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**SCREENING FOR INFECTIOUS DISEASES  
IN PREGNANCY**

**STANDARDS TO SUPPORT THE UK  
ANTENATAL SCREENING PROGRAMME**

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**August 2003**

**Implementing  
*Getting Ahead of the Curve:*  
action on blood-borne viruses**

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## INTRODUCTION

1. These generic and disease-specific standards for antenatal screening for infectious diseases have been developed and agreed by Department of Health expert advisory committees (Advisory Group on Hepatitis, Joint Committee on Vaccines and Immunisation and Expert Advisory Group on AIDS) and the UK National Screening Committee (NSC). They should be promoted as examples of good practice by all those involved in antenatal care.
2. These standards are part of a wider initiative to establish a quality-assured national screening programme. They will be relevant at a number of levels - for commissioners and providers of screening services and for those with performance management responsibilities. This is supported by the subdivision of the generic standards under the headings Trust, Clinic and Laboratory. The disease-specific standards cover rubella, syphilis, HIV and hepatitis B, the four infections that are currently included in the UK antenatal screening programme. [Other infections not routinely investigated include cytomegalovirus, chlamydia, hepatitis C, streptococcus group B, toxoplasmosis, genital herpes simplex virus and HTLV-I. Further information on these can be found in the National Institute for Clinical Excellence (NICE) Antenatal Care Guideline (in preparation, due October 2003).]
3. The development process for these standards included a widely publicised consultation hosted on the UK National Screening Committee's website. Responses were received from a wide range of professionals involved in antenatal screening who welcomed the issuing of standards and provided helpful feedback. The standards have now been refined in light of comments received.
4. This document has been produced in an electronic format to make it easier to update. It is available from the Department of Health website at: <http://www.doh.gov.uk/antenatalscreening> and the antenatal section of the National electronic Library for Screening at: <http://www.nelh.nhs.uk/screening/>. Policy-related queries should be addressed to: Dr Linda Lazarus, Department of Health, Room 631B Skipton House, 80 London Road, London SE1 6LH. E-mail: [Linda.Lazarus@doh.gsi.gov.uk](mailto:Linda.Lazarus@doh.gsi.gov.uk). Paper copies of the document are available on request from: Ruth Hickson, Department of Health, Room 631B Skipton House, 80 London Road, London SE1 6LH. E-mail: [Ruth.Hickson@doh.gsi.gov.uk](mailto:Ruth.Hickson@doh.gsi.gov.uk).
5. This is intended to be a dynamic document and we welcome your comments and feedback.

## **SECTION 1: GENERIC STANDARDS FOR INFECTIOUS DISEASES**

A number of these standards apply (e.g. paragraphs 1-4, 7-9, 14) to antenatal screening in general; others are tailored to infectious disease screening (e.g. paragraphs 5, 6, 10-13, 15). The standards are subdivided for convenience according to the setting in which the activity takes place, although responsibility for promotion of the standards is shared.

### **Trust/Strategic Health Authority**

1. Written protocols for all screening programmes, including the standards to be met, local contact details etc, are maintained in all Trusts and are made available to the Strategic Health Authority and primary care practitioners.
2. Within each Strategic Health Authority, Primary Care Trust and NHS Trust there are clear management arrangements to ensure that the responsibilities of the organisation are discharged appropriately, covering co-ordination, monitoring and performance management of all antenatal-screening programmes.
3. There are systems for:
  - routine monitoring of the screening programmes to improve quality. This involves the collection of data on the number of women offered testing and accepting testing, the number of women/neonates identified as infected or at risk and to which service they were referred.
  - dealing with serious untoward events e.g. notified false-positive HIV diagnoses should be noted and reported to the Strategic Health Authority, the Health Protection Agency's (HPA) Communicable Disease Surveillance Centre and any other appropriate national bodies (e.g. National Patient Safety Agency). Local feedback is provided on cases of transmission/infection despite antenatal diagnosis and on missed cases. Care is taken that these activities do not breach confidentiality, particularly at local level.
  - reviewing serious adverse events so that systems can be modified appropriately.
  - ensuring follow-up action (e.g. immunisation) is completed.
4. All relevant staff are familiar with the programmes and referral pathways and are trained to be able to offer information, advice and support.

