PROTOCOLS FOR ANTENATAL SHARED CARE WITH CAIRNS BASE HOSPITAL

Reviewed 2013 by Dr Paul Howat and Dr Sneh Tiwari

Foreword

Antenatal Shared Care refers to an arrangement between a General Practitioner and a hospital to share the care of a woman's pregnancy.

This reference has been developed to assist General Practitioners provide Antenatal Shared Care with Cairns base Hospital. It provides general guidelines for the care of pregnant women and information on services available at Cairns Base Hospital.

While every effort has been made to ensure that the information contained in this resource is correct, we apologise for any errors or omissions.

We would like to thank everyone who has contributed their time and expertise in preparing this resource. In particular I would like to thank Dr Sneh Tiwari for representing the local GPs and for her invaluable contribution. I would also like to thank Dr Liz Chappel for her comments and advice. I would also like to thank RM Cathy Smith and Megan Rose for their help in preparing this document.

1.0 Eligibility

All pregnant women are potentially suitable for antenatal shared care. The decision is jointly made by the woman, her GP, and Cairns Base Hospital Maternity Unit.

Shared Care

A cooperative arrangement whereby antenatal and postnatal care of the pregnant woman is shared between a Shared Care Provider and a specialist obstetrician, GP obstetrician or hospital-based obstetric unit.

Shared Care Provider

A registered health medical practitioner or registered midwife engaging in shared care with a specialist obstetrician, GP obstetrician or hospital-based obstetric unit. This includes, but is not necessarily limited to:

- Registered midwives;
- General practitioners;
- Rural and remote medical practitioners;
- Royal Flying Doctor Service; and
- Aboriginal Medical Service.

2.0 Assessing Risk

Risk must be continually evaluated through the pregnancy – this is a very important principle.

At the first hospital booking, women will be categorised according to risk as A, B or C (as per Australian College of Midwives (ACM) – National Midwifery Guidelines for Consultation and Referral http://midwives.rentsoft.biz/lib/pdf/Consultation%20and%20Referral%20Guidelines%202010.pdf)

- Category A – low risk: GP or midwife care
- Category B – medium risk: combined Obstetric care with GP/Midwife
- Category C – high risk: Obstetric care CBH (in some instances combined with GP care)

2.1 Prenatal referrals

If your patient is considering pregnancy, and requires additional prenatal advice or counselling, she may be referred to the CBH "Counselling Clinic". Much of this advice and counselling is provided in General Practice, so this service is reserved for more complicated matters.

2.2 High Risk referral

The usual time for first visits is 14 weeks. Earlier referral is recommended prior to 12 weeks gestation for medical, surgical, obstetric, psychiatric or social conditions which may lead to an adverse outcome in the pregnancy.

2.3 Referral for unwanted pregnancy

Please note that referrals for unwanted pregnancy (socioeconomic) should not be referred to the Women's Health Unit. These must be referred to Sexual Health on: Ph 42264769 Fax 42264771. Termination of pregnancy can be provided by the Women's Health Unit only if there is a risk to the mother's life and each case must be evaluated individually in that context.

2.4 Low risk referral

Women should be referred early enough so that they can be seen at 14 weeks gestation for their initial midwife interview. They are then seen at 20 weeks by the Cairns Base Hospital Obstetric medical staff if they are categorised as B or C. Category A shared care women do not need to be

seen by hospital medical staff but will need a 36 week appointment with the Midwife in the ANC to discuss birth expectations.

2.5 Immediate Hospital Assessment for emergencies

- Intractable vomiting
- Threatened preterm labour
- Preterm rupture of membranes
- Severe abdominal pain
- Ante partum haemorrhage
- Severe headaches or visual disturbances
- Seizures or fainting
- Acute psychiatric problems
- Hypertension greater than 140/90mm Hg

2.6 Maternity Unit Review should any of the following problems arise:

- Abnormal screening test
- Hypertension equal to or greater than 140/90 mm Hg
- Uterine size smaller or greater than expected
- Decrease in fetal movements
- Abnormal fetal presentation after 36 weeks
- Any other significant departure from normality that concerns you

3.0 Making appointments at CBH

Telephone: 4227 8760
Fax: 4226 6674

Appointments should ideally be made between 12 – 14 weeks so it is important that the patient should be advised to phone early to arrange this. For urgent matters contact the senior midwife in clinic on 4226 8392.

