Antenatal Care: Clinical Guideline

By Ashraf Fouda, MD [2]

- The following guidance is evidence based. • Developed by the National Collaborating Centre for Women's and Children's Health • Developed at October 2003, valid till 2007 • The grading scheme used for the recommendations (A, B, C, D, good practice point [GPP], and NICE 2002)
Routine care for the healthy pregnant woman.
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Levels of evidence
### Evidence category

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**Good practice point**

The view of the Guideline Development Group

**NICE 2002**

Recommendation taken from the NICE technology appraisal
Gestational age assessment: LMP and ultrasound

Pregnant women should be offered an early ultrasound scan to determine gestational age and to detect multiple pregnancies.

*Grade A*
Early ultrasound scan

1. Ensure consistency of gestational age assessments,
2. Improve the performance of mid-trimester serum screening for Down’s syndrome and
3. Reduce the need for induction of labour after 41 weeks.

Grade A
Gestational age assessment: LMP and ultrasound
Ideally, scans should be performed between 10 and 13 weeks and crown—rump length measurement used determine gestational age.

Grade GPP
Gestational age assessment: LMP and ultrasound

Pregnant women who present at or beyond 14 weeks' gestation should be offered an ultrasound scan to estimate gestational age using head circumference or bi-parietal diameter.

*Grade GPP*
Working during pregnancy

- The majority of women can be reassured that it is safe to continue working during pregnancy.  
  Grade D
- A woman's occupation during pregnancy should be ascertained to identify those at increased risk through occupational exposure.  
  Grade GPP
Nutritional supplements
Folic acid

- Dietary supplementation with folic acid, before conception and up to 12 weeks' gestations, reduces the risk of having a baby with neural tube defects (anencephaly & spina bifida).
- The recommended dose is 400 micrograms per day.

Grade A
Iron

- Iron supplementation should not be offered routinely to all pregnant women.
  
  *Grade A*

- It does not benefit the mother's or fetus' health and may have unpleasant maternal side effects.
Vitamin A

• Vitamin A supplementation (*intake greater than 700 micrograms*) might be teratogenic and therefore it should be avoided.
• *Liver and liver products* may also contain high levels of vitamin A, consumption of these products should also be avoided.

*Grade C*
Vitamin D
• There is insufficient evidence to evaluate the effectiveness of vitamin D in pregnancy.
• In the absence of evidence of benefit, vitamin D supplementation should not be offered routinely to pregnant women.

Grade A
Food-acquired infections
Reduce the risk of Listeriosis by:

- Drinking only pasteurized or UHT milk
- Not eating mould-ripened soft cheese (there is no risk with hard cheeses such as Cheddar, and processed cheese).
- Not eating uncooked or undercooked ready-prepared meals.

*Grade D*
Reduce the risk of Salmonella infection by:

- Avoiding raw or partially cooked eggs or food that may contain them (*such as mayonnaise*).
- Avoiding raw or partially cooked meat, especially *poultry*.

*Grade D*
Prescribed medicines
Few medicines have been established as safe to use in pregnancy.

*Grade D*
Prescribed medicines
Prescription medicines should be used as little as possible during pregnancy and should be limited to circumstances where the benefit outweighs the risk.

Grade D
Exercise in pregnancy
Beginning or continuing a *moderate course* of exercise during pregnancy is not associated with adverse outcomes.

*Grade A*
Sexual intercourse in pregnancy
Sexual intercourse in pregnancy is not known to be associated with any adverse outcomes.

*Grade B*
Alcohol in pregnancy

- Excess alcohol has an adverse effect on the fetus.
- Therefore it is suggested that women stop or at least limit alcohol consumption to no more than one standard unit per day.

*Grade C*
Smoking in pregnancy

- There are specific risks of smoking during pregnancy (such as the risk of having a baby with low birth weight and preterm).
- The benefits of quitting at any stage should be emphasized.

*Grade A*

- Women who are unable to quit smoking during pregnancy should be encouraged to reduce smoking.

*Grade B*
Cannabis use in pregnancy

- The direct effects of cannabis on the fetus are uncertain but may be harmful.
- *Cannabis use is associated with smoking,* which is known to be harmful; therefore, women should be discouraged from using cannabis during pregnancy.