### **Clinic**

5. All pregnant women are offered screening for rubella antibody, syphilis, HIV and hepatitis B as an integral part of their antenatal care during their first and all subsequent pregnancies. Repeat testing during a pregnancy is not usually necessary. They have the right to decline screening.
6. Pregnant women arriving in labour who have not received antenatal care elsewhere are offered screening for infectious diseases. Priority is given to hepatitis B and HIV screening and presumptive action is taken on a preliminary positive result until such time as the result is confirmed. If an HIV test result will not be available in time, appropriate preventive measures should be offered. Use of rapid test devices may be appropriate in this context. In cases where consent is withheld for screening during labour, a system is in place to ensure screening is offered again after delivery.
7. Screening is only performed with documented consent, though this does not require a signature from the patient [1], and the usual professional standards of confidentiality apply [2]. Systems designed to protect confidentiality are not so restrictive as to interfere with good

patient care (e.g. allowing only a single person in a Trust access to patient results), surveillance, audit or clinical governance.

8. Information on all antenatal-screening programmes is available to pregnant women early in pregnancy in an appropriate range of languages and media (see Annex 1 for supporting literature).
9. Details on the information given, the tests offered, whether they were accepted and any subsequent action are recorded in the patient's notes.

### **Laboratory**

10. It is suggested that laboratories carrying out antenatal screening perform a minimum of 1000 tests per year (per infection screened), have consultant-level microbiological support and work to recognised independent national standards, such as those published by Clinical Pathology Accreditation (CPA [3]), or international standards. This entails following the screening assay protocol exactly as described in the manufacturer's kit insert, using manufacturer's controls, running an internal quality assurance scheme and employing validated internal quality control material. Concerns about the performance of commercial kits, control materials or instrumentation must be reported to the Medicines & Healthcare products Regulatory Agency's (MHRA) Adverse Incident Centre as soon as possible [4]. Laboratories participate in and achieve satisfactory performance in an appropriate external quality assessment scheme (e.g. UKNEQAS).
11. All four tests for infectious diseases (rubella antibody, syphilis, HIV and hepatitis B) can be performed on one blood sample taken for this purpose at the same time as blood taken for other tests during antenatal care, provided that consent has been obtained and the test kit manufacturer's instructions on sample handling and preparation are followed. Pooling of blood samples before testing is not acceptable. Antenatal-screening sera are stored at  $-20^{\circ}\text{C}$  or below for at least one year.
12. The laboratory does not inform the clinic of a positive result (or that antibody was not detected in the case of rubella) until the presence of the diagnostic marker(s) has been fully confirmed on the initial sample (see disease-specific standards for further guidance). Only then is the woman contacted to have her positive test result explained to her face to face. Other results are explained at the next scheduled appointment. All primary testing laboratories have access to timely confirmatory testing for infections screened for antenatally.
13. After informing the patient of a preliminary positive result, confirmatory testing (for syphilis, HIV and hepatitis B) is also performed on a second specimen to confirm the results obtained from the first specimen and to ensure that the patient details on the original specimen were correct.
14. Those providing clinical care develop systems with laboratories to guarantee that critical results are received and acted upon in a timely manner by those who need to know e.g. HIV positivity, absence of rubella antibody.
15. In addition to statutory notification of hepatitis B positive cases [5], confirmed test positive results/rubella antibody not detected are reported, while preserving confidentiality, to the HPA's Communicable Disease Surveillance Centre or Institute of Child Health according to the reporting table in Annex 2.

## References

1. Good Practice in Consent: achieving the NHS Plan commitment to patient-centred consent practice (HSC 2001/023). London: Department of Health, 2001.  
[\[http://www.doh.gov.uk/consent/hsc2001023.htm\]](http://www.doh.gov.uk/consent/hsc2001023.htm)
2. Confidentiality: Protecting and Providing Information. General Medical Council September 2000.  
[\[http://www.gmc-uk.org/standards/SECRET.HTM\]](http://www.gmc-uk.org/standards/SECRET.HTM)
3. CPA Handbook 'Standards for the Medical Laboratory'. [\[http://www.cpa-uk.co.uk\]](http://www.cpa-uk.co.uk)
4. Medical devices – reporting adverse incidents and disseminating safety warnings. MDA Safety notice MDA SN2002(01) [\[http://devices.mhra.gov.uk\]](http://devices.mhra.gov.uk)
5. Public Health (Infectious Diseases) Regulations 1988; schedule 1, regulation 3.  
[\[http://www.hmso.gov.uk/si/si1988/Uksi\\_19881546\\_en\\_1.htm\]](http://www.hmso.gov.uk/si/si1988/Uksi_19881546_en_1.htm)

