Policy

Clinical Guideline

Preconception Advice Clinical Guideline

Policy developed by: SA Maternal & Neonatal Clinical Network
Approved SA Health Safety & Quality Strategic Governance Committee on:
07 September 2015
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Summary Clinical practice guideline for preconception advice.

Keywords Preconception care, health promotion, screening, physical assessment, risk screening, reproductive awareness, environmental toxins and teratogens, genetic disorders, weight management, nutrition, vitamins, minerals, reproductive history, ethnic origin, infectious diseases, vaccinations, counselling, infertility, preconception advice, clinical guideline

Policy history Is this a new policy? **N**
Does this policy amend or update an existing policy? **Y v3.0**
Does this policy replace an existing policy? **N**

Applies to All SA Health Portfolio
All Department for Health and Ageing Divisions
All Health Networks
CALHN, SALHN, NALHN, CHSALHN, WCHN, SAAS

Staff impact All Staff, Management, Admin, Students, Volunteers
All Clinical, Medical, Nursing, Allied Health, Emergency, Dental, Mental Health, Pathology

PDS reference CG153

Version control and change history

Version	Date from	Date to	Amendment
1.0	21 Oct 2008	22 Nov 2011	Original version
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4.0	07 Sept 2015	Current	

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preconception advice

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Note

This guideline provides advice of a general nature. This statewide guideline has been prepared to promote and facilitate standardisation and consistency of practice, using a multidisciplinary approach. The guideline is based on a review of published evidence and expert opinion.

Information in this statewide guideline is current at the time of publication.

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Health practitioners in the South Australian public health sector are expected to review specific details of each patient and professionally assess the applicability of the relevant guideline to that clinical situation.

If for good clinical reasons, a decision is made to depart from the guideline, the responsible clinician must document in the patient's medical record, the decision made, by whom, and detailed reasons for the departure from the guideline.

This statewide guideline does not address all the elements of clinical practice and assumes that the individual clinicians are responsible for discussing care with consumers in an environment that is culturally appropriate and which enables respectful confidential discussion. This includes:

- The use of interpreter services where necessary,
- Advising consumers of their choice and ensuring informed consent is obtained,
- Providing care within scope of practice, meeting all legislative requirements and maintaining standards of professional conduct, and
- Documenting all care in accordance with mandatory and local requirements

Explanation of the aboriginal artwork:
The aboriginal artwork used symbolises the connection to country and the circle shape shows the strong relationships amongst families and the aboriginal culture. The horse shoe shape design shown in front of the generic statement symbolises a woman and those enclosing a smaller horse shoe shape depicts a pregnant women. The smaller horse shoe shape in this instance represents the unborn child. The artwork shown before the specific statements within the document symbolises a footprint and demonstrates the need to move forward together in unison.

Australian Aboriginal Culture is the oldest living culture in the world yet Aboriginal people continue to experience the poorest health outcomes when compared to non-Aboriginal Australians. In South Australia, Aboriginal women are 2-5 times more likely to die in childbirth and their babies are 2-3 times more likely to be of low birth weight. The accumulative effects of stress, low socio economic status, exposure to violence, historical trauma, culturally unsafe and discriminatory health services and health systems are all major contributors to the disparities in Aboriginal maternal and birthing outcomes. Despite these unacceptable statistics the birth of an Aboriginal baby is a celebration of life and an important cultural event bringing family together in celebration, obligation and responsibility. The diversity between Aboriginal cultures, language and practices differ greatly and so it is imperative that perinatal services prepare to respectively manage Aboriginal protocol and provide a culturally positive health care experience for Aboriginal people to ensure the best maternal, neonatal and child health outcomes.

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HealthCYWHSPerinatalProtocol@sa.gov.au

Introduction

- The main goal of preconception care is to provide health promotion, screening, and interventions for women of reproductive age to reduce risk factors that might affect future pregnancies[1]
- All primary care providers serving women of reproductive age should play an active role in improving preconception health. They include:
    1. General practitioner / practice nurses
    2. Obstetrician / gynaecologist
    3. Midwife
    4. Obstetric physician
    5. Specialist practitioners (e.g. cardiac, neurological, endocrinological disorders)
    6. Allied health workers e.g. dieticians, diabetic educators, physiotherapists, pharmacists
- All media, schools and community groups may provide information aimed at promoting healthy pregnancy
- Life and career plans are best made with knowledge of the impact of increasing maternal age on future reproduction
- The wide variability in pregnancy outcomes between women is due in part to factors that may be identified before conception. Some of these are amenable to change

