

# Antenatal Screening for Syphilis

Guidelines	Level of Evidence	References
Early in pregnancy all women should receive appropriate written information about antenatal syphilis testing and be given the opportunity to discuss it with their midwife or doctor.	IV	15
Antenatal serological screening for syphilis should be offered to all pregnant women.	III-2 IV	4 6,7,14
Screening for syphilis should be undertaken at the first antenatal visit, ideally prior to 16 weeks' gestation.	IV	7,14

## Aim

The aim of these guidelines is to assist midwives and doctors to detect syphilis in pregnant women in order to treat mothers and prevent transmission to infants.

## Evidence

Syphilis has significant long-term morbidity for mothers and can seriously complicate pregnancy, resulting in spontaneous abortion, stillbirth, non-immune hydrops, intrauterine growth restriction, malformations and perinatal death. Congenital syphilis results in serious sequelae in liveborn infected children. Screening pregnant women for syphilis and treating them appropriately can eliminate complications<sup>1-3</sup>.

The evidence available (Level III and IV) indicates that screening for syphilis should be part of routine antenatal care. Universal screening programs have been shown to significantly increase the detection of pregnant women who have syphilis compared with selective screening of women considered to be a high-risk<sup>4-7</sup>. Research from the UK indicates that women from a non-white ethnic group and born outside the UK have a strong risk of syphilis, but a significant number of cases are missed even if selective screening based on these risk factors is in place<sup>8</sup>. Universal screening for syphilis has been shown cost-effective even in areas of low prevalence<sup>3,4,9-11</sup>.

Syphilis screening should be undertaken at the first antenatal visit, ideally prior to the sixteenth week of pregnancy<sup>7</sup>. In populations of high prevalence the test should be repeated during the third trimester or at the time of delivery<sup>7,12</sup>. It has also been suggested that there should be universal repeat screening for syphilis in the third trimester<sup>13</sup>.

The recommended first-line screening tests for syphilis are:

- Treponema Pallidum Haemagglutination Assay (TPHA)
- Treponema Pallidum Particle Agglutination Assay (TPPA), Rapid Plasma Reagent Test (RPR)
- Treponemal Antigen Based Enzyme Immunoassays (EIA);
- Venereal Disease Reference Laboratory (VDRL)<sup>14</sup>.

## Methods of Search and Appraisal

The following strategy was used to search and appraise evidence relating to the practice of screening pregnant women for syphilis.

### I. Search on Defined Questions (December 2000)

A research team from the Department of Perinatal Medicine of the Royal Women's Hospital used the OVID interface to search Medline (January 1980 to December 2000), CINAHL (April 1982 to December 2000) and Best Evidence (January 1991 to December 2000). They also searched the Cochrane Database (2000 Issue 3) and reviewed studies for further citations. The following questions were addressed:

1. Does detection and management of syphilis in pregnant women decrease the incidence of congenital syphilis in the newborn?
2. Is universal testing for syphilis recommended above selective testing or no screening at all for syphilis?
3. If selective testing is recommended, what risk factors should be considered during history taking?
4. When, how and by whom should syphilis testing be offered to women?

The search retrieved 94 citations and 24 key citations were identified for appraisal. These included three Level III-2 studies, 19 Level IV studies/documents and two letters.

The team did not identify research investigating who should offer this screening test to pregnant women or the manner in which it should be offered. The coordinator searched grey literature and journals for additional evidence published between January and August 2001.

## References

1. Bowell P, Mayne K, Puckett A, Entwistle C, Selkon J. Serological screening tests for syphilis in pregnancy: results of a five year study (1983-87) in the Oxford region. *Journal of Clinical Pathology* 1989;42(12): 1281-4. Level III-2
2. Genc M, Ledger WJ. Syphilis in pregnancy. [Review] [91 refs] *Sexually Transmitted Infections* 2000;76(2):73-9. Level IV
3. Walker GJA. Antibiotics for syphilis diagnosed during pregnancy (Protocol for a Cochrane Review). *The Cochrane Library* Issue 3, 2000:Oxford: Update Software. Level IV

4. Cameron ST, Thong KJ, Young H, Liston WA. Routine antenatal screening for syphilis in Lothian: a study of the results 1988 to 1994 [see comments]. *BJOG*. 1997;104(6): 734-7. Level III-2
5. Duthie SJ, King PA, Yung GL, Ma HK. Routine serological screening for syphilis during pregnancy- disposable anachronism or fundamental necessity? *ANZJOG* 1990;30(1):29-31. Level IV
6. Hurtig AK, Nicoll A, Carne C, et al. Syphilis in pregnant women and their children in the United Kingdom: results from national clinician reporting surveys 1994-7. [see comments] *BMJ* 1998;317(7173):1617-9. Level IV
7. Villar J, Bergsjö P. Scientific basis for the content of routine antenatal care. I. Philosophy, recent studies, and power to eliminate or alleviate adverse maternal outcomes. [Review] [130 refs] *Acta Obstetrica et Gynecologica Scandinavica* 1997;76(1):1-14. Level IV
8. Welch J. Antenatal screening for syphilis. Still important in preventing disease. [editorial; comment] *BMJ*. 1998;317(7173): 1605-6. Level IV
9. Abyad A. Cost-effectiveness of antenatal screening for syphilis. *Health Care for Women Int* 1995;16(4):323-8. Level IV
10. Connor N, Roberts J, Nicoll A. Strategic options for antenatal screening for syphilis in the United Kingdom: a cost effectiveness analysis. *Journal of Medical Screening* 2000;7(1):7-13. Level IV
11. Garland SM, Kelly VN. Is antenatal screening for syphilis worth while? [see comments] *MJA* 1989;151(7):368,370,372. Level IV
12. Glaser JH. Centres for Disease Control and Prevention guidelines for congenital syphilis. [editorial; comment] *Journal of Pediatrics* 1996;129(4):488-90. Level IV
13. Holland EF, O'Mahony CP. Is it time to review antenatal screening for syphilis? *BJOG* 1989;96(8):1005-6. Level IV
15. Young H. Guidelines for serological testing for syphilis. *Sexually Transmitted Infections* 2000;76(5): 403-5. Level IV
15. Lumley, J. *What do women really want? Satisfaction with care in pregnancy, birth and the postnatal hospital stay. A summary of current evidence to April 2000.* Unpublished report commissioned by The Royal Women's Hospital, Melbourne from the Centre for Studies on Mother's and Children's Health, La Trobe University, Melbourne 2000. Level IV