## SECTION 2: RUBELLA ANTIBODY

**For use together with the generic standards for infectious diseases (section 1).**

### **Background**

**The consequences for the fetus of primary rubella infection during the first trimester of pregnancy are devastating. It is therefore critically important to identify mothers who lack rubella-specific antibody so that advice on postpartum immunisation can be offered to protect them in subsequent pregnancies [1,2].**

**Established childhood rubella immunisation programmes mean that coverage in the UK is generally high and that, for most pregnant women, the detection of rubella-specific immunoglobulin G (IgG) implies immunity following immunisation or infection before pregnancy. Detection of rubella IgG in women who have recently arrived from countries where rubella is endemic (or where rubella immunisation is not available or not effectively implemented) may, rarely, indicate rubella infection acquired in early pregnancy [3].**

1. Rubella antibody testing is offered at least in a first pregnancy irrespective of a single previous report of rubella-specific IgG and immunisation history [4]. A history of exposure to or possible recent infection with rubella in early pregnancy is actively sought, particularly in recent immigrants, and the laboratory is informed of a suspicious history so that the appropriate tests for primary rubella infection (IgM and IgG avidity) are performed [5]. Testing is considered unnecessary if there is documented evidence of two tests on different blood samples both confirming the presence of rubella-specific IgG, even if contact with a suspected rubella case or a rubella-like rash occurs [6].
2. Tests such as enzyme-linked immunosorbent assays (ELISA), and radial haemolysis (RH) are suitable for rubella antibody screening; latex agglutination (LA) is a suitable second-line assay.
3. The Rubella Subcommittee of the US National Committee for Clinical Laboratory Standards elected to use 10 IU/ml as the cut-off to define rubella antibody detection [7]. Laboratories ensure that the assay used is sensitive enough to define this cut-off value (ideally at least 98% sensitive). It is important to use a screening test with high specificity (>99% recommended) [8]. Specimens that give negative or equivocal results on initial testing are re-tested using a second assay in order to confirm the result and to monitor the front-line assay. Laboratories may wish to refer specimens non-reactive in their screening test to a reference laboratory to perform further investigations.
4. If a low level (<10 IU/ml) of rubella-specific IgG is detected, yet the woman has received two or more documented doses of rubella vaccine, further doses of vaccine are unlikely to be of value and protection against rubella is assumed. Such women are advised to report any rash illness or contact with a rubella-like rash and further investigation of the rash, following published guidelines [6], is recommended.
5. Screening results are reported as rubella-specific IgG detected/not detected rather than immune/susceptible. The laboratory advises on any further follow-up required (e.g. "immunisation advised, postpartum if pregnant" for results reported as rubella-specific IgG not detected). As detection of rubella-specific IgG does not exclude the possibility of recent infection, evidence of rash in early pregnancy is sought and communicated to the laboratory to allow interpretation of results [5]. Immunisation of pregnant women is avoided where feasible

[4]. If rubella-specific IgG is not detected (<10 IU/ml), immunisation is offered on completion of the pregnancy<sup>1</sup> [7].