Lifestyle –

- Weight and nutrition
- Smoking, alcohol and other substance use
- Exercise
- Occupational and environmental wellbeing

Medical conditions–

- Treatment may be reviewed to minimise the impact on the pregnant woman and her baby
    - Medication review to avoid teratogenesis
    - Diabetes – glycaemic control and medication choice
    - Heart disease – anticoagulants and other medications, maximise health
    - Auto immune – medications and prophylaxis
    - Epilepsy – seizure control and medication choice
    - Thyroid
    - Mental illness
    - Inflammatory bowel disease
- Pre-existing medical conditions have an impact on pregnancy outcome or are likely to be affected by the pregnancy. Good control of the condition will limit negative effects. The choice of medication may need to be adjusted to minimise impact on the baby

Genetic disorders –

- Genetic disorders may require counselling by a medical geneticist to consider options for antenatal diagnosis. Parental genetic testing before pregnancy is advisable in some circumstances and sometimes this may take a considerable time to complete

Preconception education checklist

Four main categories:

1. Physical assessment
2. Risk screening
3. Infectious diseases and vaccinations
4. Counselling

1. Physical assessment

A thorough physical assessment is the starting point for preconceptual care and includes:

Weight, Height

Calculate body mass index (see women with a high body mass index for further information)

Oral

Check for obvious dental/gum disease

Cardiac Exam

Blood Pressure
Pulse
Cardiac auscultation

Respiratory Exam

Auscultation

Breast Exam

Abdominal Examination

Palpation

Vaginal Examination

> PAP only if not performed in the last 18 months as more likely to show abnormalities in pregnancy. Explain to the woman that spotting may occur from the cervix after the procedure
> Speculum / vaginal exam and swabs only if clinically indicated

Urinalysis

2. Risk screening

> Both prospective parents should be involved in the identification of possible risk factors, since the health, lifestyle and genetic makeup of both partners have a bearing on the pregnancy outcome[2]
> Preconceptual genetic counselling requires a thorough personal and family history, followed if necessary, by referral for genetic counselling. The aim is to extend the range of options available to individuals with an unfavourable genetic background and to give them more time to consider carrier screening and/or antenatal screening or the consequences of opting for (or against) pregnancy

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Risk screening	Recommended Education
Reproductive awareness	> Safe, effective birth control method > Ask woman if she plans to have children (or additional children) and how long she plans to wait before becoming pregnant; help her to develop a plan, based on values and resources, to achieve goals > Offer advice on the time it may take to become pregnant > For further information see URL: http://cks.nice.org.uk/pre-conception-advice-and-management#!scenariorecommendation:1 > Understand physiology of conception > Determining the time of conception (i.e. encourage woman to keep an accurate menstrual calendar) > Recommend moderate exercise
Reproductive history	> Ask the woman about any previous pregnancy adverse outcomes (preterm birth, low birth weight, birth defects, fetal/infant death, maternal complications e.g. preeclampsia) > Assess ongoing bio-behavioural risk factors (e.g. underweight, obese, nutritional, psychosocial stress, family violence, depression). Provide ongoing care with the goal of preventing recurrence > Physical examination to uncover ongoing chronic infections e.g. periodontal or reproductive tract infections > Discuss recurrence risk, screen and treat any associated morbidities detected e.g. preeclampsia is associated with an increased risk of maternal cardiovascular disease in later life > Promote protective factors to reduce the risk of recurrent preterm birth e.g. smoking cessation, healthy nutrition and family planning
Environmental toxins and teratogens	> Occupational exposures: lead, mercury, anaesthetic gases, pesticides, herbicides, vinyl chloride, radiation > Home exposures: solvents, paint thinners, strippers, pesticides, pollutants in well water, toxins such as lead used in hobbies > Ask about the use of medicines, including prescription and non-prescription (obtained from a pharmacy, supermarket or health food shop) > Provide or direct women to reputable sources of information regarding the safety of these medicines during pregnancy > Inform women of the "Obstetric and