Please note during business hours the consultant on call for Birth Suite is able to take calls for advice (unless they are occupied in theatre, for example). Please contact the hospital switch on 4226 6333 and ask to speak to the obstetrician on call. After hours your calls will be put through to the registrar or PHO on duty.

The following information must be included in all referrals:

- Full name
- Current address and telephone number
- Date of Birth
- Hospital UR number if known
- LNMP
- Past obstetric history
- Relevant past medical and surgical history
- Copies of all relevant investigations

3.1 Antenatal clinics at CBH

- First booking clinics every day (Monday – Friday)
- Team Midwife clinics are held in the Community Health Centres for the women choosing Team Midwifery care. Tuesday & Thursday Edmonton, Wednesday North Cairns and Thursday Smithfield. Appointments for these clinics are made through the ANC at CBH.
- Obstetric Antenatal clinics (Monday, Wednesday (Diabetes) and Thursday)
- 36 week Midwife clinics for category A share care women (Wednesday and Thursday)
- Day Pregnancy Unit (Monday – Friday)
- Obstetric Medicine (Monday)

3.2 Referral to other specialties and services:

- Medicine, surgery, paediatrics etc as appropriate and directly to that service.
- If the woman has a non-obstetric condition, the best advice may be obtained from the relevant specialty, especially if there are no obstetric implications.

- Please note that CBH has no dietician service currently for pregnant women, and very limited physiotherapy services. It would help us greatly if you could refer women requiring these services to the private sector as we are unable to help them. It is very important for overweight, obese, diabetic or undernourished women to receive dietary advice and monitoring in pregnancy and we apologise for the lack of a service. Please refer any concerns about the lack of service to the hospital executive.

4.0 Completion of Pregnancy Health Record

Public maternity patients are required to use a Pregnancy Health Record. Currently, Queensland Health does not have an electronic pregnancy record. All women attending the antenatal clinic will be provided with a PHR. We recognise that most practices have electronic records, unfortunately CBH does not. We would appreciate the completion of the PHR at each visit. It is worth reminding the woman to bring her PHR to all pregnancy visits, either with you or the hospital. If the PHR is forgotten, she should still be seen.

Please ensure that copies of all investigations e.g. pathology, ultrasound reports – are forwarded to CBH.

5.0 Genetic counselling

Referrals can be made directly to:

Bev Holland
Queensland Clinical Genetics Service
CBH
Ph: 4226 6247
Fax: 4226 6456

Regular visiting geneticist clinics are also held throughout the year.

6.0 Visit schedule for low risk women:

Routine antenatal visits are scheduled according to the following protocol but may be adapted as required:

First visit GP visit preferably before 12 weeks	Pregnancy confirmed- maternal counselling including tobacco/alcohol/other drug cessation Pre-pregnancy weight, height and BMI Urine dipstick/MSU & PCR for Chlamydia and Gonorrhoea Antenatal blood tests ordered with consent and counselling Blood group and antibodies (status checked/identified**)** Full blood count Fe studies Syphilis, Rubella Hepatitis B & C HIV Ultrasounds ordered Antenatal screening bloods Free Beta-hCG and Papp A after 10 completed weeks and preferably 3–5 days prior to Nuchal USS **Note:** Request slip to include EDD and current maternal weight Nuchal Translucency 11 weeks–13 weeks +6 days Diagnostic Morphology 18–20 weeks Booking in referral sent Genetic Counselling and testing discussed as appropriate Chorionic Villus Sampling 11–13 weeks/Amniocentesis 16–18 weeks referral to CBH
12–14 weeks Midwife booking in visit	Booking in Visit – demographic, social, medical and obstetric history ± allied health referrals SAFE Start or similar tool, tobacco/alcohol/other drug cessation and EDS (EPDS) completed Maternal counselling including tobacco/alcohol/other drug cessation, and breastfeeding Categorisation and appropriate appointments made
20 weeks Hospital staff visit if Cat B & C GP visit if Cat A	Post diagnostic morphology ultrasound assessment and general health check Appropriate categorisation and model of care confirmed Maternal counselling including tobacco/alcohol/other drug cessation and breastfeeding
24 weeks	Standard antenatal visit Request slip given for blood tests to be performed between 26–28 weeks Full blood count, Fe studies, Rhesus Antibody blood screen (if neg blood group) and Glucose Tolerance Test for all women
28 weeks	Standard antenatal visit with primary maternity carer Check pathology results 1st dose of Anti D for Rhesus negative women
30–32 weeks	Standard antenatal visit
34 weeks	Standard antenatal visit with primary maternity carer 2nd dose of Anti D for Rhesus negative women
36 weeks Hospital obstetric staff visit Cat B & C Hospital Midwife visit Cat A	Standard antenatal visit Perform Full blood count, Rhesus Antibody blood screen (if neg blood group) and syphilis
38 weeks	Standard antenatal visit
40 weeks	Standard antenatal visit
41 weeks Hospital visit	Assessment of maternal and baby wellbeing Uncomplicated pregnancy - offer IOL for T+10–14 i.e. 42 weeks