## References

1. Cradock-Watson JE. Laboratory diagnosis of rubella: past, present and future. *Epidemiol Infect* 1991; **107**: 1-15.
2. Morgan-Capner P *et al*. Laboratory diagnosis of rubella. *PHLS Microbiology Digest* 1988; **5**: 49-52.
3. Tookey PA, Corina-Borja M, Peckham CS. Rubella susceptibility among pregnant women in North London, 1996-1999. *J Public Health Med* 2002; **24**: 211-216.
4. Salisbury DM, Begg NT (ed). *Immunisation against infectious disease* 1996; Department of Health; HMSO; London [<http://www.doh.gov.uk/greenbook/index.htm>]
5. Mehta NM, Thomas RM. Antenatal screening for rubella – infection or immunity? *BMJ* 2002; **325**: 90-91.
6. Morgan-Capner P, Crowcroft NS, on behalf of the PHLS Joint Working Party of the Advisory Committees of Virology and Vaccines and Immunisation. Guidelines on the management of, and exposure to, rash illness in pregnancy (including consideration of relevant antibody screening programmes in pregnancy). *Commun Dis Public Health* 2002; **5(1)**: 59-71. [[http://www.hpa.org.uk/cdph/issues/CDPHvol5/No1/rash\\_illness\\_guidelines.pdf](http://www.hpa.org.uk/cdph/issues/CDPHvol5/No1/rash_illness_guidelines.pdf)]
7. Skendzel LP. Rubella immunity: defining the level of protective antibody. *Am J Clin Pathol* 1996; **102**: 170-174.
8. Hesketh L and Martin L. An evaluation of four rubella IgG assays to advise the NBS/PHLS Programme. PHL Preston, 2001 unpublished data.

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<sup>1</sup> It is important that community and primary care services are aware of the need to schedule follow-up immunisation for women after discharge from hospital. A nominated co-ordinator is responsible for ensuring that systems are in place for informing the relevant individuals.

## SECTION 3: SYPHILIS

**For use together with the generic standards for infectious diseases (section 1).**

### **Background**

**The current practice of routinely offering pregnant women testing for syphilis has been reviewed, and it is recommended that screening for syphilis should continue [1-3]. In addition, good laboratory practice on syphilis serology testing has recently been summarised [4].**

1. The false-negative rate of single blood samples tested for syphilis serology will depend on the stage of infection. In primary syphilis it may be up to 20-30% and a high index of clinical suspicion is therefore critical where there is a significant risk of primary infection. However, later in infectious syphilis (i.e. in secondary and early latent infection) the false-negative rate using the PHLS<sup>2</sup> algorithm should effectively be <0.1% (sensitivity of 99.9%) [4,5].
2. Using the PHLS algorithm for treponemal antibody screening and confirmation [4], a screen-reactive test is followed by confirmation of the reactive result by a second test employing independent methodology. The false reactivity rate of single blood samples tested in this way should effectively be 0% (specificity of 100%).
3. Because syphilis is a rare condition, all women testing positive are referred to a specialist in Genitourinary Medicine for assessment, counselling and possible treatment. Not all of them will have syphilis<sup>3</sup>. If necessary, arrangements are also made for their partners to be offered counselling and testing, for testing of any older children and for serological follow-up of the newborn. Counselling takes account of any relevant cultural issues.

### **References**

1. PHLS Communicable Disease Surveillance Centre and the PHLS Syphilis Working Group. Antenatal Syphilis screening in the UK: a systematic review and national options appraisal with recommendations (Report to the National Screening Committee). Public Health Laboratory Service; July 1998.
2. Connor N, Roberts J, Nicoll A. Strategic options for antenatal screening for syphilis in the United Kingdom: a cost effectiveness analysis. *J Med Screen* 2000; **7**: 7-13.
3. 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. *BMJ* 1998; **317**: 1617-9.
4. Egglestone SI, Turner A J for the PHLS Syphilis Serology Working Group. Serological diagnosis of syphilis. *Commun Dis Public Health* 2000; **3(3)**: 158-62.  
[\[http://www.hpa.org.uk/cdph/issues/CDPHvol3/No3/guidelines.pdf\]](http://www.hpa.org.uk/cdph/issues/CDPHvol3/No3/guidelines.pdf)
5. Young H. Syphilis: new diagnostic directions. *Int J STD & AIDS* 1992; **3**: 391-413.

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<sup>2</sup> The PHLS moved into the Health Protection Agency on 1 April 2003.

<sup>3</sup> A significant number of non-syphilis reactive tests may be found in certain populations because serology cannot distinguish between the different treponematoses (e.g. syphilis, yaws, pinta and bejel). A positive result should therefore be interpreted in light of clinical signs and patient history. This is why specialist assessment is important.