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	Paediatric Medicines Information Service" located at the WCH. Telephone: (08) 81617222 (open 0900 hours to 1700 hours Mon – Fri) or email mumsandkidsmedinfo@health.sa.gov.au
Nutrition, vitamins and minerals	> Nutrition, including ideal caloric intake and weight gain > Assess risk of nutritional deficiencies (vegan, pica, milk intolerance, calcium, iodine or iron deficiency) > Vegan diet: may have deficiencies in amino acids, zinc, calcium, iron and vitamins D and B12. Refer to nutritionist > Pica: cravings for dirt, clay or starch and may result in malnourishment and ingestion of toxins and infectious agents > Emphasise good sources of iron, calcium, B vitamins and iodine, low fat options > Avoid overuse of Vitamin A (limit to 3,000 IU per day). Avoid liver products (high in Vitamin A) > Dark skinned women with a non-Western background or women who have little exposure to sunlight should be screened for Vitamin D insufficiency (for further information link to Vitamin D deficiency guideline) > Limit caffeine intake to less than 300mg each day (i.e. two to three standard cups of coffee). Consider caffeine is also found in other beverages and foods > Folic acid deficiency is associated with megaloblastic anaemia and birth defects (especially neural tube defects). Advise all women to take folic acid 500 micrograms per day while attempting pregnancy and during the first trimester to reduce the risk of neural tube defects. For further information see Vitamin and mineral supplementation in pregnancy > Where there is an increased risk of folate deficiency and neural tube defect, advise folic acid 5 mg per day. See Vitamin and mineral supplementation in pregnancy in the A to Z index at www.sahealth.sa.gov.au/perinatal for further details of women with an increased risk of folate deficiency and neural tube defects > Iodine deficiency mainly occurs in developing countries. Encourage a varied diet - sources of iodine include sea salt, iodised salt and most bread > The NHMRC recommends women should start a dietary supplementation of 150 micrograms of iodine while attempting pregnancy or as soon as possible after

	confirming they are pregnant. Women with thyroid disorders should consult their treating physician before starting iodine supplementation
Weight management	> Screen for eating disorders, correct both obesity and underweight > Obesity increases the risks of hypertension, preeclampsia, diabetes and large for gestational age infant. Advice about healthy diet before conception > Underweight: Increased incidence of amenorrhoea, infertility, small for gestational age infant, preterm birth, and anaemia **For further information link to URL:** http://www.nice.org.uk/nicemedia/live/13056/49926/49926.pdf
Genetic disorders > Personal or family history of diagnosed genetic disorder, intellectual disability, unexplained stillbirth or birth defect	> Assess whether the personal or family history increases the risk to offspring > Are there strategies to lower the risk (e.g. preconceptual folic acid) or clarify the risk (e.g. genetic testing)? > Does the couple need information about prenatal diagnostic tests or preimplantation genetic diagnosis?
> Consanguineous (closely related)	> Consider referral for genetic counselling
> Advanced maternal age (≥ 35 years)	> Provide information about screening and diagnostic tests for chromosome abnormalities
Ethnic origin	**Carrier screening for:**
> Black	> Sickle cell disease, consider β thalassemia
> Ashkenazi Jewish, French Canadian	> Tay Sachs disease
> Mediterranean, South East Asian, Indian, Middle Eastern	> β thalassemia , α thalassemia **Any queries or concerns, discuss with South Australian Clinical Genetics Service on 8161 7375. More information available at URLs:** **http://www.geneticseducation.nhs.uk/** http://www.mcri.edu.au/research/themes/gd/ http://cks.nice.org.uk/pre-conception-advice-and-management#!scenariorecommendation:27
Recently arrived migrant women:	**Depending on the country of origin and**