7.0 Dating the pregnancy

This leads to much confusion and disagreement between doctor and patient, so it is important to get it right! So much depends on an accurate estimated date of confinement. Obstetric management decisions are intimately linked with the gestational age. An example of this is induction for a post-dates pregnancy.

Naegele's rule is used by adding 9 months and 7 days to the first day of the last normal menstrual period. This is only accurate if the last period is known, the cycle is regular, the last period did not occur immediately after the cessation of hormonal contraception, and the menstrual cycle is 28 days long. If the cycle is shorted or longer, days must be subtracted or added e.g. for a 32 day cycle, 11 days must be added instead of 7. We generally use Naegele's rule to define the EDC if it is within 7 days of a reliable ultrasonic assessment of gestation.

Ultrasound assessment is more reliable, but is not free from problems. Common examples include transcription errors in the report, so it is always wise to double check the date of the service and the gestation measurements in case the radiologist has made an error. Another common problem is the use of multiple EDCs because the patient has had multiple ultrasounds. This leads to a great deal of confusion. An example would be a woman who is 38 weeks by early scan, who has an ultrasound that says she is 41 weeks gestation, and demands induction because she is overdue. This happens quite a lot! All this means is that the fetus measurement is at the median (50^{th} centile) for 41 weeks, and that this is a large baby. It is not uncommon for a patient to present with 5-6 ultrasound reports all giving a different EDC.

The optimum scan for gestational age is a crown rump length (CRL) between 7 and 13 weeks, which is accurate to within 5 days.

The next best measurement is the biparietal diameter (BPD) and the head circumference (HC) at the 18-20 week scan.

Measurement of the gestation sac size or where the CRL is less than 7mm are inaccurate and should not be used to calculate the EDC and measurements smaller than this cannot be used to diagnose a non-viable pregnancy.

Over 20 weeks, the EDC derived from fetal biometry becomes increasingly inaccurate e.g. there is a +/- factor of 3-4 weeks in the third trimester.
If there is any doubt the EDC used by the hospital will be that decided upon by one of the staff specialist obstetricians and this will be adhered to.

8.0 Screening tests

Screening tests can either be performed by the GP, or the hospital. Please send all copies of any tests to the hospital. We will endeavour to do the same, but please understand the hospital results system is not as sophisticated as the private sector. We are working to improve this.

8.1 Pap smear

We see many women who are overdue for their Pap smear by the time they attend us. Pap smears can be performed at any gestation, although it is increasingly uncomfortable for the women in late pregnancy. It is also completely safe and there is no risk of it causing a miscarriage. We have had several cases of cervical cancer in young women, who have successfully avoided having a Pap smear over several pregnancies, often due to late presentation and non-attendance, particularly in the postnatal period. Please perform a Pap smear if it is due! If the woman declines, please ensure you follow this up at the postnatal visit. The "Cervex brush" or equivalent should be used, not a cytobrush.