*Grade C*
Air travel during pregnancy

- Pregnancy women should be informed that long-haul air travel is associated with an increased risk of venous thrombosis.
- Wearing correctly fitted compression stockings is effective at reducing the risk.

*Grade B*
Car travel during pregnancy
Pregnant women should be informed about the correct use of seat belts (that is, three-point seatbelts ‘above and below the bump, not over it’).

Grade B
Traveling abroad during pregnancy

If pregnant women are planning to travel abroad, they should discuss considerations such as flying, vaccinations and travel insurance.

*Grade GPP*
The following guidance is evidence based.

Developed by the National Collaborating Centre for Women’s and Children’s Health

Developed at October 2003, valid till 2007

The grading scheme used for the recommendations (A, B, C, D, good practice point [GPP] - NICE 2009)
Nausea and vomiting in early pregnancy
- Most cases of nausea and vomiting in pregnancy will resolve spontaneously within 16 to 20 weeks of gestation.
- Nausea and vomiting are not usually associated with a poor pregnancy outcome.

*Grade A*
Nausea and vomiting in early pregnancy

- If a woman requests or would like to consider treatment, the following interventions appear to be effective in reducing symptoms:
  - non-pharmacological
    - ginger
    - P6 acupressure
  - pharmacological
    - antihistamines.

*Grade A*
Heartburn

- Women who present with symptoms of heartburn in pregnancy should be offered information regarding lifestyle and diet modification.

  Grade GPP

- Antacids may be offered to women whose heartburn remains troublesome.

  Grade A
Constipation

Women who present with constipation in pregnancy should be offered information regarding diet modification, such as bran or wheat fibre supplementation.

Grade A
Hemorrhoids

- Women should be offered information concerning diet modification.
- If clinical symptoms remain troublesome, standard hemorrhoids creams should be considered.

*Grade GPP*
Varicose veins

- Varicose veins are a common symptom of pregnancy that will not cause harm and
- Compression stockings can improve the symptoms but will not prevent varicose veins from emerging.

*Grade A*
Vaginal discharge

Women should be informed that an increase in vaginal discharge is a common physiological change that occurs during pregnancy.

*Grade GPP*
Vaginal discharge
If vaginal discharge is associated with itching, soreness, offensive smell or pain on passing urine there may be an infective cause and investigation should be considered.
Grade GPP
**Vaginal discharge**
A 1-week course of a topical imidazole is an effective treatment and should be considered for vaginal candidiasis infections in pregnant women.

*Grade A*
Vaginal discharge
The effectiveness and safety of oral treatments for vaginal candidiasis in pregnancy is uncertain and these should not be offered.

*Grade GPP*
Backache
Women should be informed that exercising in water, massage therapy might help ease backache during pregnancy.
Grade A
Levels of evidence

Clinical examination of pregnant women
Measurement of weight and body mass index (BMI)
Maternal weight and height should be measured at the first antenatal appointment, and the woman’s BMI calculated (\textit{weight [kg]/height[m]}^2).

\textit{Grade A}
Measurement of weight and body mass index (BMI)

Repeated weighing during pregnancy should be confined to circumstances where clinical management is likely to be influenced.

Grade C
Breast examination
Routine breast examination during antenatal care is not recommended for the promotion of postnatal breastfeeding.

*Grade A*
Pelvic examination

- Routine antenatal pelvic examination does not accurately assess gestational age, nor does it accurately predict preterm birth or cephalopelvic disproportion.
- So, it is not recommended.

*Grade B*
Screening for hematological conditions
Anemia

- Pregnant women should be offered screening for anaemia.
- Screening should take place early in pregnancy (at the first appointment) and at 28 weeks.
- This allows enough time for treatment if anaemia is detected.

*Grade B*
Anemia

Hemoglobin levels outside the normal range for pregnancy (that is, 11 g/dl at first contact and 10.5 g/dl at 28 weeks) should be investigated and iron supplementation considered if indicated.

Grade A
**Blood grouping and red cell alloantibodies**
Women should be offered testing for *blood group and RhD status* in early pregnancy.

