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GUIDELINES FOR SHARED MATERNITY CARE:

JULY 2019

Disclaimer:

Ballarat Health Services (BHS) has prepared these guidelines to assist clinicians in the community provide safe and effective care for pregnant women. The care is shared between hospital care providers, Obstetricians/Registrars and the GP/Midwives in the community.
This guideline was developed pre COVID 19; hence does not include initiatives in response to this pandemic

The health care provider involved in shared maternity care must provide individual professional judgement at all times in selecting the most appropriate care and management of the pregnancy.

Acknowledgements:
These guidelines are based on the;

- Guidelines for Shared Maternity Care Affiliates 2015, the Royal Women's Hospital, Mercy Public Hospitals Incorporated and Western Health, Melbourne, 2015.
- Bendigo Health – Guidelines for Shared Maternity Care. Bendigo Health, March 2013.

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Disclaimer

These guidelines have been developed for the provision of shared maternity care between the Royal Women's Hospital, Mercy Public Hospitals Incorporated and Western health (the Hospitals) and shared maternity affiliates accredited at these hospitals.
Irrespective of these guidelines, every health service provider and health professional must individually exercise the standard of professional judgement and conduct expected of them in selecting the most appropriate care for a pregnant woman and in the management of her pregnancy.
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Shared Maternity Care Model

Shared maternity care is a model of care in which a woman is cared for by hospital staff and a community-based shared maternity care affiliate (an accredited general practitioner, obstetrician or community-based midwife) throughout her pregnancy. The woman's labour, baby's birth and immediate postnatal care are managed by the hospital. Shared maternity care provides continuity of care and a high-quality, community-based, holistic, safe and culturally appropriate model that is highly valued by women. Women attend the hospital for complex antenatal assessments, birth and immediate postnatal care, all of which are managed by hospital based practitioners.

It is necessary for the care providers to take a team approach and share responsibility for all aspects of the woman's care. This includes responding in a timely manner to abnormal results and findings and communicating to the necessary health care provider. Whilst the primary responsibility for management of results and tests is the ordering practitioner, all care providers should check that follow-up of abnormal results/findings has occurred and actioned appropriately.

Accreditation and re-accreditation of Shared care maternity Affiliates

Ballarat health has an application form for GPs and midwives who wish to provide shared care. Reaccreditation is required every 3 years.

Responsibilities in the provision of shared maternity care

For shared maternity care to work, a team approach between the community and hospital providers is required. Responsibility for a woman's care is shared, including ordering investigations and the communication and management of investigations, results and any abnormal findings. These should be documented in the Pregnancy record.

The following obligations form the basis of responsibilities and communication between the SMCA and hospital staff.

It is the responsibility of the hospital to:

- notify the referring doctor of the receipt of referral for pregnancy care
- notify the woman of the first hospital appointment details and location
- notify the referring doctor if the woman does not attend her first hospital appointment
- establish suitability for shared maternity care
- register the woman with an accredited SMCA
- notify the referring doctor of the outcome of the first hospital visit
- ensure the woman has a Pregnancy record

- ensure that the woman receives information about her required schedule of visits and tests (for both hospital and the SMCA)
- ensure that the anticipated hospital appointments are organised and notify the woman of these
- notify the woman's SMCA if shared maternity care ceases.

Clinical governance at the hospital includes:

- a list of accredited SMCAs available within Maternity Outpatients
- a robust system for accreditation and reaccreditation of SMCAs
- strong clinical governance for shared maternity care
- referral guidelines and support for SMCAs.

It is the responsibility of the SMCA to:

- notify the Maternity Outpatient Coordinator if a woman does not attend her first SMCA visit
- contact the woman if she does not attend her first scheduled SMCA appointment (if she is known to the practice)
- notify the Maternity Outpatient Co-ordinator if a woman has a poor attendance record for her antenatal visits
- ensure the Maternity Outpatient Co-ordinator has up-to-date details for the SMCA
- abide by these guidelines, including when to refer to hospital
- comply with accreditation/reaccreditation requirements.

It is the responsibility of both the hospital staff and the SMCA to:

- provide copies of test results, each visit, findings and management in the Pregnancy record
- review investigations they have ordered in a timely way
- follow-up abnormal investigations and findings.

It is the responsibility of the woman to:

- book appointments with the SMCA
- attend her appointments
- bring her Pregnancy record to all appointments.

BHS Contacts

- **Antenatal:** The Maternity Outpatient Co-ordinator can be contacted for non-urgent concerns that may arise with the woman
  Mon-Fri 0830-1700 – 53204820 or 0418 835 091

- **Registrar**: If the matter is urgent, the Obstetric registrar can be contacted via the hospital switchboard 53204000 or LW 53204979

- **Pregnancy Assessment** – provides assessment and review of common pregnancy related issues – such as hypertension, decreased fetal movements, suboptimal fundal height
  Call LW to arrange review – 53204979 or 53204980

Cessation of Shared care

During the pregnancy a woman may develop complications requiring transfer back to the hospital care provider.
Shared care is ceased in the following:

- Fetal abnormalities
- Gestational diabetes
- Placenta praevia, vasa praevia and placenta accreta
- Antepartum haemorrhage
- Cholestasis
- Fetal growth restriction
- Decreased fetal movement
- A woman requests cessation

If any of the above are noted by the SMCA, appropriate and timely referral back to BHS must be undertaken.
BHS hospital medical staff must notify the SMCA of a change to the woman's management and care provision.

Confirmation of Pregnancy

GP visit between 4-10 weeks

Clinical exam including

- obstetric history
- Family/genetic history
- Drug and alcohol history
- Nutritional history
- Review medication and management of existing conditions and consider early referral if indicated

Investigations

- First trimester combined screening (blood test 9-11 weeks), US between (11+3 and 13+6 weeks)
- Non-invasive prenatal test (NIPT) if woman prefers
- Consider dating scan if LNMP unknown/irregular cycles

Issues for discussion:

- Models of care
- Booking into hospital
- Diet and exercise
- Drug and alcohol use
- Smoking cessation
- Medication and vitamins
- Folate supplementation
- Listeria infection and toxoplasmosis
- Dental hygiene

Early pregnancy Investigations include:

- Blood group and antibodies
- FBE and ferritin
- Hepatitis B and C
- HIV
- Syphilis
- Rubella
- Vitamin D (high risk groups)
- MSU (Micro, culture and sensitivity)

Investigations to consider for high risk groups

- Dating Ultrasound if LNMP unknown
- Chlamydia (urine sample or cervical swab)
- Haemoglobin electrophoresis
- Thyroid stimulating hormone
- Cervical screening

- GTT – previous GDM, Family hx diabetes, maternal age >40yrs, elev BGL, BMI>35, previous macrosomia (BW>4000gm or >90th centile), PCOS, Medications – corticosteroids, antipsychotic
- Varicella antibodies

- **ROUTINE ULTRASOUNDS**
  Dating scan if irregular menses or unsure last menstrual period
  11-13 week dating scan (may be part of Down syndrome FTCS)
  20 week morphology scan

Recommended options to screen for Down Syndrome are:

FIRST TRIMESTER

- Combined first trimester screen -10 week serum screen +12 week Ultrasound OR Non-invasive prenatal test (NIPT)

SECOND TRIMESTER

- Second trimester Maternal Serum Screen OR NIPT

FURTHER DIAGNOSTIC TESTING

- Diagnostic testing (CVS or amniocentesis) for pregnancies at high risk of aneuploidy or high risk screening result

It is the primary responsibility of the provider ordering a test or noting any abnormal finding to ensure appropriate follow up, communication and management. However, all providers should check that follow up of any abnormal investigation or finding has occurred.

Investigations for other inheritable genetic conditions

Tests for other inheritable genetic conditions are ideally done before pregnancy.
Investigations to consider for fetal abnormalities include;

Carrier screening

Some population groups should be offered testing for genetic carrier status, including:

- Population groups at higher risk of cystic fibrosis, fragile X or spinal muscular atrophy (for cystic fibrosis this includes either partner from Northern European or Ashkenazi Jewish backgrounds)
- Population groups at higher risk of other genetic diseases where carrier screening is available (e.g. Tay–Sachs disease, thalassaemia, sickle cell anaemia).
- Reproductive genetic carrier screening is also available for couples with no personal or family history of genetic disease, with a number of tests available for varied conditions included. This is at cost to the patient.

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Diagnostic testing

In cases of a personal or family history of either partner, other testing may be required.

These may include blood tests on either parent or investigations on the fetus (CVS/ amniocentesis). In these cases Genetics Services at the hospitals can provide advice to GPs and women, and counselling and testing for women if required. To ensure the provision of timely advice, directly contact the Genetics Services at the hospital the woman has been referred to.

It is the primary responsibility of the provider ordering a test or noting an abnormal finding to ensure appropriate follow-up, communication and management. However, all providers should check that follow-up of any abnormal investigation or finding has occurred.

TESTING FOR DOWN SYNDROME AND OTHER FETAL ABNORMALITIES

Most babies are born healthy, but about 4% are born with a birth defect that may require medical care. A number of screening and diagnostic tests are available to determine the risk of, or to diagnose, certain congenital problems in the fetus.

However, tests only have the capacity to screen for and diagnose some congenital problems. If a woman or her partner has a genetic condition, is a carrier or if there has been a previous congenital abnormality/genetic condition in another child, it is important that the couple is referred for genetic counselling. This should be done as early as possible – preferably pre-pregnancy, as it can take considerable time to determine whether or not a prenatal test is available and, if so, to obtain the result.

If a test is performed in the community, a copy of the results (if available) should be given to the woman to bring to her first hospital visit.

Screening versus diagnostic tests

Screening tests can be performed to determine the risk of having a baby with Down syndrome, some chromosomal abnormalities and neural tube defects. Screening tests do not diagnose a condition – rather, they determine the level of risk. If screening test results indicate a comparatively high

All Pregnant women regardless of age, should be offered a:

a test for down syndrome

11-13 week Ultrasound

a 19-22 week fetal morphology ultrasound
In addition

High risk population based and carrier screening may be relevant and

If there is a personal or family history of genetic problems, a referral to RWH genetics services should be considered;

email;

fmu@thewomens.org.au

likelihood of a problem, ie a risk of >1 in 300; diagnostic test such as chorionic villus sampling (CVS) or amniocentesis, or in some cases a very sensitive screening test such as a Non Invasive Prenatal Test (NIPT) may be offered.

The following table outlines risk by age of Down syndrome and other chromosomal abnormalities

Maternal Age at delivery (years)	Chance of having a baby with down syndrome	Chance of having a live born baby with a chromosomal abnormality
20-24	**1 in 1411**	**1 in 506**
25	**1 in 1383**	**1 in 476**
26	**1 in 1187**	**1 in 476**
27	**1 in 1235**	**1 in 455**
28	**1 in 1147**	**1 in 435**
29	**1 in 1002**	**1 in 417**
30	**1 in 959**	**1 in 385**
31	**1 in 837**	**1 in 385**
32	**1 in 695**	**1 in 323**
33	**1 in 589**	**1 in 286**
34	**1 in 430**	**1 in 244**
35	**1 in 338**	**1 in 179**
36	**1 in 259**	**1 in 149**
37	**1 in 201**	**1 in 124**
38	**1 in 162**	**1 in 105**
39	**1 in 113**	**1 in 81**
40	**1 in 84**	**1 in 64**
41	**1 in 69**	**1 in 49**
42	**1 in 52**	**1 in 39**
43	**1 in 37**	**1 in 31**
44	**1 in 28**	**1 in 24**
45	**1 in 32**	**1 in 19**

Morris JK, Mutton DE, Alberman E. Revised estimates of the maternal age specific live birth prevalence of Down syndrome. J Med Screen 2002; 9(1):2–6.
Hook EB. Rates of chromosomal abnormalities. Obstet Gynecol 1981; 58:282–85.