8.2 MSU

There is an increased risk of asymptomatic bacteriuria in pregnancy, and treatment successfully reduces the incidence of pyelonephritis. Women with recurrent UTIs should have a monthly MSU.

8.3 First catch urine PCR for chlamydia or gonorrhoea

Like it or not, our region has a high incidence of chlamydia and gonorrhoea. There can be severe consequences for the neonate if these conditions are not diagnosed. We have seen both conditions occur in apparently monogamous relationships. We strongly advise the use of this test.

Chlamydia is treated with Azithromycin 1g stat orally. Any sexual partners should be tested and treated similarly.

Gonorrhoea is treated with Ceftriaxone 250mg IMI. Any sexual partners must be traced and tested.

8.4 Rubella

Although congenital rubella is now rare, we see many women who are not rubella immune. These women require advice and also MMR vaccination after the birth.

8.5 Hepatitis B and C

Both of these tests should be performed. If the mother is infectious for Hep B, the baby will require Hep B immunoglobulin and vaccination after birth. Women who are Hep C positive are referred to a gastroenterologist for advice.

8.6 Syphilis

Cairns has a significant incidence of syphilis, which in the past has contributed to stillbirths. Although much less common now, we still see syphilis in pregnancy. All patients should have serology done at the first visit and again with the 28 week bloods (this is because 10 weeks post treatment is required to treat fetal syphilis effectively, so 36 weeks is too late).

If the non-specific test e.g. VDRL, RPR is positive and the specific test e.g. TPHA, EIA is negative, consider a false positive or early infection. If uncertain contact the Infectious Diseases consultant/registrar for advice or the Syphilis Register Ph 1800092238.

8.7 Full Blood Count

Anaemia is common in pregnancy, but the Hb value on its own is a poor predictor of iron status. Iron supplementation should not be provided in the basis of a low Hb as the pregnant women may well have normal iron stores. If the Hb is below 100g/L serum folate and B12 should be performed. We recommend routine iron studies be performed in all pregnant women.

8.8 Iron studies

This is the only way to diagnose iron deficiency reliably and should be performed in all pregnant women.

8.9 Blood Group and Antibody screen

This should be performed in all women at the first visit and 36 weeks and at 28 weeks for Rh negative women. If you are uncertain about the significance of antibody results, the Red Cross Blood Bank is the best source of information. Please refer any significant results to CBH and refer the patient to be seen promptly.

8.10 Testing for diabetes in pregnancy

Our region has a high incidence of type 2 and gestational diabetes. We recommend all pregnant women be tested for gestational diabetes at 26-28 weeks with a 75g GTT. Please note that the 50g Glucose Challenge test is obsolete and should not be performed. New diagnostic criteria for diagnosis have been proposed but have not yet been recommended or adopted, so please use the existing guidelines.

If you have a patient who presents in early pregnancy with a very high risk of already being diabetic, it is reasonable to perform the 75g GTT earlier than 26-28 weeks, but it must be repeated later if negative. This is mainly to rule out pre-existing Type 2 diabetes.

The hospital holds multidisciplinary diabetes in pregnancy clinic on Wednesday afternoons.

8.11 First trimester screening for chromosomal anomalies

This test should be offered to all pregnant women, but is not mandatory. Combined nuchal translucency and serum screening is performed between 11 and 13 weeks. It can only be performed in the private sector in Cairns; we cannot perform this investigation at CBH. Women defined as high risk (over 1 in 300 risk) can be referred to the counselling clinic to discuss further management.

For those women who miss out on this test, "quadruple" serum screening can be performed at 15-18 weeks, but it is less sensitive.

Do not follow up a low risk first trimester combined screening with a quadruple test. The temptation is that by doing more than one test you will diagnose more cases of Down syndrome. This is true, but at the cost of a vastly increased false positive rate and overall losing more babies to miscarriages from invasive testing. The reason for this is that the algorithms of both tests are based on an unscreened population. If you screen out the high risk with the combined test, you are left with a low risk, not normal risk, population. Applying the quadruple test to a low risk, screened population results in more false positive cases.

8.12 The 18-20 week scan

Resist the temptation to call this an "anomaly" scan. The evidence is that fetal anomalies cannot be diagnosed reliably unless performed at the tertiary level by services that specialise in fetal ultrasound. This is not the case in Cairns, or in fact in any public hospital service in Queensland. At the non-tertiary level, some anomalies may be detected, but there is a significant false positive and false negative rate. It is better to refer to an "18-20 week ultrasound" and explain to the patient that ultrasound cannot detect all abnormalities. Even in the best of hands only one third of abnormalities can be detected. Some have no characteristics ultrasound appearance, and some are very hard to detect eg cardiac lesions. Seeing your baby on ultrasound is a powerful emotional experience, and it is natural to ask if everything looks normal. The medical response should include the fact that not all abnormalities can be diagnosed. Obese women are much harder to scan and the detection rate for abnormalities is correspondingly lower.

CBH cannot perform routine 18-20 week scans due to workload. We reserve the service for emergency scans, growth scans, or high risk pregnancies. We have a tele-

USS service weekly, for high risk cases, which are held with the Mater Mothers Hospital Maternal Fetal Medicine Unit. The hospital medical staff arranges these scans where appropriate.

A low lying placenta at the 18-20 week scan is not a reason for alarm. The scan should be repeated at 32 weeks to exclude a placenta praevia.

One of the most worrying and irritating issues of the 18-20 week scan are the "soft signs" of fetal abnormality. These include findings such as an echogenic placenta, echogenic cardiac focus, choroid plexus cysts, increased nuchal fold, absent 5th middle phalanx etc. worrying because the patient and doctor will be alarmed by such a report and irritating because in most cases there is nothing wrong with the baby. Despite recommendations that echogenic cardiac foci and choroid plexus cysts are normal variants and should not be recorded or reported, they still are, and the still continue to cause alarm. Some general principles are:

- The best test for chromosomal abnormality is the combined first trimester screening, and the quoted risk should be relied upon as the best risk, irrespective of the 18-20 week USS findings
- Echogenic cardiac focus or choroid plexus cysts, as isolated findings, should be ignored
- The risk of chromosomal anomalies increased with the number of soft signs
- In the absence of first trimester screening, the only soft sign associated with an increased risk of chromosomal anomaly is a nuchal fold of greater than 6.0mm

8.13 Chicken Pox

If there is confirmed exposure to varicella-zoster in the first half of pregnancy or near term, the mother should be offered zoster immunoglobulin. If chicken pox occurs in the first 20 weeks, a tertiary USS should be arranged as there is a small incidence of a fetal syndrome. Chicken pox in an adult can be a severe illness and is of much greater concern.

8.14 HIV

HIV screening should be offered to all pregnant women.

8.15 Group B streptococcus

We do not recommend screening women for this bacteria. If it is discovered on another test, such as a swab or MSU, the woman requires antibiotic prophylaxis in labour. Otherwise, it is QH policy to treat high risk cases with penicillin in labour. GBS colonisation does not require antibiotics antenatally – it is not an infection, and it will recur if treated.

9.0 Additional tests

- Amniocentesis can be performed at 15-18 weeks at CBH. Please refer patients to the counselling clinic.
- CVS can only be performed in Townsville or Brisbane at 11-13 weeks. You may need to directly refer patients who request these tests to these centres.
- Vitamin D testing. RANZCOG states that this testing is optional. Women in FNQ have a low incidence of Vitamin D deficiency, so screening may not be cost effective. Screening may be considered in at risk women eg those who are not exposed to sunlight.
- Thyroid function tests. RANZCOG states there is insufficient evidence for screening in pregnancy. However the American Thyroid association recommends screening in the following circumstances:

A. Personal history of thyroid dysfunction:
    - Hyperthyroid disease
    - Hypothyroid disease
    - Post partum thyroiditis
    - Thyroidectomy
    - Thyroid lobectomy
    - Treatment with radioactive iodine
    - Therapeutic head or neck irradiation
    - Nuclear accident exposure
    - Goitre
    - Known presence of thyroid antibodies
B. Age >30 years.
C. Autoimmune disease (including Type I diabetes, pernicious anaemia, coeliac disease).
D. Use of amiodarone, lithium or recent iodinated radiocontrast administration.
E. Morbid obesity (BMI >40).
F. Pregnancy complications, Infertility, Recurrent miscarriage, Preterm delivery.
G. Family history of thyroid disease.
H. Residing in an area of know moderate to severe iodine insufficiency.