*Grade B*
Blood grouping and red cell alloantibodies
If a pregnant woman is RhD-negative, offer *partner testing* to determine whether the administration of anti-D prophylaxis is necessary.
*Grade B*
Blood grouping and red cell alloantibodies
It is recommended that routine antenatal anti-D prophylaxis is offered to all non-sensitized pregnant women who are RhD negative.
Grade NICE 2002

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### Blood grouping and red cell alloantibodies

Women should be screened for atypical red cell alloantibodies in early pregnancy and again at 28 weeks regardless of their RhD status.

*Grade D*
Blook grouping and red cell alloantibodies
Pregnant women with clinically significant atypical red cell alloantibodies should be offered referral to a specialist centre for further investigation and advice on subsequent antenatal management.

*Grade GPP*
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**Screening for fetal anomalies**
### Screening for structural anomalies

Pregnant women should be offered an *ultrasound scan* to screen for structural anomalies, *ideally between 18 and 20 weeks' gestation*, by an appropriately trained sonographer and with equipment of an appropriate...

*Grade A*

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Screening for Down's syndrome
Pregnant women should be offered screening for Down's syndrome with a test which provides the current standard of a detection rate above 60% and a false-positive rate of less than 5%.
Grade B
The following tests meet this standard:
• from 11 to 14 weeks
  — nuchal translucency (NT)
  — the combined test (NT, hCG and PAPP-A)
• from 14 to 20 weeks
  — the triple test (hCG, AFP and uE3)
  — the quadruple test (hCG, AFP, uE3, inhibin A)

Grade B
Screening for infections
**Asymptomatic bacteriuria**

- Pregnant women *should be offered routine screening* for asymptomatic bacteriuria by midstream urine culture early in pregnancy.
- Identification and treatment of asymptomatic bacteriuria *reduces the risk of preterm birth.*

*Grade A*
Asymptomatic bacterial vaginosis

Pregnant women should not be offered routine screening for bacterial vaginosis because the evidence suggests that the identification and treatment of asymptomatic bacterial vaginosis does not lower the risk for preterm birth and other adverse reproductive outcomes.

Grade A
Chlamydia trachomatis
Pregnant women should not be offered routine screening for asymptomatic chlamydia because there is insufficient evidence on its effectiveness and cost effectiveness.

Grade C
Cytomegalovirus
The available evidence does not support routine cytomegalovirus screening in pregnant women and it should not be offered.

Grade B
**Hepatitis B virus**

- Serological screening for hepatitis B virus *should be offered* to pregnant women.
- So that effective postnatal intervention can be offered to infected women to decrease the risk of mother-to-child-transmission.

*Grade A*
Hepatitis C virus
Pregnant women should not be offered routine screening for hepatitis C virus because there is insufficient evidence on its effectiveness and cost effectiveness.

Grade C
HIV infection

Pregnant women should be offered screening for HIV infection early in antenatal care because appropriate antenatal interventions can reduce mother-to-child transmission of HIV infection. 

Grade D
Rubella-susceptibility screening should be offered early in antenatal care to identify women at risk of contracting rubella infection and to enable vaccination in the postnatal period for the protection of future pregnancies.

*Grade B*
Streptococcus group B
Pregnant women should not be offered routine antenatal screening for group B streptococcus (GBS) because evidence of its clinical effectiveness remains uncertain.
Grade C
### Syphilis

Screening for syphilis should be offered to all pregnant women at an early stage in antenatal care because treatment of syphilis is beneficial to the mother and fetus.

*Grade B*

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**Toxoplasmosis**

*Routine* antenatal serological screening for toxoplasmosis *should not be offered* because the harms of screening may outweigh the potential benefits.

*Grade B*
Toxoplasmosis

- Pregnant women should be informed of primary prevention measures to avoid toxoplasmosis infection, such as:
  1. Washing hands before handling food
  2. Thoroughly washing all fruit and vegetables, before eating
  3. Thoroughly cooking raw meats
  4. Wearing gloves and thoroughly washing hands after handling soil and gardening
  5. Avoiding cat faeces in cat litter or in soil.

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Screening for clinical conditions
### Gestational diabetes mellitus
- The evidence does not support routine screening for gestational diabetes mellitus and therefore it should not be offered.

*Grade B*
### Pre-eclampsia

At first contact a woman's level of risk for pre-eclampsia should be evaluated so that a plan for her subsequent schedule of antenatal appointments can be formulated.