## SECTION 4: HIV

**For use together with the generic standards for infectious diseases (section 1).**

### **Background**

**Most HIV-infected children in this country have acquired the infection from their mothers. There are now interventions that can reduce the risk of mother to child transmission of HIV from 25% to around 2% [1]. In order for women to take full advantage of these, it is vital to diagnose the infection before they give birth.**

1. Health Authorities were asked to put arrangements in place, by 31 December 2000 at the latest, for all pregnant women to be offered and recommended an HIV test as an integral part of their antenatal care. From 1 April 2002, this became the responsibility of local providers. These arrangements should increase uptake of antenatal HIV testing to 90% such that, by the end of December 2002, at the national level, 80% of HIV-infected pregnant women are identified during antenatal care. This should result in an 80% reduction in the number of children with HIV acquired from an infected mother during pregnancy, birth or through breastfeeding [2,3].
2. Laboratories ensure that any assay used for antenatal screening has a sensitivity >99.9% and a specificity >99.5% [4].
3. The primary laboratory screens the specimens and re-tests reactive specimens in duplicate in the screening assay before referring to a confirmatory laboratory. If the screening laboratory is also qualified to perform HIV confirmatory testing, it may elect to move directly into the confirmatory tests (involving at least two further independent assays to confirm the reactivity is specific for HIV [5]) without re-testing in the screening assay kit. All reactive HIV results are confirmed by a specialist laboratory, for instance one represented on the HPA HIV Laboratory Diagnosis Forum [6].
4. All women have confirmed positive test results explained to them *in person*. (A positive result is not normally given on a Friday or immediately before a public holiday.) Women are offered specialist counselling and support which is available for their partners and family if requested. Such counselling takes account of any relevant cultural issues [7,8]. Arrangements for delivery of positive results and for confirmatory testing of a follow-up (second) specimen are prioritised.
5. Women found to be positive are referred for specialist HIV treatment and for advice about management of their own infection and interventions to reduce the risk of vertical and sexual transmission. Discussions cover the use of antiretrovirals and Caesarean section, early treatment and care for the child (including virological follow-up [9]) and decisions about breastfeeding [10,11].
6. Informing a woman of a negative test result is used as an opportunity for general sexual health promotion and for explaining the dangers of becoming infected during pregnancy or lactation (including the small possibility of a 'window period' infection going undetected).

## References

1. Duong T, Ades AE, Gibb DM, Tookey PA, Masters J. Vertical transmission rates for HIV in the British Isles: estimates based on surveillance data. *BMJ* 1999; **319**: 1227-29.
2. Reducing mother to baby transmission of HIV. Health Service Circular 1999/183; 13 August 1999.
3. Targets aimed at reducing the number of children born with HIV: Report from an Expert Group. UK Health Departments; July 1999.
4. Device evaluation reports for HIV test kits are available from the Medicines & Healthcare products Regulatory Agency [<http://devices.mhra.gov.uk>].
5. Parry JV *et al.* for the Health Protection Agency HIV Diagnosis Working Group. Towards error-free HIV diagnosis: guidelines on laboratory practice. *Commun Dis Public Health* 2003; **6(3)**, in press.
6. Laboratories represented on the HPA HIV Laboratory Diagnosis Forum: Royal Victoria Hospital, Belfast; Gartnavel Hospital, Glasgow; HPA South West; Sheffield PHL; Leeds PHL; Princess Royal Hospital, Telford; HPA Colindale; NBS Colindale; Manchester Medical Microbiology Partnership; AVSRU Birmingham; UCL & RFHMS; Cardiff PHL and HPA London (Dulwich).
7. *Reducing mother to child transmission of HIV infection in the United Kingdom. Recommendations of an Intercollegiate Working Party for Enhancing Voluntary Confidential HIV Testing in Pregnancy.* Royal College of Paediatrics and Child Health. April 1998.
8. Bedford H, Chapple J. Review of Antenatal HIV testing services in London January-March 1999. Kensington, Chelsea and Westminster Health Authority; June 1999.
9. *Guidance to Physicians on Diagnostic Testing of Infants and Young Children at Risk of HIV Infection.* Central Public Health Laboratory, 2000.
10. *HIV and Infant Feeding: Guidance from the UK Chief Medical Officers' Expert Advisory Group on AIDS.* Department of Health, September 2001.
11. *HIV and Infant Feeding.* Report of a Seminar 30 June 2000. Royal College of Midwives/ Department of Health, November 2000.

## SECTION 5: HEPATITIS B

**For use together with the generic standards for infectious diseases (section 1).**

### **Background**

**If hepatitis B infected mothers (HBsAg positive) transmit infection to their infants there is a high risk of the child developing chronic infection, which may result in liver cirrhosis or liver cancer later in life [1]. The objective of offering screening for hepatitis B to pregnant women and immunisation of babies born to infected mothers is to reduce the perinatal transmission of this infection.**

1. Health Authorities were asked to ensure that arrangements were in place by April 2000 at the latest for all pregnant women to be offered antenatal screening for hepatitis B virus (HBV), regardless of immunisation history, and for all babies born to infected mothers to receive a complete course of immunisation, starting at birth [2]. From 1 April 2002, this became the responsibility of local providers.
2. Laboratories ensure that any assay used for antenatal screening for hepatitis B surface antigen (HBsAg) has a sensitivity of 99.9% and a specificity of 99.5%. All initially reactive HBsAg screening tests are confirmed by neutralization. If the screening laboratory cannot perform neutralization, the sample is referred to a specialist laboratory able to carry out the necessary confirmatory test. Infectivity markers are determined for all samples confirmed as HBsAg positive. The current routine infectivity markers are hepatitis B e-antigen and e-antibody. Other markers are included at the physician/microbiologist's discretion (e.g. IgM anti-HBc).
3. The significant implications for women found to be infected with hepatitis B virus for themselves, their pregnancy, their sexual partners and other family members are explained to them, taking account of any relevant cultural issues. Partners and children of infected women are offered screening and follow-up, with hepatitis B immunisation as appropriate.
4. Parental consent for the baby's immunisation is obtained prior to the birth and the first dose is given at or shortly after birth. If a woman books late and/or a hepatitis B test result is not available, hepatitis B vaccine is given to the infant unless a result will be available within 24 hours of delivery or before discharge (whichever is sooner). Information about vaccine and hepatitis B immunoglobulin administration, dose and supplies is given in HSC 1998/127 [2] and in *Immunisation against infectious disease* [3].
5. Mothers, and the GP of the child, are given written information about the number of injections their babies require, when the injections should be given and who will be responsible for the administration of each dose<sup>4</sup>. Such written information includes the importance of completing the full course of immunisation.
6. Initial clinical assessment of women identified as being infected (HBsAg positive) and, if appropriate, their partners and other children, is carried out at the earliest opportunity by those with expertise in managing hepatitis B carriers. Referral to specialist hepatology services may follow.

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<sup>4</sup> It is important that community and primary care services are aware of the need to schedule follow-up immunisation for infants after discharge from hospital. A nominated co-ordinator is responsible for ensuring that systems are in place for informing the relevant individuals.

## References

1. Seow H-F. Hepatitis B and C in pregnancy. *Curr Obstet Gynaecol* 1999; **9**: 216-223.
2. Screening of pregnant women for hepatitis B and immunisation of babies at risk. Health Service Circular 1998/127. 22 July 1998.
3. Salisbury DM, Begg NT (ed). *Immunisation against infectious disease*. 1996. Department of Health; HMSO; London [<http://www.doh.gov.uk/greenbook/index.htm>]

## **ANNEX 1: SUPPORTING LITERATURE**

### **Patient information**

The Pregnancy Book (free to all first-time mothers)

Health Promotion England - Department of Health

Available from: Departmental Publications at: PO Box 777 London SE1 6XH;

Tel 08701 555 455; Fax 01623 724 524; E-mail: [doh@prolog.uk.com](mailto:doh@prolog.uk.com)

Better for your baby (HIV)

<http://www.doh.gov.uk/eaga/betterbaby.htm>

Hepatitis B: how to protect your baby

<http://www.doh.gov.uk/hepatitisb/hepatitisbaby.htm>

### **Professional information**

Guidelines for pre-test discussion on HIV testing (Department of Health, 1996).

<http://www.doh.gov.uk/eaga/guidelineshivtestdiscuss.pdf>

Targets aimed at reducing the number of children born with HIV-Report from an Expert Group (Department of Health, August 1999)

Available from: Room 631B Skipton House, Department of Health, 80 London Road, London SE1 6LH

Reducing mother to child transmission of HIV infection in the UK: Recommendations of an Intercollegiate Working Party for Enhancing Voluntary Confidential HIV Testing in Pregnancy (Royal College of Paediatrics and Child Health, April 1998)

Available from: Room 631B Skipton House, Department of Health, 80 London Road, London SE1 6LH

HSC 1999/83: Reducing mother to baby transmission of HIV (Department of Health, August 1999)

<http://tap.ukwebhost.eds.com/doh/coin4.nsf/page/HSC-1999-183?OpenDocument>

Information for midwives – HIV testing in pregnancy (Department of Health/Royal College of Midwives, April 2000).

<http://www.rcm.org.uk/files/info/documents/110602133313-88-1.doc>

HIV and infant feeding: report of a seminar 30 June 2000 (Department of Health/Royal College of Midwives, November 2000)

Available from: RCM Publications Department, 4 Cathedral Road, Cardiff CF1 9LJ.

Fax: 02920 228333; E-mail: [publications@rcmwelshb.org.uk](mailto:publications@rcmwelshb.org.uk)

Guidelines for the management of HIV infection in pregnant women and the prevention of mother-to-child transmission. British HIV Association.

Published in: *HIV Med* 2001; **2**: 314-34. [<http://www.bhiva.org/guidelines.html>]

HIV and Infant Feeding: Guidance from the Chief Medical Officers' Expert Advisory Group on AIDS (Department of Health, September 2001).

<http://www.doh.gov.uk/eaga/hivinfant.pdf>

HSC 1998/127: Screening of pregnant women for hepatitis B and immunisation of babies at risk (Department of Health, July 1998).

[http://www.info.doh.gov.uk/doh/coin4.nsf/12d101b4f7b73d020025693c005488a9/9fb780af5f59f1d80025664b003664c1/\\$FILE/127HSC.PDF](http://www.info.doh.gov.uk/doh/coin4.nsf/12d101b4f7b73d020025693c005488a9/9fb780af5f59f1d80025664b003664c1/$FILE/127HSC.PDF)

Information for midwives – hepatitis B testing in pregnancy (Department of Health/Royal College of Midwives, November 1998).

[http://www.doh.gov.uk/pub/docs/doh/hepb\\_midwives.pdf](http://www.doh.gov.uk/pub/docs/doh/hepb_midwives.pdf)

Medical information and insurance: Joint guidelines from the British Medical Association and the Association of British Insurers (December 2002)

<http://www.bma.org.uk/ap.nsf/Content/MedicalInfoInsurance>

Antenatal care: routine care for the healthy pregnant woman, NICE Guideline (October 2003)

[http://www.nice.org.uk/pdf/CG6\\_ANC\\_NICEguideline.pdf](http://www.nice.org.uk/pdf/CG6_ANC_NICEguideline.pdf)

### National Voluntary Confidential Reporting for Public Health Purposes: Reports arising from Antenatal Infection Screening

Organism/ Condition	What is reported	Who reports	Mode of report	Recipient of report	Reference
Syphilis infection	Syphilis serology confirmed positive by reference laboratory	Microbiologist at reference laboratory	Anonymised form (paper & electronic) <sup>5</sup>	HIV & STI Division (CDSC)	Crook PD <i>et al</i> (CDPH 2002; 5:163-4)
HIV infection	Laboratory positive	Microbiologist	Coded form (paper or electronic)	HIV & STI Division (CDSC)	Mortimer JY <i>et al</i> (CDR Review 1997; 9: R118-120)
	Known HIV-infected woman receiving antenatal care (diagnosed before or during pregnancy)	Obstetrician	Coded form (paper)	Institute of Child Health (London) <sup>6</sup>	Ades AE <i>et al</i> (BMJ 1993; 306:1296-9)
Hepatitis B infection <sup>7</sup>	Laboratory positive	Microbiologist	Coded form (electronic or paper)	Immunisation Division (CDSC)	Balogun MA <i>et al</i> (Epidemiol Infect 1999; 122:125-31)

<sup>5</sup> Enhanced syphilis surveillance questionnaire and Lab-base2

<sup>6</sup> National Study of HIV in Pregnancy (Royal College of Obstetrician's and Gynaecologists)

<sup>7</sup> In addition, requests for hepatitis B immunoglobulin are received by CDSC (Immunisation Division) for children born to mothers who are highly infectious