Tests for Down syndrome and other aneuploidies

Although a woman's likelihood of having a fetus with Down syndrome (Trisomy 21), and some other chromosomal abnormalities such as Edward syndrome (Trisomy 18), and Patau syndrome (Trisomy 13) increases with age, a woman of any age can have a baby with aneuploidy and all women, regardless of age, should be offered a test for Down syndrome. A **low Papp-A <0.4MoM** increases the risk of pregnancy complications such as fetal growth restriction and Preeclampsia. Independently from management required for the risk of aneuploidy, women with a low Papp-A should be offered an extra scan at 24 weeks for fetal growth and uterine artery Dopplers. If the uterine artery Dopplers is normal no further scans are required except if indicated by new clinical findings. If the uterine artery Dopplers are abnormal, the women should be offered growth scans at 28 and 34 weeks, or more often if the growth pattern is abnormal.

Screening Test	Appropriate timing-gestational age
1st trimester biochemistry: Papp-A, B-HCG	9+0 to 13+6 weeks
Nuchal translucency scan	11+0 to 13+6 weeks
Non-invasive prenatal test (NIPT)	≥10 weeks
2nd trimester Maternal Serum Screen	15 to 20 weeks

Non-invasive prenatal testing (NIPT)

These are a group of maternal blood tests based on cell-free DNA technology.
They are also referred to as non-invasive prenatal screening (NIPS) and cell-free DNA testing. They are available from about 10 weeks gestation and test for Down syndrome, Edward syndrome, Patau syndrome and some other chromosomal abnormalities.
The detection rate (sensitivity) is very high, at approximately 99% for Down syndrome (T21), 97% for Edward syndrome (T18) and 92% for Patau syndrome (T13), with low false positive rates that vary between different tests and for different aneuploidies. In about 5% of cases, a meaningful result is not achievable.
If a NIPT test is performed, it is recommended to routinely order a 12-week ultrasound to screen for non-aneuploidy abnormalities such as anencephaly, which requires the ultrasound for diagnosis. In view of its high sensitivity and no risk of miscarriage, women may choose a NIPT over a diagnostic test such as CVS or amniocentesis, if they are high risk on a screening test or are of advanced maternal age.

If a test indicating aneuploidy is obtained, CVS or amniocentesis should be offered to confirm the diagnosis before any intervention is undertaken.

Further information can be found on the Victorian Clinical Genetics Services (VCGS) website. Also see: www.vcgs.org.au

Combined first trimester screening

Combined first trimester screening tests for Down syndrome, Edward syndrome and Patau syndrome. It involves both a maternal blood test (ideally conducted between 9 and 10 weeks – but can be done from 9 weeks to 13 weeks and 6 days) and ultrasound (ideally done in the 12th week, but can be done from 11 weeks to 13 weeks and 6 days). This test calculates risk from maternal free beta human chorionic gonadotrophin (free ß-hCG) and pregnancy associated plasma protein-A (PAPP-A), maternal age and nuchal translucency measurement.

Its detection rate (sensitivity) for Down syndrome is 90%, the false positive rate is approx. 5%, with a high-risk result reported at of ≥1 in 300. The detection rate for Edward and Patau syndrome is approx. 70%, the false positive rate is 0.4%, with a high-risk result reported at ≥1 in 175.
As the combined first trimester screen requires coordination of the blood and ultrasound components to generate a result, this means that ultrasound findings need to be provided by the ultrasound service to the Pathology Service to generate a result.
Results are generally available within seven days of the laboratory receiving the nuchal translucency report. A Medicare rebate is available for blood tests and ultrasounds.
Some out-of-pocket expenses may occur. Individual ultrasound services should be contacted about costs and in order to reduce the costs of the blood component, the SMCA should indicate on pathology forms that the woman is a public patient.

Second trimester maternal serum screening

Second trimester maternal serum screening tests for Down syndrome, Edward syndrome and neural tube defects. This test calculates risk from maternal alpha fetoprotein (AFP), free beta human chorionic gonadotrophin (free ß-hCG), unconjugated oestriol (uE3) and Inhibin A and maternal age. Detection rates are approx. 70% for Down syndrome and 90% for neural tube defects. A high risk result is reported at ≥1 in 250 for Down syndrome and ≥1 in 200 for Edward syndrome.
The test is ideally performed at about 15 weeks gestation (although it can be done from 14–20 weeks). Results are generally available within seven days. This is the screening test for Down syndrome that is routinely available at the hospitals, if the woman's first hospital appointment occurs at less than 20 weeks gestation and she has not already had a test for aneuploidy.

Diagnostic tests for chromosomal abnormalities

Diagnostic tests such as CVS or amniocentesis should be considered/offered if:

- screening shows increased risk of chromosome abnormality (e.g. Down syndrome)
- maternal age is ≥37 years at expected date of confinement
- there is parental translocation
- there is previous trisomy
- there are major anomalies on ultrasound or
- the nuchal translucency is >3.5mm at ultrasound at 11-13 weeks
- there are previous neural tube defects (diagnostic method of choice is specialised obstetric ultrasound)
- there is a concern about disorders detected by DNA technology (e.g. Duchenne and Becker muscular dystrophy, myotonic dystrophy, fragile X, haemoglobinopathies, alpha and beta thalassaemia, sickle cell disease, haemophilia A or B, cystic fibrosis, Tay–Sachs disease, neurological diseases such as spinal muscular atrophy or Huntington's disease).

There are many inborn errors of metabolism diagnosable prenatally by CVS or amniocentesis, but an exact biochemical diagnosis is needed in the index case before such a prenatal test can be considered.

If a woman later requests a TOP, the choice between a CVS and amniocentesis has implications on options for the method of termination of pregnancy (TOP). This is because an amniocentesis is performed at a later gestation than a CVS and therefore the results may not be available in time for a surgical TOP to be an option (as surgical TOPs are usually only available up to approximately 18 weeks gestation).

Chorionic villus sampling (CVS)

A CVS diagnostic test can be performed at 10–14 weeks. If there is an indication for testing, this can be undertaken at the hospital and there are no out-of-pocket costs.

The test involves approx. 1% additional risk of miscarriage (in addition to the risk of miscarriage for all pregnancies). CVS also has a 1% risk of equivocal result (e.g. the risk of mosaicism – the presence of a mixture of cells with normal and abnormal karyotype – or maternal cell contamination of the sample). Results are generally available within two weeks.

Amniocentesis

An amniocentesis is usually performed at 15–18 weeks. If there is an indication for testing, this can be undertaken at the Royal Women's Hospital and there are no out-of-pocket costs. The test involves approx. a 0.5% additional risk of miscarriage (in addition to the risk of miscarriage for all pregnancies). Results are generally available within two weeks.

Fluorescent in situ hybridisation analysis

A fluorescent in situ hybridisation (FISH) analysis is an additional test that can be performed on the sample obtained at the CVS or amniocentesis in order to obtain an earlier preliminary result. FISH analysis gives a preliminary result in 48–72 hours but does not replace complete chromosomal analysis. FISH analysis has a cost involved and no Medicare rebate is available. If a test indicating aneuploidy is obtained, full results should be awaited to confirm the diagnosis before any intervention is undertaken.

Arranging CVS or amniocentesis

At Ballarat Health, SMCA should refer women directly to the Royal Women's Maternal Fetal Medicine Unit/Genetic Services (email fmu@thewomen's.org.au) who arrange counselling and testing.

Tests for other inheritable genetic conditions

Tests for other inheritable genetic conditions are ideally done before pregnancy or if this window has been missed, in early pregnancy.

Population-based carrier screening

This is referred to as 'Reproductive genetic carrier screening' and is available for couples with no personal or family history of genetic disease at a cost to the patient.

A number of tests with varied conditions included are available. They are not available at the hospitals.

Reproductive genetic carrier screening is an option for:

- couples with no known personal or family history of cystic fibrosis, fragile X or spinal muscular atrophy but who are from a population group with an increased risk. Population groups at increased risk include northern European, Ashkenazi Jewish background and consanguineous couples (cousins married to each other)
- couples with no increased risk who wish to be screened for cystic fibrosis, Fragile X or spinal muscular atrophy
- population groups at higher risk of other genetic diseases where carrier screening is available (e.g. Tay–Sachs disease, haemoglobinopathies).

Reproductive genetic carrier screening is a blood test that can be taken at any pathology service, with results available in approximately 10 working days. There is a cost involved (no Medicare rebate is available).

If either parent is identified as a carrier, immediate follow up is required, especially if the woman is pregnant. Refer directly to the Genetics Services of the hospital the woman is booked into care with.

Information brochures and request forms are available on the Victorian Clinical Genetics Service website. Also see: www.vcgs.org.au

Diagnostic testing

Diagnostic testing identifies particular gene alterations. The gene alterations of a vast array of inheritable genetic conditions can be tested, although not all inheritable problems can be tested for.

A personal or family history of inheritable genetic conditions of either partner may require counselling and potential testing. Testing may involve blood tests for either parent or tests on the fetus (CVS/amniocentesis). Depending on the gene alteration being sought, it can take several months for results to be available. A cost may be involved.

For diagnostic testing as above:

- Genetics Services at the hospitals can provide advice to GPs and women, and counselling and testing for women if required

Genetic counselling

Health care providers are encouraged to offer early advice and counselling regarding all tests offered. This is especially pertinent for screening and diagnostic tests for fetal abnormalities. All couples should be given the opportunity to consider these tests.
The SMCA should discuss the available routine tests, the nature of the tests, the conditions being tested for, the possibility of false positive and false negative results, and the advantages and disadvantages of testing (taking into account maternal age and medical, pregnancy and family history). Wherever possible, women should be offered written material in their spoken language, including information about local services and costs involved.
Counselling through genetic services may be required:

- if a woman is unsure about whether to undertake diagnostic testing (or if a woman would like to undertake CVS or amniocentesis)
- if a woman or her partner has a genetic condition or a family history of a genetic condition that they wish to find out more about (including testing and the possible implications); this is best done pre-pregnancy
- if a woman has a high-risk screening result, or if a couple with a high risk of having a child with a genetic condition, wishes to discuss prenatal testing, (including diagnostic testing), or if a health care provider requires secondary advice.

Genetics Services at the hospitals provide advice to GPs and women, and counselling, testing and referral for women and their partners either pre-pregnancy or during pregnancy. Genetics Services work closely with obstetric services including fetal management units), ultrasound departments and Victorian Clinical Genetics Services.
Generally, women must be booked for care at the hospitals or be eligible for such (if pre-pregnancy), but requirements for access vary.

Fetal morphology ultrasound

All women should be offered a fetal morphology ultrasound at 19–22 weeks. The fetal morphology ultrasound can detect some structural abnormalities such as neural tube, cardiac, gastrointestinal, limb and central nervous system defects.
If a fetal abnormality is detected on ultrasound, Genetics services can be contacted for referral or advice. If urgent or semi-urgent referral is required, it is best to contact the below services directly. These services work closely with genetics services, ultrasound and other obstetric services and are able to arrange counselling if a termination is being considered.