*Grade C*
Developing pre-eclampsia during a pregnancy is increased in women who:
1. are nulliparous
2. are aged 40 or older
3. have a family history of pre-eclampsia
4. have a prior history of pre-eclampsia
5. have a body mass index (BMI) at or above 35 at first contact
5. have a multiple pregnancy or pre-existing vascular disease (for example, hypertension or diabetes).

Grade C
Pre-eclampsia
Whenever blood pressure is measured in pregnancy a urine sample should be tested at the same time for proteinuria.

*Grade C*
Pre-eclampsia

- Pregnant women should be informed of the symptoms of advanced pre-eclampsia because these may be associated with poorer pregnancy outcomes for the mother or baby.
- Symptoms include headache; problems with vision, such as blurring or flashing before the eyes; bad pain just below the ribs; vomiting and sudden swelling of face, hands or feet.

*Grade D*
### Preterm birth

Routine vaginal examination to assess the cervix is not an effective method of predicting preterm birth and should not be offered.

*Grade A*


**Preterm birth**

Although cervical shortening identified by Transvaginal ultrasound and increased levels of fetal fibronectin are associated with an increased risk for preterm birth, the evidence does not indicate that this information improves outcomes.

*Grade B*
Preterm birth

Neither routine antenatal cervical assessment by transvaginal ultrasound nor the measurement of fetal fibronectin should be used to predict preterm birth in healthy pregnant women.

Grade B
**Placenta praevia**

- Because most low-lying placentas detected at a 20-week anomaly scan will resolve by the time the baby is born, only a woman whose placenta extends over the internal cervical os should be offered another transabdominal scan at 36 weeks.
- If the transabdominal scan is unclear, a transvaginal scan should be offered.

*Grade C*
Pregnant women should be offered an early ultrasound scan to determine gestational age and to detect multiple pregnancies.

Fetal growth and well-being
Abdominal palpation for fetal presentation
Fetal presentation should be assessed by abdominal palpation at 36 weeks or later, when presentation is likely to influence the plans for the birth.

Grade C
Abdominal palpation for fetal presentation

- *Routine* assessment of presentation by abdominal palpation *should not be offered before 36 weeks* because it is *not always accurate* and may be *uncomfortable*.
- Suspected fetal malpresentation should be confirmed by *ultrasound*.

*Grade C*
Measurement of symphysis—fundal distance

- Pregnant women should be offered estimation of fetal size at each antenatal appointment to detect small- or large-for gestational-age infants.
- Symphysis—fundal height should be measured and plotted at each antenatal appointment.

*Grade A*
**Routine monitoring of fetal movements**

Routine formal fetal-movement counting should not be offered.

*Grade A*
Auscultation of fetal heart

Auscultation of the fetal heart may confirm that the fetus is alive but is unlikely to have any predictive value and routine listening is therefore not recommended.

Grade D
Auscultation of fetal heart
When requested by the mother, auscultation of the fetal heart may provide reassurance.  
Grade D
Cardiotocography
The evidence does not support the routine use of antenatal electronic fetal heart rate monitoring (cardiotocography) for fetal assessment in women with an uncomplicated pregnancy and therefore it should not be offered.
Grade A
Ultrasound assessment in the third trimester
The evidence does not support the routine use of ultrasound scanning after 24 weeks' gestation and therefore it should not be offered.

Grade A
Umbilical artery Doppler ultrasound
The use of umbilical artery Doppler ultrasound for the prediction of fetal growth restriction should not be offered routinely.
Grade A
Uterine artery Doppler ultrasound
The use of uterine artery Doppler ultrasound for the prediction of pre eclampsia should not be offered routinely.
Grade B
Pregnancy after 41 weeks

- Prior to formal induction of labour, women should be offered a vaginal examination for membrane sweeping.
- Women with uncomplicated pregnancies should be offered induction of labour beyond 41 weeks. 
  
  Grade A
Breech presentation at term

- All women who have an uncomplicated singleton breech pregnancy at 36 weeks' gestation should be offered external cephalic version (ECV).
- Exceptions include:
  1. women in labour, and
  2. a uterine scar or abnormality;
  3. fetal compromise;
  4. ruptured membranes;
  5. vaginal bleeding.

Grade A
Thank you

Source URL: http://www.diagnosticimaging.com/printpdf/antenatal-care-clinical-guideline/page/0/21

Links: