South Australian Perinatal Practice Guidelines

Precautions (infection) when managing women who are pregnant

Infection control

- The Australian Guidelines for the Prevention and Control of Infection in Healthcare published by the Australian Commission on Safety and Quality in Healthcare (NHMRC 2010) provides recommendations that outline the critical aspects of infection prevention and control
- The guidelines recommend a two-tiered approach to implementing work practices that prevent the transmission of infectious agents, including standard and transmission-based precautions

Standard precautions

- Standard precautions refer to the work practices that are applied to everyone, regardless of their perceived or confirmed infectious status and ensure a basic level of infection control. (NHMRC 2010)

Standard precautions include:

- Aseptic technique (medical: clean)
- Hand hygiene consistent with the '5 Moments for Hand Hygiene' (Available from URL: http://www.hha.org.au/home/5-moments-for-hand-hygiene.aspx)
- Use of personal protective equipment such as gloves, gowns and / or aprons, fluid resistant face masks with or without shields and / or protective eyewear
- Precautions in the handling and disposal of needles, scalpels and other sharp instruments or devices or clinical waste
- Appropriate reprocessing of instruments and equipment (must not re-use or re-process single use medical devices)
- Implementing environmental controls
- Respiratory hygiene and cough etiquette
- Appropriate provision of support services e.g. laundry and food services

Standard precautions are required when:

- Handling blood (including dried blood)
- Handling any other body fluids, secretions and excretions (excluding sweat) regardless of whether they contain visible blood or not
- Coming into contact with non-intact skin and mucous membranes (NHMRC 2010)

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Transmission-based precautions

- Transmission-based precautions, when applied, always supplement and do not replace standard precautions
- Transmission-based precautions are used where the suspected or confirmed presence of infectious agents e.g. tuberculosis, measles, represents an increased risk of transmission (NHMRC 2010)
- The application of transmission-based precautions is particularly important in containing multi-resistant organisms (MROs) and in outbreak management (NHMRC 2010)
- Transmission-based precautions should be individualised according to the needs of the particular infectious agent
- The combination of measures used depends on the route(s) of transmission of the infectious agent involved
- For diseases that have multiple routes of transmission, more than one transmission-based precaution category may be applied

Transmission-based precautions include measures to prevent:

- Organisms transmitted via contact, droplet or airborne routes
- Transmission of epidemiologically important infectious agents e.g. methicillin resistant staphylococcus aureus (MRSA), clostridium difficile, vancomycin resistant enterococci (VRE)
- Inherent resistance to standard sterilisation procedures e.g. Creutzfeldt-Jakob disease (CJD). Use disposable equipment or discard after use (NHMRC 2010)

Transmission-based precautions may include one or a combination of the following:

Continued implementation of standard precautions and:

- Single room care with ensuite facilities
- A dedicated toilet (prevent transmission of infections primarily transmitted by faecal material e.g. clostridium difficile)
- Special ventilation requirements (e.g. monitored negative air pressure in single room)
- The use of dedicated equipment for the woman / baby
- Restriction of movement of the woman / baby and health care workers involved in the management of their care
- Additional use of personal protective equipment, e.g. wear a high particulate filter mask in the following situations:
  - when caring for women / babies in airborne isolation
  - during aerosol producing procedures e.g. suctioning
- Only immune health care workers should be rostered to care for certain classes of infectious women / babies e.g. varicella (NHMRC 2010). [The corollary of this is that health care workers should be immune to rubella and chickenpox to avoid inadvertent transmission of these viruses to pregnant women]
- The health care worker should also ensure that any cuts or abrasions on their skin are covered with a waterproof dressing that is an effective barrier to viruses and bacteria (Hand Hygiene Australia)

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Transmissable pathogens

- HIV infection
- Hepatitis B positive
- Hepatitis C positive
- Measles
- Mycobacterium tuberculosis
- Varicella zoster
- Rubella
- Listeria
- Refer to the 'South Australian Notifiable Diseases' for an extensive list of notifiable infectious diseases

- Following confirmation of any notifiable disease, notification should be made to the Communicable Disease Control Branch of the South Australian Department of Health as soon as possible and at least within three days of suspicion of diagnosis Telephone 1333 232 272 (24 hours / 7 days) (Department of Health 2011)
- The appropriate notification form for reporting a notifiable disease or related death in South Australia may be downloaded and is available from: URL: http://www.health.sa.gov.au/pehs/PDF-files/2008-case-reporting-form.pdf

Antenatal considerations

- Standard precautions are indicated for all obstetric / midwifery care involving blood and body fluids
- Disposable latex or vinyl gloves should be worn in any situation where the hands may be contaminated with body fluids e.g. giving injections or taking blood
- Gloves should be changed and hand hygiene performed between multiple procedures on the same woman to prevent cross contamination of sites
- No studies were found that compared the use of sterile versus non-sterile gloves for vaginal examinations in pregnancy. Medical expert opinion (from Obstetricians and Infectious Diseases Consultants) recommends the following:
  - Use appropriate hand hygiene technique
  - Use disposable (non-sterile) latex or vinyl gloves for routine vaginal or speculum examinations
  - Use sterile gloves where there is any history or suggestion of rupture of the membranes and for suturing of the perineum
  - Ensure that hand hygiene is performed after glove removal
- Protective eyewear (i.e. goggles or face shield), and apron should be worn in any situation where there is the potential for splashing, splattering or spraying of blood or body substances (NHMRC 2010)
- Women requiring standard precautions who are without blood loss do not require a single room
- Women requiring additional precautions require a single room with their own toilet facilities

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Minimum standards when managing women in labour

Appropriate *standard precautions* are required for the following procedures:

- Insertion of intravenous cannula
- Insertion of epidural or spinal block, where contact with cerebrospinal fluid may occur
- Artificial / spontaneous rupture of the membranes
- Vaginal examination
- Attachment of a fetal scalp electrode
- Assisting / obtaining fetal scalp pH bloods
- Insertion of an in / out or indwelling catheter
- Birth (vaginal or caesarean section)
- Delivery of the placenta

Vaginal examinations

- Disposable gloves can be worn for routine vaginal examinations in pregnancy where the membranes are intact
- Sterile gloves should be worn for vaginal examinations in the following:
  - Where there is any history or suggestion of rupture of the membranes (artificial or spontaneous)
  - Risk of chorioamnionitis
- The genital tract does not require cleansing before a vaginal examination or birth unless there is obvious purulent discharge
- Studies have reported no difference in the rate of neonatal and maternal infection when the vulva is cleansed with tap water as opposed to chlorhexidine (Jessiman 2001; McCormick 2001)

Care in labour and birth

- Long gloves (elbow length where available) should be worn by health care workers attending labouring women in baths contaminated by amniotic fluid, blood and / or faeces
- If required, urinary catheterisation (in / out or indwelling) should be performed using sterile gloves and aseptic technique
- Personal protective equipment at birth to avoid contamination through blood or other body fluid splash should include:
  - Gloves (the accoucheur should wear sterile gloves if membranes are ruptured)
  - Protective apron or gown
  - Protective eyewear (goggles or face shield)
  - Fluid resistant surgical mask
- If blood or other body fluid splash should occur, the appropriate hospital incident form should be completed and the incident reported within two business days

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Obtaining cord bloods

- Two clamps should be used to clamp the proximal and distal ends of the umbilical cord. An absorbent pad may then be placed over the scissors between the clamps to prevent the spurting of blood during cutting
- Avoid needling the cord to obtain cord bloods. Cord bloods should be obtained by slowly releasing the black's forceps to allow approximately 15 mL of blood to flow into a galipot. Reclamp the cord. Draw blood up into a 20 mL syringe and discharge blood into appropriate blood bottles. Place into appropriate biohazard transport bags
- Dispose of any sharps immediately into point of use receptacles
- Used syringe, along with excess blood, should be disposed into medical / clinical waste stream

Obtaining cord gas pH samples following birth

- The use of additional clamping of the cord to allow for the separation of a piece of cord (10 to 15 centimetres) is advised when obtaining cord gases
- The sample should be obtained within twenty minutes of separation of the cord to ensure accurate pH values
- Needling of the samples in this manner ensures that the procedure is carried out in a controlled environment reducing the risk of needle-stick injury

Examining the placenta

- Use of disposable gloves when examining the placenta
- Place in plastic bag and dispose in clinical waste stream

Examining the perineum / suturing

- Ensure the use of sterile gloves
- Wash down external genitalia using 0.5 % chlorhexidine or sterile water as required
- Use sterile swabs to examine genital tract
- Use sterile suture set, gown and drapes where suturing is required

Postpartum considerations

- Appropriate personal protective equipment should be worn by health care workers in the following:
  - Contact with colostrum and / or breast milk
  - Postnatal checks
  - Handling newborns until all blood contamination has been removed
  - Changing wet or soiled nappies
  - Changing bloodstained / soiled linen and discarding used pads
- Arrange single room with own toilet facilities for women requiring transmission-based precautions

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Neonatal management

- Refer to individual infectious disease guidelines for specific neonatal management

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10. Infection Control Service. Management of Multi-resistant organisms-Guidelines for the management of patients with vancomycin resistant enterococci (VRE) colonization / infection, Section B2-2, Department of Health, South Australia 2003.

Useful websites

Communicable Disease Control Branch South Australia
Available from URL:
http://www.health.sa.gov.au/pehs/branches/branch-communicable.htm

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Abbreviations

CDNA	Communicable Diseases Network of Australia
CJD	Creutzfeldt-Jakob disease
e.g.	For example
i.e.	That is
mL	Millilitre(s)
MRAB	Multi- resistant Acinetobacter baumanii
MROs	Multi-resistant organisms
MRSA	Methicillin resistant Staphylococcus aureus
NHMRC	National Health and Medical Research Council
ppm	Parts per million
VRE	Vancomycin resistant enterococci

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Appendix I: Environmental management of multi-resistant (MRO) organism positive patients

Cleaning the room

- Staff involved in cleaning the patient's room should wear a gown and gloves
- All cleaning equipment should be washed, rinsed and stored dry on completion of the cleaning task. Once cleaning is completed disposable cleaning items (i.e. disposable cleaning cloths) should be discarded into general waste. Reusable cleaning items (i.e. mop heads) should be sent for laundering before being reused

Daily room cleaning

- Room occupied < 24 hours - routine clean
- Room occupied > 24 hours - Clean with warm water and detergent, paying particular attention to all horizontal surfaces, bedrails, tops of curtain rails, door handles, commodes, toilet, hand basins and taps, and any other items that the patient may have come into contact with inside the room

Cleaning of room after discharge / transfer

- Comprehensive cleaning is required (i.e. if the room was occupied > 24 hours)
- Once cleaning has been completed, and surfaces are dry, the room can then be reused (i.e. the room does not need to be left for a particular period of time)
- Clean the room and patient care equipment with detergent and warm water (or detergent wipe where appropriate). Areas to be included in the cleaning process are:
  - all horizontal surfaces or fittings;
  - doors, door handles / knobs;
  - mattress, pillow covers, bedside lockers, over-bed table ;
  - bed rails, tops of curtain rails, IV pole, air-conditioning outlet vents;
  - bathroom, toilet, shower, hand basins;
  - call bell, blinds, telephone, remote control for television;
  - monitors

Multi- resistant Acinetobacter baumanii (MRAB)

- The room and patient care equipment should be cleaned with detergent and warm water, and then all surfaces should be wiped over with a solution containing sodium hypochlorite – 500 ppm available chlorine (i.e. Milton® tablets).

Cleaning of MRO patient's equipment

- Clean with detergent and water (or detergent wipe) after each use and reprocess as appropriate

MRAB

- Clean as above with addition of wiping equipment over with a solution containing sodium hypochlorite – 500 ppm available chlorine (i.e. Milton® tablets). Sensitive equipment may be wiped over with 70 % Isopropyl alcohol

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Version control and change history

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1.0	05 May 04	03 Mar 09	Original version
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