Tertiary Hospital Genetic Service contact details

Mercy Hospital for Women **Phone 84584250** **FAX 8458 4254**	**The Royal Women's Hospital** **Phone 83452180** **FAX 83452179** **Email: fmu@thewomens.org.au** **Phone GP quick access: 83452058**

RESOURCES FOR TESTING FOR FETAL ABNORMALITY

General Genetic testing

- World health organisation
  www.who.int/genomics/public/geneticdiseases/en/index2.html#ts
  Comprehensive site with multiple resources including thalassaemia, cystic fibrosis, Tay-Sachs disease, fragile X syndrome and Huntington's disease
- Victorian Clinical Genetics (VCGS)
  www.vcgs.org.au
  Comprehensive site with multiple resources for genetic testing and support services in Vic
- National Health and Medical Research Council
  www.nhmrc.gov.au/guidelinespublications/e99
  www.nhmrc.gov.au/_files_nhmrc/file/your_health/egenetics/genetics_in_family_medicine.pdf
  www.nhmrc.gov.au/_files_nhmrc/file/your_health/egenetics/practioners/gems/sections/03_testing_and_pregnancy.pdf
  Medical Genetic Testing: information for health professionals. Comprehensive guidelines guide with multiple resources for genetic testing.
  Genetics in Family Medicine: The Australian Handbook for General Practitioners (2007)
  Information on a variety of genetic conditions including cystic fibrosis and fragile X syndrome, includes testing in pregnancy
  Genetics in Family Medicine. The Australian Handbook for General Practitioners. Testing and Pregnancy (2007)
- RANZCOG
  www.ranzcog.edu.au/collegestatements-guidelines.html#obstetrics
  Clinical guidelines:
  Prenatal Screening and Diagnosis of Chromosomal and Genetic Abnormalities in the Fetus in Pregnancy (2015) Prenatal Screening for Fetal Abnormalities (2013)

Aneuploidy screening tests

- *VCGS*
  www.vcgspathology.com.au/sections/MaternalSerumScreening/?docid=51a81179-f5d3-41ee-8892-992e00efe87d – Health profession information
  www.vcgspathology.com.au/downloads/YourPregnancy-YourChoice.pdf - Consumer information

- Non-invasive prenatal test (NIPT)
  Harmony NIPT – Australian Clinical Labs
  https://www.sonicgenetics.com.au/nipt/patients/harmony-prenatal-test/
  VCGS NIPT – Dorevitch Pathology
  https://www.vcgs.org.au/tests/perceptnipt
  Siles Health NIPT –
  https://www.sileshealth.com.au/nipts/

ANEUPLOIDY and DIAGNOSTIC TESTS

Amniocentesis

RANZCOG – Health professional information
https://www.ranzcog.edu.au/Womens-Health/Patient-Information-Resources/Amniocentesis
Better Health Channel –consumer information
https://www.betterhealth.vic.gov.au/health/ConditionsAndTreatments/pregnancy-tests-amniocentesis

Chorionic Villus Sampling (CVS)

RANZCOG – Health professional information
https://www.ranzcog.edu.au/Womens-Health/Patient-Information-Resources/Chorionic-Villus-Sampling-(CVS)
Better Health Channel – consumer information
https://www.betterhealth.vic.gov.au/health/ConditionsAndTreatments/pregnancy-tests-chorionic-villus-sampling

Tests for other genetic disorders

Cystic Fibrosis

Cystic Fibrosis Victoria – health professional and consumer information
www.cfsscreening.com.au
Victorian Clinical Genetics Service (VCGS) -carrier screening for cystic fibrosis, fragile X syndrome and spinal muscular atrophy

https://www.vcgs.org.au/tests/cystic-fibrosis-carrier-screening

Fragile X – consumer information – links to services and support groups
https://fragilex.org.au/what-is-fragile-x/

Thalassaemia
https://www.betterhealth.vic.gov.au/health/conditionsandtreatments/thalassaemia

About Downs syndrome and other aneuploidy's

Down Syndrome
www.downsyndrome.org.au

Edward Syndrome (trisomy 18)
https://www.genetics.edu.au/publications-and-resources/facts-sheets/fact-sheet-38-trisomy-18-edwards-syndrome/view

Ultrasound
RWH – consumer information
http://thewomens.r.worldssl.net/images/uploads/fact-sheets/Ultrasound.pdf

REFERRING WOMEN TO HOSPITAL

To refer a woman to a hospital for maternity care, the general practitioner (GP) should send a referral with attached antenatal blood results and Ultrasound (if available) as soon as possible after pregnancy is confirmed. **FAX No 53204324**
To ensure all women can access the level of maternity care they require in a timely way and be contacted about their appointments, GPs should provide as much relevant information as possible. Referrals should be comprehensive and contain:

- name
- address
- date of birth
- phone number (preferably mobile) –**please ensure this is current**
- country of birth
- Aboriginal or Torres Strait Islander status
- interpreter and language requirements
- special needs (e.g. mobility) or additional support requirements
- GP details (practice address and provider number).

Mandatory clinical content includes:

- estimated day of confinement (EDC or due date)
- last normal menstrual period (LNMP)
- body mass index (BMI)
- relevant history, symptoms, signs, investigation results, medication and management and any reasons that identify the patient as high risk or in need of early hospital assessment.

ANTENATAL VISITS

Shared maternity care schedule of visits: Summary; see below -
The following table provides a summary of the minimum routine antenatal visits for shared maternity care. It includes a description of what to consider at each visit.
Shared Care providers should use their clinical judgement in determining appropriate timing for reviews and

Antenatal Care Schedule Shared Care

Women who are deemed Low Risk according to the *Exclusion Criteria* can be cared for in accordance with the following visit schedule

AT EACH VISIT THE FOLLOWING WILL BE REVIEWED:
– History reviewed – Standard antenatal examination – BP, FHR, S-F height, palpation – Discuss and/or offer investigations as indicated – Provide information according to clinical situation and as directed by the woman – Arrange ongoing care – Document in BOS Management Plan and print out notes
12-16 weeks: First visit with a Midwife and Doctor at Ballarat Health (phone booking prior)
• Obtain a health and maternity history. Check current wellbeing. Estimate due date. Check screening tests results • Measure weight and height. Calculate BMI • Check blood pressure and fetal heart rate (if above 18 weeks, otherwise US in MOP to confirm) • Consider need for FWT • Check Test Results including: - Blood group and antibody screen, blood count, iron levels, thalassaemia screening, diabetes testing, vitamin D, infections in pregnancy, 1st trimester screening • Discuss lifestyle considerations, substance use and complete EPDS • Complete referrals as indicated • Discuss options for maternity care and visit schedule • Book Child Birth Education Class • Administer flu vaccine if woman consents • Doctor review - Model of care confirmed - Correspondence Letter to GP - Management plan made and document in BOS
GP review at 21 -22 weeks – standard check PLUS:
• Review 19-22 week Morphology Ultrasound • Advise on whooping cough and influenza vaccination

GP review at 25-26 weeks – standard check PLUS:

- Request 28 week bloods -GTT/FBE/Iron Studies/antibodies – Inform pt that OGTT needs to be booked by phoning the pathology collection centre they attend and please have done a few days prior to hospital apt

28 weeks: Midwife and Doctor at BHS

- Review 28 week blood tests
- Add to BOS if flu vaccine or whooping cough given by GP
- Provide handout Safe pregnancy and Movement matter brochure, discuss movements and settling to sleep on side
- Check results of investigations -GTT, FBE, antibodies, iron studies
- Administer Anti-D immunoglobulin if required – must have recent antibody test
- Complete education on BOS
- Repeat EPDS

GP review at 31 weeks - standard check PLUS:

- Results of investigations
- Discuss labour, birth, third stage and early parenting planning

GP review at 34 weeks - standard check PLUS:

- Discuss fetal movements
- Discuss preparation for labour, birth and parenting planning
- Review birth options/plans
- Discuss non-pharmacological methods of pain relief at home
- Suggest hospital tour -1st Sunday of the month at 2.15pm -meet at Labour ward (level 5)

36 weeks: Midwife and Doctor at BHS

- Check if Anti-d required - No antibody screen required at 34-36/40 anti-D
- Discuss GBS swab and collect as required
- Review FBE/Iron studies
- Complete 36-week checklist in BOS
- Discuss 'when to come to hospital'
- Discuss labour, birth, third stage cord gases/delayed cord clamping

GP review at 38 weeks

- Standard antenatal review

40 weeks: Doctor at BHS

- Request US for AFI/SD (b/w 40-41weeks)
- IOL booking request for Term +10 -
- Provide BHS 'Induction of labour' information sheet and RANCOG IOL brochure
- Consider VE and membrane stretch and sweep

41 weeks: Doctor at BHS

- Review CTG and ultrasound
- VE to assess 'Bishop score' and consider 'stretch and sweep'
- CTG second daily from 41 weeks – in MOP
- AFI twice weekly from 41 weeks – in MOP (bedside Ultrasound)

Contact
Maternity Outpatients Midwife – 53204820
Maternity Outpatient Clerk – 53204533
Birthing Suite – 53204979 or 53204980

Exclusion criteria for Shared Care and Midwife Care

Note:
Underlined / Italic conditions: Women presenting with these conditions in the table below require Obstetric Consultation. Once a management plan is made, if deemed appropriate by Obstetric Team, care can be transferred back to the Midwifery Care Clinic/GP for ongoing care.
Care can be transferred between high risk and low risk clinics as indications for transfer of care arise and / or resolve.

Anaesthetic Difficulties	**Autoimmune disease** SLE/connective tissue disorder	**BMI / Maternal weight and Age** BMI <18 and over 30 at booking Maternal age 40 yrs and over
Cardiovascular disease - Arrhythmia/palpitations; murmurs: recurrent, persistent or associated with other symptoms - Cardiac valve disease - Cardiac valve replacement - Cardiomyopathy - Congenital cardiac disease - Hypertension - Ischaemic heart disease - Pulmonary hypertension	**Endocrine** - Addison's Disease, Cushing Disease or other endocrine disorder requiring treatment - Diabetes: Type 1, Type 2, GDM - Hyperthyroidism - *Thyroid disease - New diagnosis or hypothyroidism*	**Coagulation disorders** - Decline blood products - Haemoglobinopathies - Haemolytic anaemia - Other antibodies detected - Rhesus antibodies - Thalassaemia - Thrombophilia including antiphospholipid syndrome
Drug dependence - Smoking - Cannabis - Recreational drugs ie heroin/ICE	**Gastro-intestinal** - Hepatitis B with positive serology - Hepatitis C - Inflammatory bowel disease includes ulcerative colitis and Chrohn's disease - Previous major abdominal/pelvic trauma	**Genetic** - Any condition
Haematological - Anaemia at booking Hb < 90g/L - NAIT - ITP	**Organ transplants**	**Perinatal Mental Health** - Puerperal Psychosis - History severe PND - Bipolar Schizophrenia Personality disorders *Severe anxiety/depression requiring medication* Previous suicide attempt *Other Mental health disorder*
Infectious diseases - Cytomegalovirus - HIV infection - Parvo virus infection - Rubella - Syphilis - Toxoplasmosis - Tuberculosis - Varicella/Zoster	**Neurological** - AV malformations - Epilepsy with medication - Multiple sclerosis - Muscular dystrophy or myotonic dystrophy - Myasthenia gravis - Spinal cord lesion (paraplegia or quadriplegia)	**Renal function disorders** - Abnormal renal function - Previous urinary tract surgery - Recurrent urinary tract infections - Abnormal renal function - *Continence issues*

- Genital Herpes
- *Other infectious disease*

- Subarachnoid haemorrhage, aneurysms.
- Previous CVA
- Spinal surgery
- Brain surgery/brain lesions

Respiratory disease
- Asthma requiring oral steroids and adult hospital admission
- Severe lung function disorder
- Sarcoidosis
- Smoking

Skeletal problems
- History of developmental skeletal disorders
- Osteogenesis Imperfecta
- Scoliosis
- Spinal surgery

System / connective tissue diseases
- Anti-phosholipid syndrome

Marfan syndrome, Raynaud's disease
- Periarteritis nodosa
- Scleroderma
- Rheumatoid Arthritis
- Systemic Lupus Erythematosus (SLE)
- *Other connective tissue conditions*

Pre-existing gynaecological disorders
- Cervical abnormalities
- *Abnormal pap smear results requiring follow up in pregnancy*
- Cervical surgery including *cone biopsy, laser excision or LLETZ biopsy*
- Fibroids
- Abdominal/Pelvic deformities (trauma, symphysis rupture)
- Pelvic floor reconstruction
- Colposuspension following prolapsed, fistula and/or previous rupture.
- *IVF pregnancy*
- Uterine abnormalities
- Myomectomy
- Bicornuate uterus, unicornuate uterus
- Vaginal septum

Current Pregnancy
- Multiple pregnancy
- Some congenital abnormalities
- Pregnancy associated plasma protein-A (PAPP-A) <0.4 MoM
- At risk pregnancy indicator
- Cholestasis
- Fetal growth restriction
- Antepartum haemorrhage
- Placenta praevia, vasa praevia, and placenta accreta
- Gestational Diabetes
- Decreased fetal movement

Previous maternity history
- ABO incompatability
- Active blood incompatibility(Rh, Kell, Duffy, Kidd)
- Auto-immune thrombocytopenia
- Cervical weakness and or cervical suture
- Cholestasis
- Congenital and /or hereditary disorder of previous child
- Eclampsia
- Gestational hypertension – previous or current
- Hypertension – previous or current
- Grand-multipara ≥ 5
- FGR <10th percentile
- Macrosomia >4.5kg – previous or current
- Multiple pregnancy
- Non-cephalic presentation >34 weeks
- Placental abruption
- Placenta accreta
- *Postpartum haemorrhage requiring additional treatment/transfusion*
- Pre-eclampsia
- Pre-term birth < 35 weeks in a previous pregnancy
- Previous baby transfer to external NICU
- Previous birth injury to mother or baby
- Previous HELLP syndrome
- Previous serious psychological disturbance
- Previous second or third trimester loss
- *Recurrent miscarriage (3 or more first trimester)*
- Rhesus ISO immunisation
- Shoulder dystocia
- Trophoblastic disease: hydatidiform mole or vesicular mole within last 12 months
- Third or fourth degree laceration
- *Ultrasound abnormality*

Antenatal Visits continued:

First-trimester visits are primarily to assess maternal and fetal wellbeing. They particularly focus on assessing the risk of complication, but also confirm the EDC, take a comprehensive history and discuss risk behaviours to establish care options.

Second-trimester visits are primarily scheduled to monitor fetal growth, maternal wellbeing and signs of pre-eclampsia.

Third-trimester visits are primarily to monitor fetal growth, maternal wellbeing and signs of pre-eclampsia, and to assess and prepare women for admission, labour, birth and going home.

A standard antenatal consultation and examination is performed at each SMCA and hospital appointment.

SMCA consultation discussion points

Health care providers (both hospital and SMCA) should check that, in addition to maternal concerns, the following information has been discussed with the woman during her pregnancy.
Throughout pregnancy:

- Diet & exercise
- Smoking/alcohol and drug use and cessation if relevant
- Mental health and wellbeing
- Relationships and support networks
- Intimate partner violence
- Breastfeeding
- Pelvic Floor Exercise (resources available on the Continence Foundation Australia website).

Early pregnancy:

- Models of care
- Folate and iodine supplementation
- Medicines (prescription, over-the-counter, vitamins and vitamin A derivatives)
- Influenza vaccination (including partners/caregivers/grandparents)
- Listeria and toxoplasmosis prevention
- Diet, nutrition and weight gain
- Common discomforts in pregnancy
- Anti-D if relevant
- Exercise, work, travel, sex
- Oral health care – refer Ballarat Health Dental
- Expectations for pregnancy/birth.

Later in pregnancy:

- Symptoms/signs of premature labour (discussed at hospital visit)
- Labour and birth, including expectations (discussed at hospital visit)
- Vaginal birth after caesarean (discussed at hospital visit)
- Pertussis immunisation (recommended in each pregnancy, ideally at 28–32 weeks.
  Also partners/caregivers if > 10 years since immunisation)
- Baby products and safety.

In the final weeks:

- Newborn care
- Baby injections Hepatitis B vaccine and Vitamin K
- Postpartum maternal immunisations – pertussis and/or MMR if indicated
- Postnatal GP check for mother and baby at 6 weeks
- Community maternal and child health services
- Promote Raising Children Network – http://raisingchildren.net.au/

SUPPLEMENTS

Vitamin and minerals

Vitamin D should not be offered routinely but screening should be offered to women who are at risk for vitamin D deficiency, ie.

- Limited exposure to sunlight;
- Dark skin;
- Veiled women;
- A pre-pregnancy BMI of >30.

Advise women that taking vitamins A, C or E supplements confers no benefit in pregnancy and may cause harm. Do not routinely offer iron supplementation to women during pregnancy.

Iodine

The NHMRC recommends for women who are pregnant to take an iodine supplement of 150 micrograms each day. Women with pre-existing thyroid conditions should seek advice from their medical practitioner before taking a supplement.

Folate

Dietary supplementation with folic acid, from 12 weeks before conception and throughout the first 12 weeks of pregnancy, reduces the risk of having a baby with a neural tube defect. The recommended dose is 500 micrograms per day.

Women with pre-existing diabetes, women taking antiepileptic medication and women with BM I≥35 should ideally be commenced on high dose folate supplementation of 5 mg per day in the pre-conception period as they have very high requirements in the 1st trimester.

MEDICATIONS IN PREGNANCY

Medicines Information Service (MIS)

The MIS specialises in providing information on medicine use, including psychotropic medicines, in pregnancy and breastfeeding, women's health and neonates. The service is also able to provide advice regarding adverse drug reactions, drug interactions, compatibilities, product information, complementary or herbal medicines use and much more. The MIS is provided by the specialist pharmacists at the Royal Women's and operates from Monday to Friday (9am to 5pm), excluding public holidays.
Phone: (03) 8345 3190
Email: drug.information@thewomens.org.au
Website: www.thewomens.org.au/AskaPharmacist

Maternity Drug Information Centre

This service is for both the general public and health professionals (including doctors, pharmacists, nurses, midwives and community health workers) for advice and assistance on:

- new medicines
- adverse effects of medicines
- medicine interactions

It specialises in:

- medicines in pregnancy
- medicines in breastfeeding
- medicines for children
- women's health

The drug information centre provides telephone advice, and where appropriate, may act as a referral service by directing you to the best available resource to respond to your query or concern.

Contact:
T: 03 9594 2361 F: 03 9594 6283
Hours:
Monday to Friday 9.00am to 5.00pm.

SMOKING AND RECREATIONAL DRUGS IN PREGNANCY

Smoking:

Although abstinence early in pregnancy will produce the greatest benefits to the mother and fetus, smoking cessation at any point during the pregnancy will be beneficial.
Effective smoking cessation intervention should be offered to pregnant smokers at the first antenatal visit and throughout pregnancy and postpartum. This includes not only advice to quit but extended psychosocial interventions.
Smoking is known to;

- Is a major cause of sudden infant death syndrome (SIDS or 'cot death')
- Increases the risk of miscarriage.

- Increases the risk of complications during birth.
- Increases the likelihood of having a low-weight baby who is more vulnerable to infection and other health problems.

Maternal health is at risk also:
Smoking can lead to cancer, heart disease, low oxygen levels in your blood stream and increased risks of infectious and other illnesses.

Passive smoking:
Even though the smoke is diluted by the air, it is still harmful. Young children have smaller, more delicate lungs than adults, and are therefore more affected by tobacco smoke and the chemicals it contains. Babies and children who are exposed to passive smoking are at a higher risk of developing a number of serious illnesses.
See attached guideline from Safer care Victoria - https://bettersafercare.vic.gov.au/resources/clinical-guidance/maternity-and-newborn/substance-use-during-pregnancy-care-of-the-mother-and-newborn

QUIT options available

Referral to Ballarat Community health **- https://bchc.org.au/services/quit-smoking**
Online resources **– www.quit.org.au**
www.betterhealth.vic.gov.au/bhcv2/bhcarticles.nsf/pages/Pregnancy_and_smoking - consumer resource

INFECTIOUS DISEASES IN PREGNANCY

The Australasian Society of Infectious Diseases Management of Perinatal Infections (2014) is a useful resource that covers the management of 14 common perinatal infections, including CMV, Herpes Simplex, Toxoplasma gondii, Parvovirus, Varicella and Streptococcus Group B. See: www.asid.net.au/documents/item/368

Varicella exposure and infection

If a woman has been exposed to varicella during pregnancy and she is non-immune or of unknown immunity, or if a woman develops varicella in pregnancy, the SMCA should refer to the Emergency Department for specialist advice as soon as possible. Women may be offered zoster immune globulin (VZIG) and antivirals, especially when delivery is imminent, infection is recent or the woman is systemically unwell. If a woman is thought to be potentially infectious, appropriate arrangements can be made to minimise exposure to others, please call the Emergency Department prior to sending the woman in.

Slapped cheek infection (parvovirus)

Parvovirus B19 (slapped cheek) infection in the first 20 weeks of pregnancy can cause fetal anaemia with hydrops fetalis. Fetal death occurs in less than ten per cent of cases. Pregnant women who have been exposed to parvovirus infection in the first 20 weeks of pregnancy should be offered serological testing for parvovirus-specific IgG to determine their susceptibility. The diagnosis of parvovirus infection is usually made, serologically, by demonstration of IgG seroconversion and/or the presence of parvovirus IgM. IgM is usually detectable within 1–3 weeks of exposure and lasts
For 2–3 months. Repeat testing in 10–14 days may be required.10 Women who are diagnosed with parvovirus should be referred to the hospital promptly so that a tertiary ultrasound and obstetric review can be undertaken. This can be facilitated by the maternity outpatient coordinator. If further management is required, including serial ultrasound, this will be arranged by the hospital and shared maternity care is usually ceased.

Resources on Infectious Diseases
www.asid.net.au/documents/item/368 - Clinical guidelines
Consumer Information
www.betterhealth.vic.gov.au/bhcv2/bhcarticles.nsf/pages/Chlamydia
www.betterhealth.vic.gov.au/bhcv2/bhcarticles.nsf/pages/Chickenpox
www.betterhealth.vic.gov.au/bhcv2/bhcarticles.nsf/pages/Cytomegalovirus_(cmv)
www.betterhealth.vic.gov.au/bhcv2/bhcarticles.nsf/pages/Hepatitis_C_the-facts
www.betterhealth.vic.gov.au/bhcv2/bhcarticles.nsf/pages/Slapped_cheek_disease?open
www.betterhealth.vic.gov.au/bhcv2/bhcarticles.nsf/pages/Toxoplasmosis_reducing_the_risks?open

WEIGHT GAIN IN PREGNANCY

Health care providers should discuss weight gain throughout the pregnancy with women. Health care providers should discuss and encourage exercise throughout pregnancy. Risk of late pregnancy stillbirth is significantly increased in obese women as is pregnancy related complications to both mother, fetus and neonate.
See maternity ehandbook for guideline on Obesity during preganacy, birth and postpartum

https://bettersafercare.vic.gov.au/resources/clinical-guidance/maternity-ehandbook/obesity-during-pregnancy-birth-and-postpartum

Table 2: WHO Classification of obesity according to BMI

Classification	BMI (kg/m^2)	Risk of co-morbidities
Underweight	Less than 18.5	Low (but risk of other clinical problems increased)
Normal range	18.5–24.9	Average
Overweight	25–29.9	Increased
Obese I	30–34.9	Moderate
Obese II	35–39.9	Severe
Obese III	Greater than or equal to 40.0	Very severe / extreme

Table 6. Gestational weight gain goal ranges

Pre-pregnancy BMI	Rate of gain 2nd and 3rd trimester (kg/week)*	Recommended total gain range (kg)
Less than 18.5	0.45	12.5 to 18
18.5 to 24.9	0.45	11.5 to 16
25.0 to 29.0	0.28	6.8 to 11.3
Greater than or equal to 30.0	0.22	5 to 9.1

MENTAL HEALTH AND WELLBEING

Within Maternity Outpatients, the Edinburgh Perinatal Depression Scale Questionnaire is requested at first visit and between 28-30 weeks. If further assistance required in the management of the depression and anxiety referrals and discussion with social workers may occur.

If a woman experiences mental health issues during her pregnancy, there are a number of services that can be accessed within the maternity, community and acute setting depending on:

- the nature and acuity of the problem
- where she is booked for maternity care
- where she lives
- whether she can access private services.

For women with severe mental health issues (e.g. bipolar disorder, schizophrenia, severe depression or those taking antipsychotic medication or mood stabilisers), it is preferable that specialist advice is sought pre-pregnancy or early in pregnancy.

If the matter is urgent, the woman can present to the Emergency Department or contact BHS Mental health Service on 1300 661 323

For non-urgent situations, referral to services within Ballarat such as;

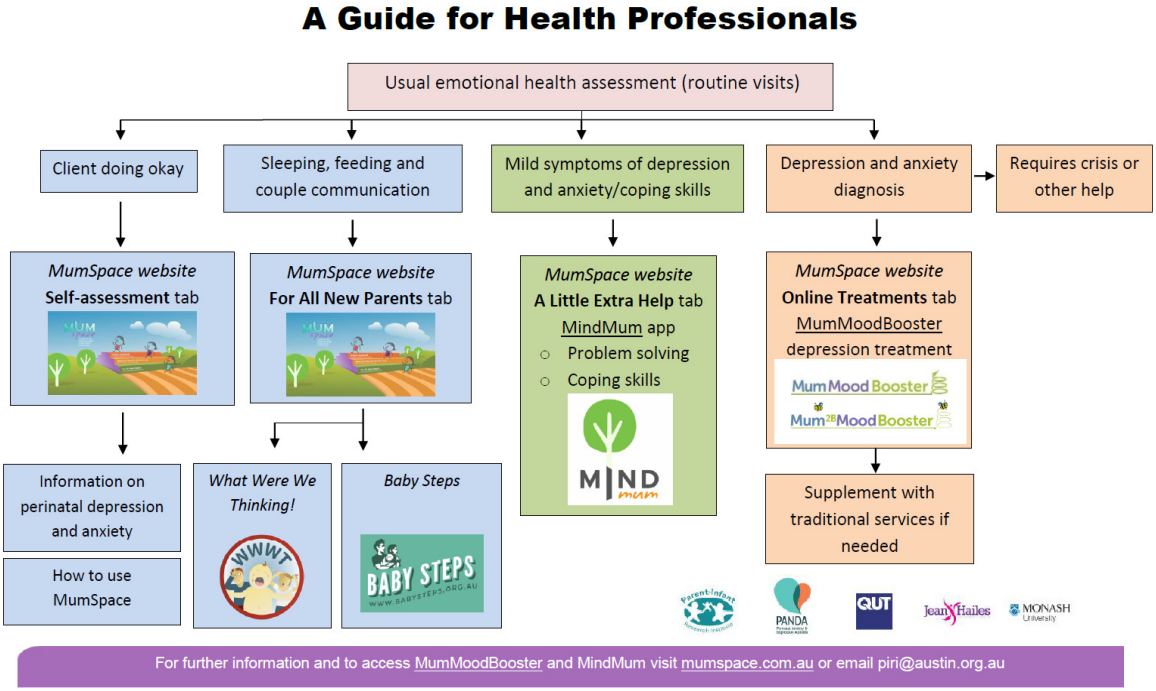
BHS Maternity Outpatients - 53204820

BHS Maternity Social workers - 53204000

Raphael house

Private Psychologists

Mother baby unit at BHS - 53208712



Recommended websites https://www.mumspace.com.au/

FETAL MOVEMENTS

Maternal perception of decreased fetal movements (DFM) is a common reason for presentation to hospital. There is no agreed upon objective definition of DFM and while the nature of the movements may change as pregnancy advances, there is no evidence that the number of movements changes.

There is a demonstrated association between DFM and:

- stillbirth
- fetal growth restriction
- preterm birth
- neonatal low Apgars and acidaemia
- fetomaternal haemorrhage.

Increasing maternal and clinical awareness of DFM and its causes, particularly fetal growth restriction, may lead to fewer stillbirths.

From 28 weeks please enquire with all women during antenatal reviews about their babies fetal movements. Any change in pattern or concern please call labour ward on 53204979.

https://bettersafercare.vic.gov.au/resources/clinical-guidance/maternity-ehandbook/decreased-fetal-movements

Safe Pregnancy brochure:

http://stillaware.org/wp-content/uploads/file-manager/Still%20Aware%20EBrochure/index.html?page=1

SLEEP POSITION IN PREGNANCY:

In the past five years there have been five scientific studies across five countries about women's sleeping position during pregnancy. These studies have shown that women who go to sleep on their back have a higher chance of having a stillborn baby compared to women who go to sleep in another position. In these studies, the chance of having a stillborn baby ranged between 2.5-8 times greater for women who went to sleep on their back. The research suggests that 1 in 10 stillbirths occurind late in pregnancy (after 28 weeks) could potentially be avoided if women did not sleep on their back at this time.

Women are advised to settle to sleep on their side for any episode of sleeping, including;

- Going to sleep at night
- Returning to sleep after any awakenings
- Day time naps

Sleep position in the third trimester is important due to the combined weight of baby and uterus putting pressure on maternal organs. Researchers do not know for certain what exactly is causing the increased risk of stillbirth, but we do know the following:

- When sleeping/lying prone the baby and uterus put pressure on the main blood vessels that supply the uterus and this can restrict the blood flow to the baby.
- Further studies have shown that when a woman lies on her back in late pregnancy the baby is less active and has changes in heart rate patterns. This is thought to be due to lower oxygen levels in the baby when the mother lies on her back.

Pt video:
https://www.youtube.com/watch?v=TxwBvq7K3Jg&feature=youtu.be

(Stillbirth Centre of Research Excellence)

Safer Baby Collaborative

Ballarat Health Services joined a collaborative to reduce preventable stillbirth above 28 weeks by 30%
In order to do this, there a 5 elements to consider;

1. Promoting smoking cessation at every episode of care

- Screen for smoking behaviours –ask, advise, help
- Conduct carbon monoxide analysis at booking and 28 weeks (BHS)
- Refer to quit services
- Share information about smoking as a risk factor for stillbirth
- Quit smoking for baby poster https://resources.stillbirthcre.org.au/downloads/SBB_Smoking%20Flyer.pdf
- Smoking cessation pathway https://s3-ap-southeast-2.amazonaws.com/resources.stillbirthcre.org.au/downloads%2CSmoking+Care+Pathway.pdf

2. Detection and management of fetal growth restriction (FGR) every episode of care

- Risk screen
- Inform women and clinicians about FGR as a risk factor for stillbirth
- Measure fetal growth consistently
- Plot symphyseal fundal height on growth charts (BHS BOS automatically plots)
- Escalate abnormal findings
- Fetal growth restriction (FGR) Care pathway https://resources.stillbirthcre.org.au/elearn/resources/FGR%20Management%20Pathway_V4.pdf

3. Management of decreased fetal movements

- Inform women about stillbirth risk factors
- Promote awareness about the link between decreased fetal movements and stillbirth
- Escalate abnormal findings
- Decreased fetal movement (DFM) pathway https://resources.stillbirthcre.org.au/elearn/resources/DFM%20Management%20Pathway.pdf
- Your babys movements matter http://movementsmatter.org.au/assets/Resources/90b4370a57/A5-Flyer-MovementsMatter.pdf

4. Promote optimal maternal sleep position

- Share information about sleeping on side in the third trimester
- Promote the awareness about the link between maternal sleep position and stillbirth risk
- Sleep on your side when baby's inside – consumer information https://resources.stillbirthcre.org.au/elearn/resources/Side_Sleeping_A5_%20double_sided_flyer.pdf

5. Shared decision making around timing of birth

- Optimise informed consent for induction of labour
- Screen for stillbirth risk at term

IDENTIFYING and MANAGEMENT of IRON DEFICIENCY and ANAEMIA

The blood service has developed the below guidelines for practitioners involved in antenatal care to improve the detection and management of iron deficiency and anaemia in pregnant women. https://transfusion.com.au/node/2234

HAEMOGLOBIN ASSESSMENT AND OPTIMISATION *ACTION PLAN*

WHAT DO YOU NEED TO DO?

IF IRON THERAPY IS REQUIRED IN ANY TRIMESTER:

- Provide the patient with a completed *Maternity Iron Handout* for oral supplementation and BloodSafe handout: *A Guide to Taking Iron Tablets*
- If iron is recommended, add details to the patient record

FIRST TRIMESTER VISIT – ≤20 WEEKS

- Check FBC and ferritin on all women
- Is Hb electrophoresis required? **Refer to *Haemoglobin Assessment and Optimisation First Trimester***
- If already taking iron, enquire about compliance, side effects etc
- Provide patient with request form for FBC and ferritin for 26–28 weeks routine blood tests (or where appropriate, add ferritin to 28 week OGTT request form)

SECOND ANTENATAL VISIT

- Review booking blood results
- Is iron required? **Refer to *Haemoglobin Assessment and Optimisation First Trimester***
- Provide patient with request form for full blood count (FBC) and ferritin for 26–28 weeks routine blood tests (or where appropriate, add ferritin to 28 week OGTT request form) if required

SECOND TRIMESTER VISIT – 26–28 WEEKS

- Review FBC and ferritin result
- Is iron required? **Refer to *Haemoglobin Assessment and Optimisation Second Trimester***
- If already taking iron, enquire about compliance, side effects etc
- Provide patient with request form for FBC and ferritin for 32-36 weeks if required

THIRD TRIMESTER VISIT – 32–36 WEEKS

- Review FBC and ferritin result
- Is iron required? **Refer to *Haemoglobin Assessment and Optimisation Third Trimester***
- If already taking iron, enquire about compliance, side effects etc
- Provide patient with request form for FBC and iron studies; B12 & folate (if levels were low in pregnancy) for 6 weeks postpartum; copy to GP

INTRAPARTUM

- Review FBC and ferritin result
- Is iron required? **Refer to *Haemoglobin Assessment and Optimisation Admission in Labour – Intrapartum***
- If already taking iron, enquire about compliance, side effects etc

POSTPARTUM

- Is FBC required following delivery? **Refer to *Haemoglobin Assessment and Optimisation Postpartum***
- Provide patient with request form for FBC and iron studies; B12 & folate (if levels were low in pregnancy) for 6 weeks postpartum; copy to GP
- Complete feedback form

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Version 1.0 17 April 2018.
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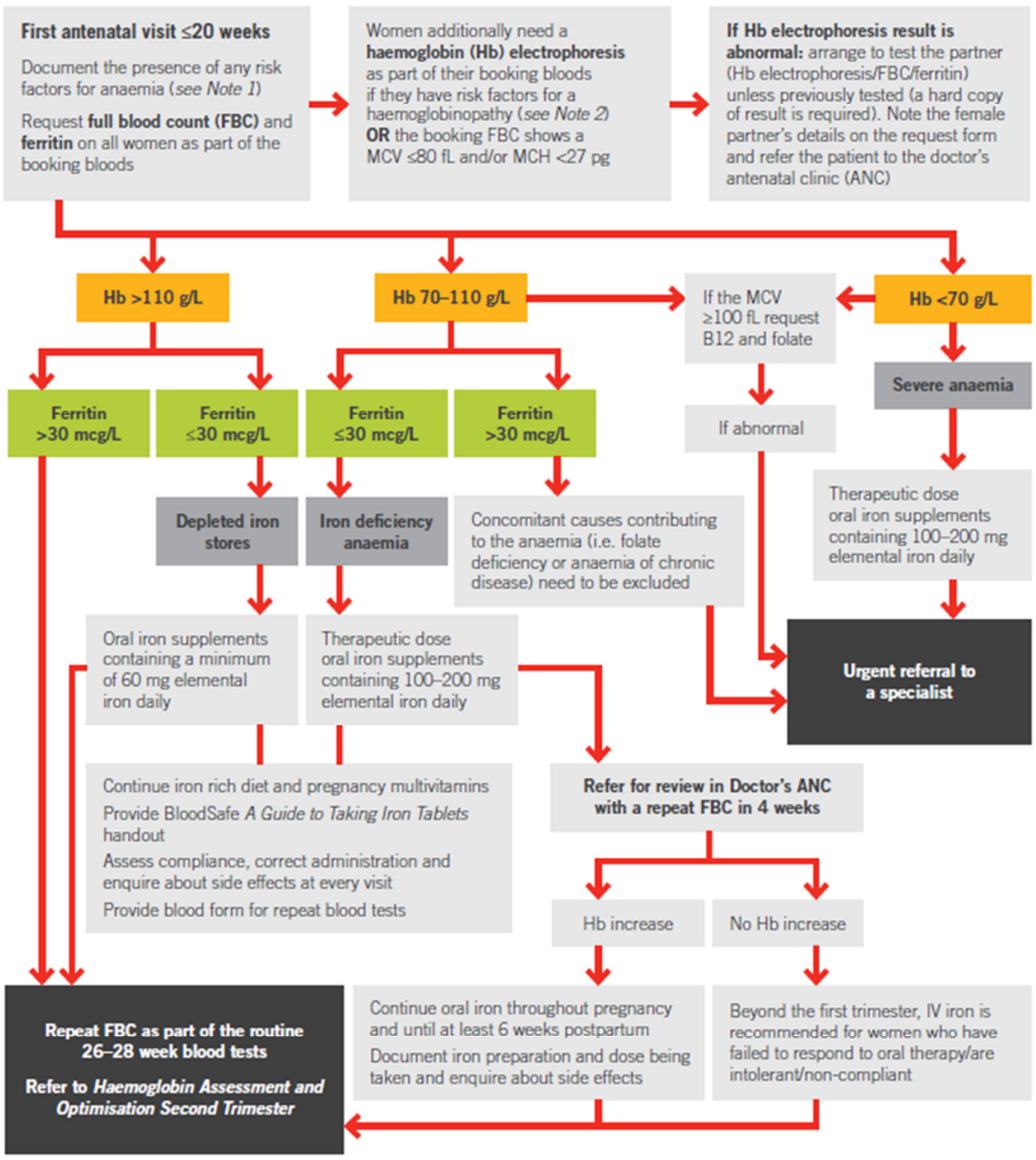
Australian Red Cross BLOOD SERVICE

HAEMOGLOBIN ASSESSMENT AND OPTIMISATION *FIRST TRIMESTER*



Note 1 - Risk factors for anaemia: previous anaemia, inter-pregnancy interval <1 year, multiple pregnancy, parity ≥3, vegetarians, teenage pregnancies, recent history of bleeding, Aboriginal and Torres Strait Islander women.

Note 2 - Risk factors for haemoglobinopathies: women with a family history of anaemia, thalassaemia or other abnormal haemoglobin variant; and any woman from a high-risk ethnic background who has not previously been tested.

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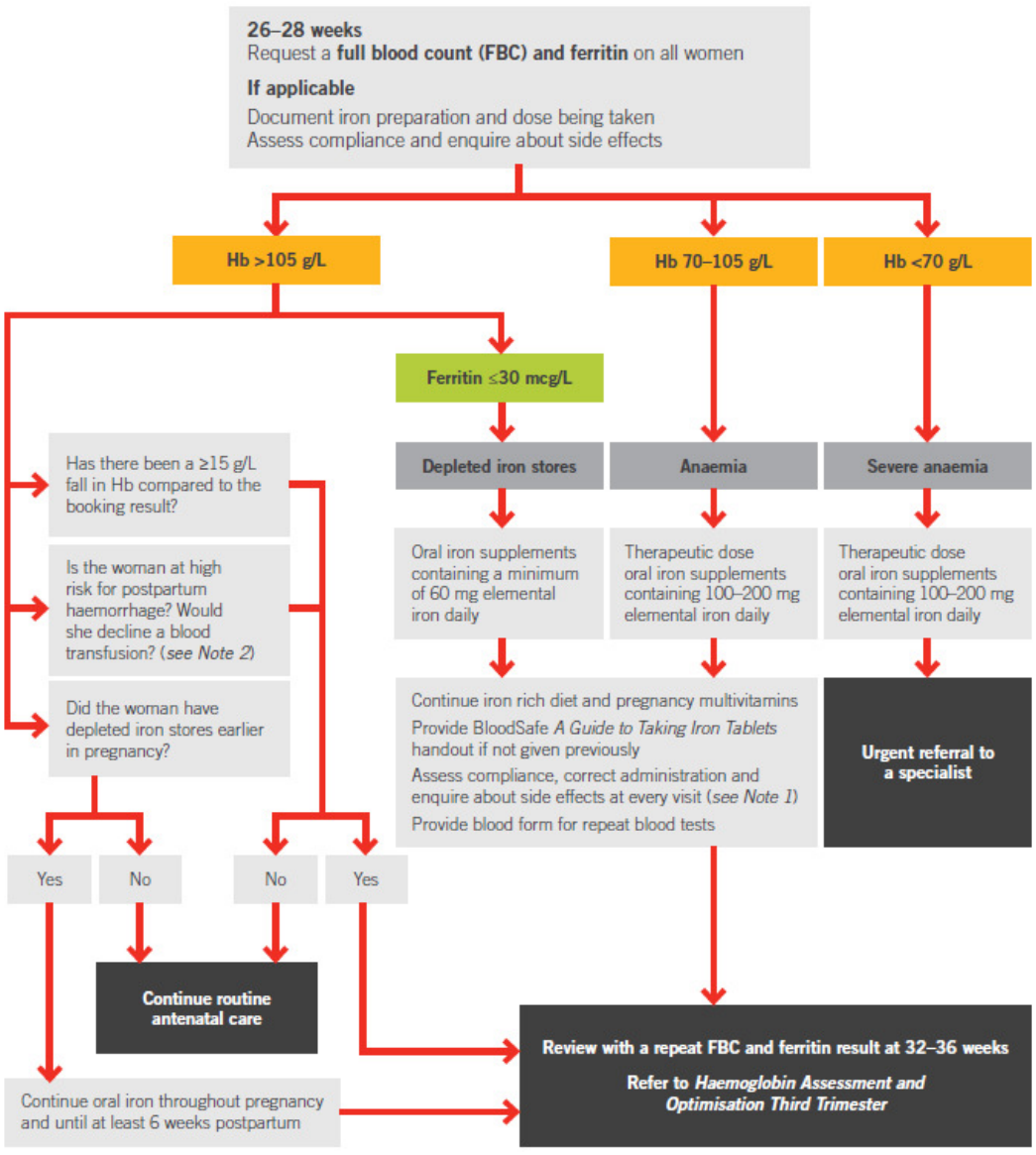
Australian Red Cross BLOOD SERVICE

HAEMOGLOBIN ASSESSMENT AND OPTIMISATION *SECOND TRIMESTER*



Note 1 - If nausea and epigastric discomfort are experienced, try preparations with lower iron content. Slow release enteric coated forms should be avoided.

Note 2 - Non-anaemic women where estimation and optimisation of iron stores is necessary as significant blood loss may occur at delivery: Jehovah's witnesses, recent history of bleeding, previous postpartum haemorrhage, placenta previa/accreta.

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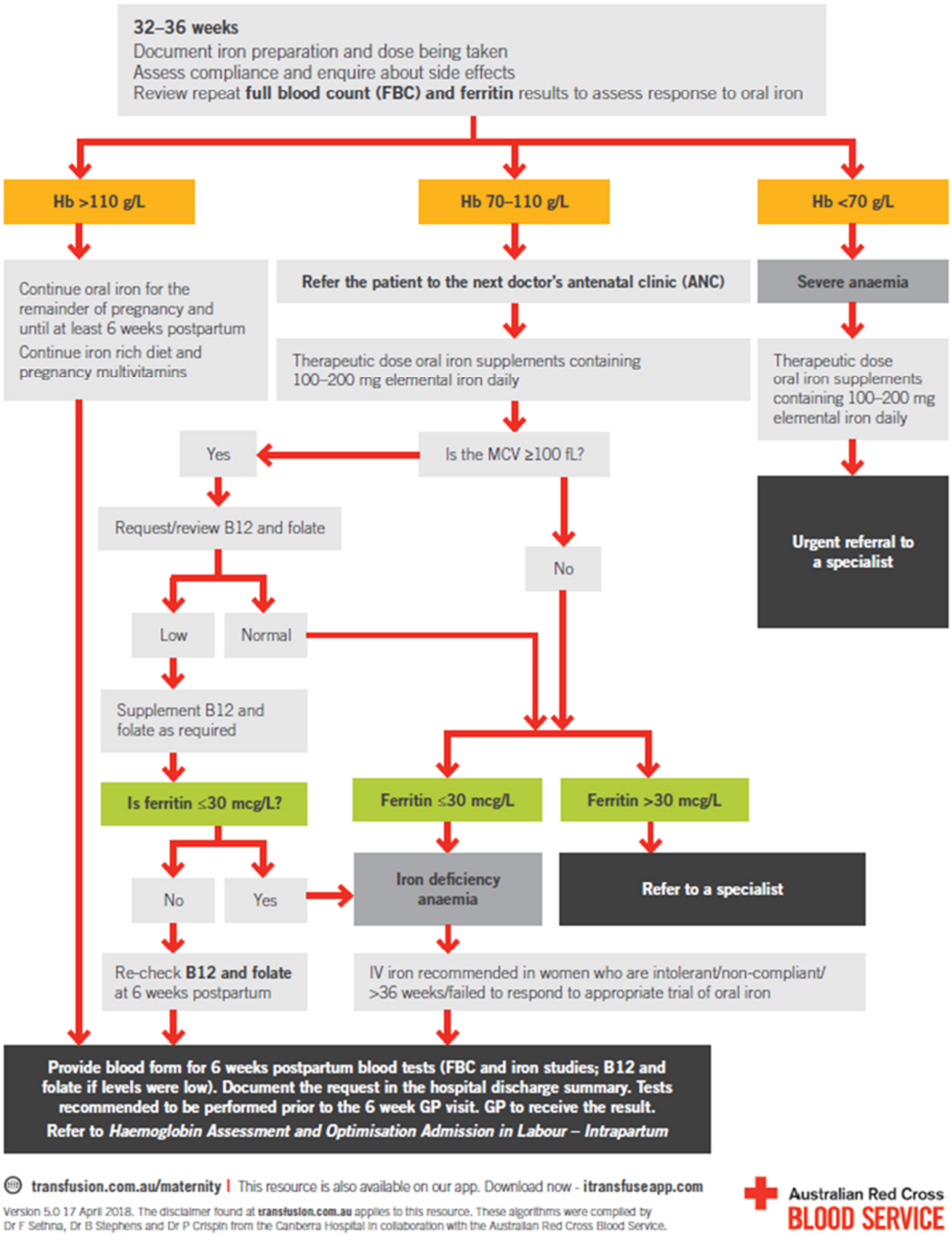
Australian Red Cross BLOOD SERVICE

HAEMOGLOBIN ASSESSMENT AND OPTIMISATION
THIRD TRIMESTER



Information for pregnant women

Oral Iron Choices for Maternity

Australian Red Cross Lifeblood

Woman's name _____

Today's date _____

Date of blood test _____

Haemoglobin (g/L) _____

Ferritin (µg/L) _____

Health professional's signature: _____

It is recommended you begin taking a daily dose of

☐ 60–100 mg of elemental iron ☐ ≥ 100 mg of elemental iron

for the remainder of your pregnancy and for a minimum of six weeks after the birth of your baby. Continue taking pregnancy multivitamins.

Follow up with your:

- Maternity Care Provider for a repeat blood test at _____ weeks.
- GP for a repeat blood test six weeks after the birth of your baby.

Recommended iron preparations	Elemental iron	Dosage information
☐  **Ferro-grad** Ferrous sulfate 325 mg tablets	105 mg per tablet	**Take one tablet on an empty stomach:** ☐ once a day ☐ twice a day ☐ on alternate days
☐  **Ferro-grad C** Ferrous sulfate 325 mg tablets	105 mg per tablet	**Take one tablet on an empty stomach:** ☐ once a day ☐ twice a day ☐ on alternate days
☐  **Ferro-F-Tab** Ferrous fumarate 310 mg tablets	100 mg per tablet	**Take one tablet on an empty stomach:** ☐ once a day ☐ twice a day ☐ on alternate days
☐  **Maltofer** Iron polymaltose 370 mg tablets	100 mg per tablet	**Take one tablet with food:** ☐ once a day ☐ twice a day ☐ on alternate days
☐  **Maltofer Syrup** Iron polymaltose 370 mg/10 mL oral liquid	100 mg/10 mL	**Take _____ mL with food, through a straw to avoid staining teeth.**
☐  **Ferro-grad F** Ferrous sulfate 250 mg tablets	80 mg per tablet	**Take one tablet on an empty stomach:** ☐ once a day ☐ twice a day ☐ on alternate days
☐  **Fefol Iron & Folate Supplement** Ferrous sulphate 270 mg capsules	87.4 mg per capsule	**Take one tablet on an empty stomach:** ☐ once a day ☐ twice a day ☐ on alternate days
☐  **Ferro-Tab** Ferrous fumarate 200 mg tablets	65.7 mg per tablet	**Take one tablet on an empty stomach:** ☐ once a day ☐ twice a day ☐ on alternate days
☐  **Ferro-Liquid** Ferrous sulphate 30 g/mL oral liquid	60 mg/10 mL	**Take _____ mL with food, through a straw to avoid staining teeth.**

https://transfusion.com.au/node/2359

Taking iron

Take iron products (except for Maltofer) 1 hour before or 3 hours after meals – ideally with juice (not milk). If this isn't possible, it's better to take iron with food than not at all.