Full physical assessment, medical / obstetric history and clinical assessment of overall health including diet	**ethnicity, enquire if:** > Female genital mutilation (FGM) has been performed > Ask about rubella ('German measles') vaccination status > Symptoms of infectious diseases known to be endemic in country of origin e.g. tuberculosis, STDs, HIV, hepatitis B,C and offer education and screening Refer to specific SA Perinatal Practice Guidelines at www.sahealth.sa.gov.au/perinatal for further information about FGM and infectious diseases
Substance use, including alcohol	> Screen for alcohol intake and use of illicit drugs > Advise to reduce / abstain from alcohol, tobacco and other drugs before and during pregnancy > Assess nutrition, oral hygiene and immune status > Arrange treatment referrals as required
Smoking	> Advise to stop smoking and explain link to low birth weight and preterm birth. > Offer 'stop smoking' interventions and supervision of smoking cessation e.g. Quit > Smoking cessation advice should also be offered to the partner with appropriate Quit referral
Medical conditions and medications	Maintain good control of any pre-existing medical conditions > **Diabetes:** optimise control HbAlc < 6. For further preconception information, see 'Diabetes Mellitus and Gestational Diabetes' in the A to Z index at www.sahealth.sa.gov.au/perinatal > **Hypertension:** avoid ACE inhibitors, angiotensin II receptor antagonists, thiazide diuretics. (For further information link to 'Hypertensive disorders in pregnancy' in the A to Z index at www.sahealth.sa.gov.au/perinatal) > **Epilepsy:** optimise control; folic acid 5 mg per day. Monotherapy with antiepileptic drugs is preferable and sodium valproate should be avoided if possible. (For further information, link to 'Epilepsy and pregnancy management' in the A to Z index at www.sahealth.sa.gov.au/perinatal) > **Deep Venous Thrombosis:** Discuss timing to switch from warfarin (i.e. Coumadin® or Marevan®) to heparin or low

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	molecular weight heparin (Clexane®). Offer testing for thrombophilia before pregnancy. For further information see 'Thromboprophylaxis and thromboembolic disease in pregnancy' in the A to Z index at www.sahealth.sa.gov.au/perinatal > **Depression/anxiety:** Tricyclic antidepressants and selective serotonin reuptake inhibitors (with the exception of paroxetine) are not associated with any teratogenic effects and may be used before conception. (For further information link to 'Psychotropic medication during pregnancy and breastfeeding: A guide to guidelines' in the A to Z index at www.sahealth.sa.gov.au/perinatal)
Oral health	> Encourage regular brushing of teeth with fluoride toothpaste and dental flossing > Identify need for dental care to treat caries and periodontal disease (gum disease increases risk for preterm delivery)
Family planning	> The nine or twelve month well baby visit offers a good opportunity to discuss future family plans
Psychosocial concerns	> Violence: screen for feeling safe at home, abuse as child, child abuse, support reporting and know shelters > Psychosocial: screen for depression, access to basic necessities, money worries, knowledge of safety net programs, difficult life events, social support
3. Infectious diseases and vaccinations	All immunisation recommendations from the Australian Immunisation Handbook - reference no 9
> The need for vaccination, particularly for hepatitis B, measles, mumps, rubella, varicella, diphtheria, tetanus and pertussis, and influenza should be assessed as part of any pre-conception health check	> Where previous vaccination history or infection is uncertain, relevant serological testing can be undertaken to ascertain immunity to hepatitis B, measles, mumps and rubella. Routine serological testing for pertussis and varicella does not provide a reliable measure of vaccine-induced immunity, although varicella serology can indicate whether previous natural infection has occurred
> Tuberculosis	> Recommend screening for women from high risk groups for TB (for further information see 'Mycobacterium tuberculosis in pregnancy' in the A to Z index at www.sahealth.sa.gov.au/perinatal)
> Rubella (Measles, mumps and rubella)	> If no previous vaccination two vaccine doses are recommended, at least four weeks apart. Pregnancy should be avoided for 28 days after vaccination as MMR is a live vaccine