10.0 Anti-D administration

Anti-D is given to women who are Rhesus negative to prevent isoimmunisation.

- First trimester bleeding – 250 IU
- Second and third trimester indications – 625 IU
- Antenatal prophylaxis at 28 and 34 weeks – 625 IU
- Postnatal prophylaxis 625 IU

Please note that for shared care patients, CBH will not provide or administer routine prophylaxis of anti-D at 28 and 34 weeks. This is the responsibility of the GP. Anti-D

can be ordered directly from the Red Cross Blood Bank and collected by the patient. Women referred for routine prophylaxis will be referred back to their GP with this advice.

11.0 Routine antenatal checks

The following is a guide to routine antenatal care.

11.1 First visit

Physical examination should include breast, thyroid, cardiovascular and respiratory examination. This must be recorded on the hand held record.

11.2 Weight

There is no degree of weight gain that is expected/desired for a normal pregnancy. It is discretionary as to whether it is performed at each visit. For overweight or obese women, limiting weight gain in pregnancy is important, so a weight check at each visit is useful in these circumstances.

11.3 Blood pressure

Blood pressure should be measured at each visit. It should be taken while the patient is seated, with their legs supported. The K5 sound (disappearance) should be used to measure diastolic pressure. If this cannot be identified, the K4 muffling sound should be used. If the patient's arm is above 33cm in diameter, a large cuff should be used. Otherwise the measured blood pressure will be inaccurate and often recorded as high.
The cut off for raised blood pressure in pregnancy is 140/90mm Hg.

Do not commence antihypertensives – refer to the hospital if concerned.

11.4 Urinalysis

If there is any concern about proteinuria, a protein/creatinine ration should be performed. A ratio of over 30 is abnormal in pregnancy.

11.5 Fundal height

This is best measured in cm after 20 weeks gestation and should roughly equal the weeks in gestation +/- 2cm. This is the best system we have, but it is recognised there is a large inter-observer variation.

11.6 Oedema

Dependent and generalised oedema is common in pregnancy and has no prognostic value whatsoever. If the blood pressure is normal, it is not pre-eclampsia.

11.7 Fetal heart

This should be confirmed with a Doppler at each visit.

11.8 Fetal movements

If the patient is concerned by reduced movements, they should be referred the CBH for assessment. Contact the obstetrician on call for advice.

11.9 Fetal presentation and lie

Malpresentation is of no concern until 36 weeks or unless the patient is in labour prior to this gestation.

12.0 Ancillary services

Dietitian – not currently available
Social worker
Physiotherapy (very limited service)
ATSI liaison officer
Continence advisor
Lactation consultant
Mental Health – routine mental health support is provided through General Practice, and the Mental Health Department will only accept referrals for psychiatric disease requiring specialist management.

13.0 Antenatal classes

Childbirth Education classes are held both at the hospital and the Community Health Centres and are facilitated by CBH Midwives.
Programs are available for 1st time parents, teen classes, refresher class and for those women who are having a baby after a previous Caesarean section.
All classes are booked through the ANC.

14.0 Postnatal Care

The hospital cannot perform routine postnatal care. There is a limited post-natal counselling service for women who have suffered a pregnancy loss or need to debrief about their birth. We recognise that GPs provide expert postnatal care.

Ideally women should be seen at 6-8 weeks after the birth. The following is a guide to the post-partum check:

- Check if Pap smear is due and perform
- Check blood pressure
- Inspect perineum or abdominal wound for healing
- Breast examination/breast feeding
- Discuss contraception

- Explore family situation, relationships
- Assess maternal mood and coping
- Check rubella status

15.0 Vaccinations

The hospital does not provide vaccinations for pregnant women, other than postnatal MMR vaccination for women who are non-immune to rubella. It is safe and desirable to offer influenza vaccination to pregnant women. Pertussis vaccination should not be given in pregnancy, but can be given in the postnatal period.