Iron is better absorbed if taken with orange juice due to the vitamin C content.

Discuss the timing of any other medications with your healthcare professional, especially those for treating reflux.

Keep iron products safely out of reach of children and pets.

Side effects

Side effects may include darkened bowel motions, indigestion, nausea, constipation or diarrhoea.

If you are experiencing indigestion or nausea, try changing the timing so you take your iron supplement with food.

If you are experiencing additional mild symptoms, do not stop taking iron, but try spacing the doses out instead and discuss with your healthcare professional.

Recommended iron preparations vs over-the-counter multivitamins

Over-the-counter multivitamins **DO NOT** contain enough iron to treat iron deficiency anaemia.

	Recommended iron preparation	Over-the-counter multivitamins		
Number of tablets required to meet the daily therapeutic dose for treatment of iron deficiency	1	2	5	20
Product	**Ferro-grad**	**Elevit Pregnancy**	**Floradix Iron and Herbs**	**Elevit Women's Multi**
Elemental iron equivalent	1 tablet = 105 mg	1 tablet = 60 mg (plus other vitamins and minerals including calcium which reduce iron absorption and can increase risk of constipation)	10 mL dose = 10 mg	1 tablet = 5 mg

Important: The information on this page is for illustration purposes only to compare common over-the-counter multivitamins with the recommended iron preparations. Follow instructions on the front page.

https://transfusion.com.au/node/2359

2019 SEASONAL INFLUENZA VACCINES FOR PREGNANT WOMEN

Clinical advice for vaccination providers

Seasonal influenza vaccines are available through the National Immunisation Program (NIP) for women in each pregnancy.

INFLUENZA
in pregnancy
and newborns

- Antenatal influenza vaccination is recommended to protect both pregnant women and their babies from influenza and its complications.
- Influenza vaccine can be safely given at any stage during pregnancy. Whilst it is best given before the influenza season, it can be given at any time during the season and it will still provide some protection to the mother and protection to the baby for the first few months of life.
- A consistent recommendation from a healthcare professional plays an important role in improving vaccination uptake.

Available vaccines

In 2019, the following quadrivalent influenza vaccines (QIVs) are available for free through the NIP for pregnant women of any age:

- Afluria Quad® (Seqirus)
- Fluarix Tetra® (GlaxoSmithKline)
- FluQuadri® (Sanofi)

Benefits of vaccination in pregnancy

- Pregnant women are at increased risk of morbidity and mortality from influenza compared with non-pregnant women and are recognised as a priority group for influenza vaccination.
- Babies born to mothers who contract influenza during pregnancy are at higher risk of preterm birth and low birth weight.
- Babies aged less than 6 months are more likely to be hospitalised with influenza than any other age group.
- Vaccination of pregnant women provides protection against influenza for newborn babies by transfer of maternal antibodies across the placenta.
- High levels of maternal antibodies give temporary protection to the baby for the first few months of life.
- Vaccination during pregnancy is estimated to reduce the risk of influenza in babies aged less than 6 months by about half.

Vaccination timing

- Influenza vaccine is recommended as a single dose at any time (as early as practicable) during each pregnancy.
- It is best given prior to the onset of the influenza season (from April), however can be given at any time during the year. The influenza season usually occurs from June to September in most parts of Australia.
- For women who received an influenza vaccine late in the 2018 influenza season, revaccinate if the 2019 influenza vaccine becomes available before the end of pregnancy.
- Women who are in their first trimester in the first quarter of 2019 may wish to wait until the 2019 influenza vaccine becomes available, rather than receiving the 2018 influenza vaccine.
- The influenza vaccine can be given at the same time as the pertussis vaccine during pregnancy between 20 and 32 weeks.

Vaccination safety

- All QIVs currently used in Australia are inactivated vaccines and are safe for use in pregnant women.[1]
- Many large studies have shown no evidence of an increased risk of adverse pregnancy outcomes (such as stillbirth, low birth weight, pre-eclampsia, congenital abnormality, or preterm birth) related to influenza vaccination during pregnancy.
- Expected adverse events, like injection site reactions and fever, do not occur more frequently in pregnant women than in non-pregnant women.

RECENT UPDATES TO PRODUCT INFORMATION

Vaccines Afluria Quad® and FluQuadri® have now been categorised as **Category A** for pregnancy based on a review of the evidence.

Further information

- The digital Australian Immunisation Handbook at **www.immunisationhandbook.health.gov.au**
- Department of Health immunisation website at **www.health.gov.au/immunisation**
- National Centre for Immunisation Research and Surveillance at **www.ncirs.org.au**

All information in this publication is correct as at March 2019.

[1] FluMist® is licensed in Australia but is not recommended in pregnancy.

health.gov.au/immunisation 2019

PERTUSSIS CONTAINING (dTpa) VACCINES FOR PREGNANT WOMEN

Clinical advice for immunisation providers

WHOOPING COUGH
in young babies

- Antenatal pertussis vaccination is recommended and funded through the National Immunisation Program primarily to protect babies from pertussis and its complications.
- Pertussis-containing vaccine should be given as a single dose between 20 and 32 weeks during each pregnancy.
- A consistent recommendation from a healthcare professional plays an important role in improving vaccination uptake.

Available vaccines

The following vaccines (given as diphtheria-tetanus-acellular pertussis, dTpa) are available for free through the NIP for pregnant women:

- Adacel® (Sanofi-Aventis)
- Boostrix® (GlaxoSmithKline)

Benefits of vaccination in pregnancy

- Pertussis infection can cause serious complications including pneumonia, brain damage and death in young babies.
- Pertussis vaccination in pregnancy primarily aims to provide protection for the baby against pertussis—this occurs by transfer of maternal antibodies across the placenta.
- High levels of maternal antibodies give temporary protection to the baby during the early months of life until they complete their vaccinations at 2 months (can be given from 6 weeks), 4 months, and 6 months of age, in accordance with the NIP childhood schedule.
- Vaccination during pregnancy has been shown to reduce pertussis disease in babies aged less than 3 months by 91% and is much more effective than vaccinating those who come into contact with the baby.

Vaccination timing

- Pertussis-containing vaccine is recommended as a single dose between 20 and 32 weeks in each pregnancy, including pregnancies that are closely spaced to provide maximal protection to each infant.
- The vaccine shouldn't be delayed until too close to birth because:
  - Maternal pertussis antibodies do not peak until approximately 2 weeks after vaccination.
  - Some women may give birth before they reach full-term.
- If the vaccine has not been given by 32 weeks of gestation, it should still be given at any time up to delivery.
- Antenatal administration is recommended, but if this does not occur, postnatal vaccination may still provide direct protection to the mother and some degree of indirect protection to the infant.

Vaccination safety

- Vaccination with pertussis vaccine during pregnancy is safe for both the mother and her baby.
- Many large studies have shown no evidence of an increased risk of adverse pregnancy outcomes (such as stillbirth, low birth weight, pre-eclampsia, congenital abnormality, or preterm birth) related to pertussis vaccination during pregnancy.
- Expected adverse events, like injection site reactions and fever, do not occur more frequently in pregnant women than in non-pregnant women.
  - Approximately 6% of women vaccinated with pertussis vaccine experience mild injection site reactions. Fever is rare and occurs in less than 1% of vaccinated women.
- The pertussis vaccine can be given at the same time as the influenza vaccine during pregnancy.

Further information

- The digital Australian Immunisation Handbook at **www.immunisationhandbook.health.gov.au**
- Department of Health immunisation website at **www.health.gov.au/immunisation**
- National Centre for Immunisation Research and Surveillance at **www.ncirs.org.au**

All information in this publication is correct as at March 2019.

State and territory health department contact numbers:

ACT	02 6205 2300	**SA**	1300 232 272
NSW	1300 066 055	**TAS**	1800 671 738
NT	08 8922 8044	**VIC**	1300 882 008
WA	08 9321 1312	**QLD**	Contact your local Public Health Unit

Australian Government
Department of Health

National Immunisation Program
A joint Australian, State and Territory Government initiative

RHESUS AND RH D IMMUNOGLOBULIN (ANTI-D)

All Rhesus (D) negative women who with no preformed anti-D antibodies are routinely offered:

- Anti-D at 28 weeks (recent antibodies within 7 days)
  This is given at the 28 week antenatal check at the hospital
- Anti-D at 34-36 weeks
  This is given at the 36 week antenatal check at the hospital
- Anti-D postnatally if baby is Rh (D) positive
  This is arranged by the hospital and occurs within 72 hours postnatally.

Anti-D for sensitising events

Unless a woman has already received anti- D for the particular sensitising event, SMCAs should send women to the hospital Emergency Department for anti-D as soon
as possible after a sensitising event.
Sensitising events include:
In the first trimester (<12 weeks) events such as:

- ectopic pregnancy
- miscarriage
- termination of pregnancy (medical or surgical)
- an invasive prenatal diagnostic procedure (including chorionic villus sampling, amniocentesis and cordocentesis)
- a curettage
- an abdominal trauma considered sufficient to cause fetomaternal haemorrhage.

After the first trimester, in addition to the above, sensitising events include:

- obstetric haemorrhage – e.g. vaginal bleeding/antepartum haemorrhage
- external cephalic version

MANAGEMENT AND REFERRAL OF ABNORMAL FINDINGS

Decreased Fetal Movements

Women should be asked about fetal movements at each appointment after 20 weeks and advised to contact their maternity care provider and present for assessment if they have concerns about decreased or absent fetal movement. Women should not wait until the next day to report concerns. Maternal concern overrides any definition of DFM based on the number of movements felt.
In the case of a woman reporting DFM, refer her to the hospital for review and a CTG.
It is insufficient to perform only a Doppler fetal monitor.

Small for Gestational Age

Generally, if fundal height is more than 2 cm smaller than expected by dates or there is significant deviation or concern about growth patterns, timely referral or specialist ultrasound is required.
Call Maternity Outpatients co-ordinator for urgent appt or the SMCA can organise a timely ultrasound
Referral to the hospital is required as soon as possible if the ultrasound indicates:

- a baby is not biophysically well
- a baby is ≤15th percentile
- a baby whose growth pattern is not normal
- any other concerns.

Depending on the urgency referral to hospital may occur through the Labour ward or Maternity Outpatients Co-ordinator
For serial growth scans a minimum of 2 weeks between scans is usual.

Large for gestational age

Generally, if fundal height is more than 2 cm greater than expected by dates:

- review the woman's GTT to confirm she does not have gestational diabetes
- a specialist ultrasound is generally not required but may be useful if the mode of delivery is under question, with fetal size a factor in this decision.

A SMCA can organise a timely ultrasound at a specialist community service or contact the Maternity coordinator to organise an outpatient review.
If an ultrasound indicates a baby who is ≥90th percentile, depending on the circumstances, SMCA may wish to organise an earlier appointment with the Maternity Outpatients department.

Gestational hypertension and pre-eclampsia

Gestational hypertension is defined as systolic blood pressure ≥140 mmHg and/or diastolic blood pressure ≥90 mmHg in a previously normotensive pregnant woman who is ≥20 weeks of gestation and has no proteinuria or new signs of end-organ dysfunction. Detecting a rise in "booking" nor preconception (>30/15 mmHg), rather than relying on an absolute value has in the past been considered useful in diagnosing preeclampsia in women who do not reach blood pressure of 140 or 90mmHg. If a SMCA finds a woman's BP is ≥140 mmHg and/or diastolic blood pressure ≥90mmHg, with or without proteinuria, refer on the same day to BHS labour ward for BP monitoring and investigations as appropriate.
Referral at lower BPs should occur if there are other symptoms of pre-eclampsia (e.g. proteinuria, headache, visual disturbances, nausea, and epigastric pain).It is not appropriate for a SMCA to commence antihypertensive medicine. It is important to note that pre-eclampsia can first appear postpartum, when urgent referral to an Emergency Department is required.

Maternal jaundice/pruritus

Pruritus in pregnancy is common and may be a benign condition related to skin issues such as dry skin, eczema or pruritic urticarial papules and plaques of pregnancy (PUPPP) or a serious symptom of systemic illness.
Intrahepatic cholestasis of pregnancy is almost invariably associated with itchy palms and soles. A rash may not be present. It is associated with increased perinatal mortality and, if suspected, is an indication to measure serum bile acids, preferably fasting. If pruritus is associated with clinical jaundice, abdominal pain, systemic illness or decreased fetal movement, then urgent review in Labour ward is required. If there are no associated symptoms or signs, LFTs/serum bile acids, may be required to determine if there is concern of a systemic illness. If there are abnormal results, refer women for urgent appointment in Maternity Outpatients.

Criteria for Gestational Diabetes

Glucose Tolerance test (GTT)
Fasting ≥5.1
1 hour ≥ 10.0
2 hour ≥ 8.5
If elevated result identified, please call Maternity Outpatient Co-ordinator to arrange appointment within the Antenatal Endocrine Clinic (ACE).

Abnormal presentation

If 36 weeks or more and suspected breech or transverse lie contact the antenatal clinic to discuss an ultrasound and arrange an obstetric assessment as soon as possible.

Vaginal Bleeding

Gestation under 20 weeks review in Emergency dept

Gestation greater than 20 weeks review in labour ward – phone LW on 53204979 prior to arrival

Abnormal Pathology

Complete blood picture

Consider iron studies if the haemoglobin is 100g/L or less and the MCV is low or red blood cells are microcytic. Check B12/ folate levels if the red blood cells are macrocytic.

Testing for thalassaemia (haemoglobin electrophoresis) should also be considered where appropriate. Low white cell or platelet counts should prompt discussion with the obstetric registrar, and/ or referral to hospital antenatal clinic

. **Blood group and antibody screen**

Any positive test for blood group antibodies should prompt immediate referral to hospital antenatal clinic

Rubella titre

A 'non-immune' level should prompt a note to discuss immunisation with the woman post-birth. Under no circumstances should immunisation be given in pregnancy. Contact with young children with rubella should be avoided

Syphilis serology

A positive result should prompt referral to hospital antenatal clinic.

Hepatitis B and C, and HIV tests

A positive result should prompt referral to the hospital antenatal clinic. The obstetrician will refer to the appropriate specialist services.

POSTNATAL CARE

The average hospital stay after the birth of a baby is 1–2 days for a vaginal birth and 3 days for a caesarean section. A hospital discharge summary is sent to the SMCA and nominated GP within 48 hours of discharge. In the case of significant complications, fetal or neonatal death, the GP and SMCA will be contacted by phone by the registrar or consultant.

Immediate postnatal care at the hospital includes:

- physical assessment of mother and baby
- wound/perineal/breast care
- parenting and emotional wellbeing
- supporting parents to care for their baby
- breastfeeding/infant feeding (initiation and support)
- routine newborn screening test for hypothyroidism, phenylketonuria (PKU), cystic fibrosis and some metabolic disorders
- routine newborn hearing screening
- contraception education.

CHILD HEALTH RECORD

All parents are given a My Health and Development Record20 (child health record) in hospital. This document is used by parents, maternal child health nurses and GPs as a record of a child's health and development, including growth immunisations and development milestones. The child health record is used as a communication tool between parents and health care providers, and documents all maternal child health nurse visits.

NEWBORN HEARING SCREEN

As part of the Victorian Infant Hearing Screening Program (VIHSP), all babies born at Ballarat Health undergo a routine hearing screen and risk factor assessment prior to discharge. If a baby has not been screened prior to discharge, an outpatient appointment will be made for the screening to be undertaken. Screening results are documented in the My Health and Development Record, and a diagnostic audiology referral is organised if indicated. This is followed up by VIHSP and the maternal child health nurse. If a pass result is obtained but risk factor/s are identified, this is documented in the child health record. The maternal child health nurse also notes the follow-up that should be undertaken, including referral for diagnostic audiology at the 2 week and/or 6–8 month check, if required. If a GP identifies additional risk factors or parental concerns about a baby's hearing, a referral for diagnostic audiology can be made.

Risk factors for hearing loss include:

- family history of congenital hearing impairment
- rubella, cytomegalovirus or toxoplasmosis during pregnancy

- admission to neonatal intensive care or special care nursery for 2 or more days
- Apgar score <4 at 5 minutes of age
- birth weight <1500 g
- severe jaundice
- congenital abnormalities of the head and neck
- bacterial meningitis
- later risk factors e.g. developmental delay, head injury.

Victorian Infant Hearing Screening Program contact details
Phone: 9345 4941 Fax: 9345 5049
Email: email.vihsp@rch.org.au

HOME VISITING -DOMICILLIARY

Following birth, support is continued in the community by midwives and child health nurses. Depending on geographical boundaries and circumstances, contact is normally by a home visit or occasionally a telephone consult.

A home visit is arranged with the woman prior to leaving hospital to occur within one to two days after discharge. Women are offered 2 home visits by midwives through the domiciliary service and then linked with Child Health Services.

POSTNATAL GP APPOINTMENT at 6 weeks

Mother

Assess wellbeing, social risk factors, and level of support. Observe and assess mother baby attachment. Poor attachment can lead to long term health and social issues and require urgent intervention

Examine/ review

• BP
• Breasts and nipples
• Abdomen; palpate uterus unless CS, check wound if CS, refer to physiotherapist if abdominal diastases
• Perineum if tear or episiotomy
• Perform Pap smear if due
• Enquire about urinary or faecal incontinence
• Enquire about back problems and refer women who are experiencing musculoskeletal pain and/or pelvic floor dysfunction to hospital physiotherapy department or a Women's Health Physiotherapist in the community
• Review any medical conditions/ concerns, e.g. gestational diabetes, hypertension.

Discuss

• Family planning/ contraception/intercourse.
• Feeding and mothers/parent satisfaction with baby's progress.
• Immunisation schedule.

- Community supports, i.e.Australian Breastfeeding Association.
- Future pregnancy intentions and the need for any pre-conception care.

Baby

Complete relevant sections in the Infant book

BREASTFEEDING

Ballarat Health Services Breastfeeding Service

The Breastfeeding Service at BHS offers information and support to women and families who are experiencing breastfeeding difficulties or concerns. The service is staffed by International Board Certified Lactation Consultants (IBCLC's). We also provide information for health professionals caring for breastfeeding mothers and babies.

Services

- Inpatient services are provided Monday to Friday 0800-1630 (not on public holidays). Includes maternity, special care nursery, paediatrics, general ward areas, emergency department, mental health services, peri-operative services, specialist outpatients.
- An outpatient Breastfeeding Clinic operates at the BHS site on Mondays, Tuesdays and Fridays 0900-1700 by appointment.
- A Breastfeeding Support service operates on Thursdays by appointment 0900-1200 and via a drop in session from 1300-1500 at the Parent Place (corner Sturt and Albert Streets Ballarat Central).
- Health Professionals can phone to speak with a Lactation Consultant for advice regarding a breastfeeding mother or baby in their care.
- Consumer breastfeeding information: www.bhs.org.au/breastfeeding

Face to face or phone consultations are available for a range of issues such as……

During pregnancy

- Previous difficulties with breastfeeding
- Previous breast surgery of any kind
- Medications and breastfeeding
- Multiple pregnancy
- Baby with a cleft lip and/or palate or other medical conditions
- Education, support, reassurance

After birth

- Positioning and attachment
- Sore nipples
- Concerns about milk supply
- Concerns about baby's weight gains
- Medications and breastfeeding
- Breastfeeding twins or triplets
- Breastfeeding preterm and unwell babies, babies with cleft lip and/or palate or other medical conditions
- Mastitis
- Breast and nipple thrush

- Nipple vasospasm
- Tongue-tie
- Previous breast surgery of any kind
- Support if mother and/or baby are unwell or hospitalized
- Expressing breastmilk
- Education, re-assurance.

Referrals
Mothers can self-refer, or referrals can be made by any health professional by phoning the numbers below.

Contacts
Ph. 53204977 / 53206871 Mobile 0439981937

Other Resources

Medication advice and information for Breastfeeding Mothers

- Royal Women's Hospital Medicines Information Line
  Ph: 8345 3190 Monday to Friday 9.00am to 5.00pm

- Monash Health Drug Information Centre
  Ph: 9594 2361 Monday to Friday 0830-1700

Royal Women's Hospital Breastfeeding Information

- Clinical Guidelines https://www.thewomens.org.au/health-professionals/clinical-resources/clinical-guidelines-gps/

- Breastfeeding Fact Sheets https://www.thewomens.org.au/health-information/breastfeeding

- Breastfeeding Service https://www.thewomens.org.au/patients-visitors/clinics-and-services/pregnancy-birth/breastfeeding

Health Pathways Breastfeeding information for GP's

The Western Victoria Primary Health Network's Health Pathways website includes resources for GP's to assist with the assessment and management of breastfeeding problems and referrals to Breastfeeding Support Services in the region.

Guidelines of note at Ballarat Health Services

Guideline for Low dose Aspirin and Caltrate in pregnancy

Background

Hypertensive disorders are one of the leading causes of direct maternal death in Australia (2008-2012). The National Institute for Health and Clinical Excellence (NICE) recommends women at high risk of pre-eclampsia should take aspirin daily. Background risk PET is 5%, those at high risk have risks of 20%. Aspirin can reduce PET by 40-50% if started before 16 weeks. Calcium can reduce PET by 40% if started before 20 weeks.

Key Objective

This document will assist staff in identifying those high-risk women who have one or more high risk factors for developing pre-eclampsia in pregnancy and therefore should be treated with Aspirin and Calcium.

High Risk Factors for developing pre-eclampsia (20%) – Give aspirin and caltrate in pregnancy to all

- Hypertensive disease during a previous pregnancy INCLUDING PIH or PET
- chronic kidney disease
- autoimmune disease such as systemic lupus erythematosis or antiphospholipid syndrome
- type 1 or type 2 diabetes
- chronic hypertension
- PAPP A ≤0.4 MoM on first trimester screening
- Previous fetal growth restriction, defined by EFW < 10th centile at any gestation
- BMI >/= 35 at booking

Moderate risk factors for developing pre-eclampsia – Give aspirin/caltrate if two or more moderate risk factors present

- First pregnancy
- age 40 years or older
- pregnancy interval of more than 10 years
- family history of pre-eclampsia
- multiple pregnancy

ASPIRIN

As per current evidence, the recommended dose is 150mg of aspirin daily at night from confirmation of a viable intra-uterine pregnancy (8-10 weeks) or as early as possible in 2nd trimester before 16 weeks, until at 34 – 36 weeks. Advise to take aspirin with food. Contraindications include an allergy to aspirin or NSAIDS and aspirin sensitive asthma. Relative contraindications include: a history of a previous GIT bleed, severe hepatic dysfunction, peptic ulcer disease or nasal polyps.

CALCIUM

Evidence supports 1g daily started before 20 weeks gestation reduces risk of pre eclampsia by 40% (but not IUGR). 2g daily for those with low calcium diets. Continue until birth.

References

1. NICE guidelines, Hypertension in Pregnancy CG107, NICE: London, 2010
2. RANZCOG guideline on vitamin and mineral supplementation in pregnancy, 2015
3. DIAMOND clinic guidelines, Western Health, 2017
4. Guidelines on low dose aspirin in pregnancy to prevent PET, NZ guidelines 2015

Canberra hospital and health services guidelines on low dose aspirin in pregnancy. 2017

RESOURCES FOR GP'S

- Pregnancy care Guidelines
https://beta.health.gov.au/resources/publications/pregnancy-care-guidelines

- RANZCOG – Shared maternity care obstetric patients

- Maternity ehandbook – Health Professional Information guidelines
https://bettersafercare.vic.gov.au/resources/clinical-guidance/maternity-ehandbook

- Infectious diseases in pregnancy
https://www.asid.net.au/documents/item/368

- Maternity management of Iron deficiency and Anaemia
https://transfusion.com.au/maternity