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> Varicella zoster (chickenpox)	> If no previous vaccination two vaccine doses are recommended, at least four weeks apart. Pregnancy should be avoided for 28 days after vaccination as varicella zoster is a live vaccine
> Influenza	> Precise timing of vaccination will depend on time of the year. Routinely recommended at any stage of pregnancy. See 'Vaccines Recommended in Pregnancy' in the A to Z index at www.sahealth.sa.gov.au/perinatal
> Hepatitis B	> If no previous vaccination a 3-dose schedule at times 0, 1 and 6 months is recommended. (May be given during pregnancy)
> Diptheria/Tetanus	> If no previous vaccination a primary course of a combined vaccine of three doses is recommended, given at minimal intervals of four weeks apart
> Pertussis	> dTpa vaccine is recommended as a single dose during the third trimester of each pregnancy (i.e. This includes women who have had Pertussis vaccination at any time before pregnancy as well as closely spaced pregnancies [e.g. less than 2 years]). The optimal time for vaccination is between 28 and 32 weeks gestation > If the woman has already received dTpa earlier in her pregnancy there is no need to repeat in the third trimester, as her antibody levels should be sufficiently high to offer protection for the current pregnancy > For further information see 'Vaccines Recommended in Pregnancy' in the A to Z index at www.sahealth.sa.gov.au/perinatal
> Pneumococcal	> Vaccination against pneumococcal disease is recommended, before pregnancy, in: women who smoke, women who are Aboriginal, and women who have diabetes, or chronic heart, lung or kidney disease
Infectious disease screening for at risk women:	
> Human papilloma virus (HPV)	> Check vaccination status. Vaccination to women ≥ 19 years is not routinely recommended as HPV exposure through sexual activity is likely[9]
> Human immunodeficiency virus (HIV)	> Treatment with zidovudine (Retrovir) reduces the risk of transmission to the fetus from 25.5 % to 8.3 % (see HIV in pregnancy in the A to Z index at www.sahealth.sa.gov.au/perinatal)
> Other sexually transmitted infections: Syphilis, gonorrhoea, chlamydia, herpes genitalis	> As indicated (for further information see infection in pregnancy guidelines in the A to Z index at www.sahealth.sa.gov.au/perinatal)
> Cytomegalovirus	> There is no vaccine available for CMV (for further information see 'Cytomegalovirus

	pregnancy' in the A to Z index at www.sahealth.sa.gov.au)
> Toxoplasmosis, Cytomegalovirus (CMV), and Parvovirus B19 (fifth disease)	> Serologic testing if exposure to any one of these organisms is suspected. All may cause congenital infections if mother becomes infected during pregnancy

4. Counselling

- Common conditions requiring pre-pregnancy counselling and advice include:
  - Epilepsy
  - Diabetes
  - Essential hypertension
  - Cardiac disease
  - Auto-immune disorders
  - Obesity (BMI > 30)
  - Mental illness (severe pre-existing or past history)
  - Previous pregnancy complications
  - Previous surgery
  - Infertility

Infertility

- Infertility could be defined as failure to conceive after regular unprotected sexual intercourse for 12 months in the absence of known reproductive pathology
- However men and women who are considering conception should be offered an initial fertility assessment. A specific enquiry about lifestyle and sexual history should be taken to identify people who are less likely to conceive
- Where there is a history of predisposing factors to sub fertility (such as amenorrhoea, oligomenorrhea, previous ectopic pregnancy, pelvic inflammatory disease, prior treatment for cancer in male or female partner or undescended testes), or where the woman is aged 35 years or over, investigation before the completion of 12 months unprotected sexual intercourse should be considered
- Women who are unable to achieve a pregnancy after one year of unprotected sexual relations or who are unable to carry a pregnancy to a live birth should be offered referral to a gynaecologist / obstetrician
- In some cases (especially repeated spontaneous miscarriage, stillbirth, prolonged infertility) referral to a medical geneticist may also be appropriate
- All recent arrival migrant women of child-bearing age should have pre-conception counselling and support, both opportunistic and planned
- All couples should be offered information about infectious diseases that can be transmitted via food or pets including:
  - *Salmonella* infection
  - *Campylobacter* infection
  - *Listeria* infection
  - *Toxoplasmosis*
- Care should be advised regarding the handling of food:
  - Perishable, potentially contaminated foods should be refrigerated and consumed as soon as possible

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  - Eggs and meat must be cooked thoroughly (especially chicken)
  - Milk and dairy products should be pasteurised
- Care should be advised when gardening and the handling of cat litter trays should be avoided if possible

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Useful references

RANZCOG College statements. Available from URL: http://www.ranzcog.edu.au/college-statements-guidelines.html

> C-Obs 03a: Pre-pregnancy counselling

> C-Obs 44: Pre-pregnancy and pregnancy vaccinations

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Abbreviations

ACE	Angiotensin-converting enzyme
BMI	Body mass index
CDC	Centers for Disease Control
CEMACH	Confidential Enquiry into Maternal and Child Health
CMV	Cytomegalovirus
FGM	Female genital mutilation
HCN	Health Council of the Netherlands
HIV	Human immunodeficiency virus
HPV	Human papilloma virus
mg	Milligrams
PAP	Papanicolaou smear
SA	South Australia
STD's	Sexually transmitted diseases

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