statementsupdate.shtml](http://www.ranzcog.edu.au/womenshealth/statementsupdate.shtml)).
2. *Green-top Guidelines* ([www.rcog.org.uk/womens-health/guidelines](http://www.rcog.org.uk/womens-health/guidelines)).
3. NICE Guidelines ([www.nice.org.uk/guidance/index.jsp?action=byType&type=2&status=3](http://www.nice.org.uk/guidance/index.jsp?action=byType&type=2&status=3)).
4. Three Centres Consensus Guidelines on Antenatal Care 2001 ([www.health.vic.gov.au/maternitycare/anteguide.pdf](http://www.health.vic.gov.au/maternitycare/anteguide.pdf)).
5. [www.ranzcog.edu.au/publications/statements/C-obs30.pdf](http://www.ranzcog.edu.au/publications/statements/C-obs30.pdf).
6. [www.moh.govt.nz/maternity](http://www.moh.govt.nz/maternity).
7. NHS Evidence on Antenatal Care update ([www.library.nhs.uk/womenshealth](http://www.library.nhs.uk/womenshealth)).
8. Sarris, Bewlwy, Agnihotri. *Training in Obstetrics and Gynaecology*. Oxford 2009.
9. Women's Health Specialist Library Antenatal Care National Knowledge Week 2008 ([www.library.nhs.uk/SpecialistLibrarySearch/Download.aspx?resID=294928](http://www.library.nhs.uk/SpecialistLibrarySearch/Download.aspx?resID=294928)).
10. [www.sign.ac.uk](http://www.sign.ac.uk).
11. [www.dh.gov.uk](http://www.dh.gov.uk).