# Royal Hospital for Women (RHW)
# BUSINESS RULE
# COVER SHEET

Health
South Eastern Sydney
Local Health District

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| **SUMMARY** | Parvovirus B19 is a common human pathogen, with more than 50% of the population infected by adulthood. Screening of a pregnant woman exposed to or infected with to provide appropriate management and care for the woman and fetus. |
| **Key Words** | Parvovirus B19, screening, management |

# Parvovirus B19- screening and management in pregnancy

**RHW CLIN152**

**Contents**

*This Clinical Business Rule (CBR) is developed to guide safe clinical practice at the Royal Hospital for Women (RHW). Individual patient circumstances may mean that practice diverges from this Clinical Business Rule. Using this document outside RHW or its reproduction in whole or part, is subject to acknowledgement that it is the property of RHW and is valid and applicable for use at the time of publication. RHW is not responsible for consequences that may develop from the use of this document outside RHW.*

*Within this document we will use the term woman, this is not to exclude those who give birth and do not identify as female. It is crucial to use the preferred language and terminology as described and guided by each individual person when providing care.*

# 1 BACKGROUND

Parvovirus B19 is a virus that can cause a common and harmless infection in both children and adults, though can be associated with serious complications for a pregnant woman and the fetus, including severe fetal anaemia, fetal oedema causing intrauterine fetal death[10].

The aim of this CBR is to guide appropriate management of the pregnant women exposed to or infected with parvovirus B19.

# 2 RESPONSIBILITIES

## 2.1 2.1 Staff (Medical, Midwifery, Nursing, Allied health)

Provide education and reassurance regarding when to screen for Parvovirus. Attend screening and refer to Maternal Fetal Medicine for the woman who returns a positive result.

# 3 PROCEDURE

## 3.1 Clinical Practice points

**Screening for and prevention of parvovirus infection**

- Provide NSW Health Parvovirus B19 Factsheet to the woman
- Educate pregnant women who are in close contact with children and others diagnosed with acute Parvovirus B19 infections on preventative approaches:
    - Do not put the child's pacifier/spoon in mouth
    - Do not allow the child to cry into your face (cuddle infant facing away from you)
    - Diligently wash your hands after wiping the infant's nose or touching any of their respiratory secretions
- Recommend Parvovirus B19 IgG/IgM antibody testing to pregnant woman:

- History of significant exposure to or has symptoms (rash or arthropathy) of Parvovirus B19 infection **(NOTE: significant exposure means close personal contact with an infected person, not just in the same room as them)**
- Whose fetus exhibits hydrops fetalis without a known cause
- Do **not** offer routine screening for parvovirus B19 in pregnancy

**Diagnosis**

- Reassure woman who is Parvovirus B19 IgM negative and IgG positive that she is immune to the virus and her baby is unlikely to be affected
- Advise woman who is Parvovirus B19 IgM positive and IgG negative that this result may indicate acute infection or may be a false positive. Recommend repeat serology in 2 to 4 weeks
- Repeat serology for woman who is Parvovirus B19 IgM and IgG negative in 2 to 4 weeks if exposure occurred within the last 1 to 3 weeks. If exposure is ongoing, advise woman that serology should be repeated every 2 weeks
- Advise and manage woman who is both Parvovirus B19 IgM and IgG positive, as below

**Management**

- Discuss and provide information with the woman who may have acute Parvovirus B19 infection that most Parvovirus B19 infections in pregnancy are benign (see education notes)
- Refer woman who may have acute Parvovirus B19 infection to a Maternal Fetal Medicine specialist for counselling, further surveillance and appropriate intervention
- Arrange ultrasounds for woman with acute Parvovirus B19 infection looking for evidence of fetal anaemia and hydrops fetalis. (NOTE: Ultrasound surveillance should usually be 1-2 weekly, for up to 8-12 weeks after the time of the infection)
- Consider in utero fetal transfusion (of RBC +/- platelets) if the fetus's middle cerebral artery (MCA) peak systolic velocity (PSV) is >1.5MoM indicating possible fetal anaemia, or if there is evidence of hydrops remote from term. Birth may be an option closer to term
- Arrange neonatal review after birth or antenatally as appropriate
- Send fresh placenta to pathology if hydrops fetalis or fetal anaemia is detected

## 3.2 Documentation

- Antenatal yellow card
- Electronic Medical Records (eMR)

## 3.3 Education Notes

- Parvovirus B19 can be transmitted by respiratory secretions, hand-to-mouth contact, blood transfusion, or transplacental transmission[11]

- Non-immune pregnant women are at risk for fetal infection with greater complications if transmission occurs in the first or second trimester[11]
- While there are some typical features of Parvovirus B19 infection, 25-50% of people will either be asymptomatic or suffer a flu-like syndrome (fevers, malaise, myalgias)[1]
- Incubation period is approximately one week, and symptoms can be present for another week[7]
- The most common symptoms are a rash and arthralgias. Joint symptoms often involve the hands, wrists, knees and feet [10]. Arthralgias tend to resolve over a period of 2-3 weeks. In children the appearance of a facial rash (erythema infectiosum) is the most common clinical manifestation of Parvovirus B19 infection however this rash is not commonly seen in the adult population[1].
- Over 60% of women of childbearing age are immune to parvovirus
- Parvovirus B19 is targeted against the viral P antigen receptor, which is present in hematopoietic cells in the liver, myocardium, platelets and endothelial cells which explains the possible clinical picture of anaemia, thrombocytopaenia and hydrops[3, 7, 12]. There is an increased risk of spontaneous miscarriage if infection occurs in the first trimester.[12]
- The observed rate for fetal hydrops in women with known parvovirus infection prior to 20 weeks is 4.2%[4]. The overall risk of parvovirus B19 induced hydrops fetalis is 3.9% after maternal infection during pregnancy, with a maximum of 7.1% when infection occurred between 13 and 20 weeks of gestational age[3,7] There is a 33% risk of fetal death in utero without intra-uterine transfusion if hydrops is present, and usually within 4-5days after abnormal ultrasound.[9]
- The median interval between diagnosis of maternal infection and hydrops was 3 weeks. 50% of cases occurred 2 to 5 weeks after maternal infection and 93% occurred within 8 weeks of maternal diagnosis[3]
- Women at increased risk of parvovirus infection include mothers of pre-school and school aged children, childcare workers and schoolteachers[5]
- Children treated with intrauterine transfusion for parvovirus B19 infection may be at increased risk of neurodevelopmental impairment. This may reflect the severe anaemia itself rather than the intrauterine transfusion[6]

### 3.4 Related Policies/procedures

- Maternal Foetal Medicine Referral

### 3.5 References

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## 4 ABORIGINAL HEALTH IMPACT STATEMENT DOCUMENTATION

- Considerations for culturally safe and appropriate care provision have been made in the development of this Business Rule and will be accounted for in its implementation.
- When clinical risks are identified for an Aboriginal and/or Torres Strait Islander woman or family, they may require additional supports. This may include Aboriginal health professionals such as Aboriginal Liaison Officers, health workers or other culturally specific services

## 5 CULTURAL SUPPORT

- For a Culturally and Linguistically Diverse CALD woman, notify the nominated cross-cultural health worker during Monday to Friday business hours
- If the woman is from a non-English speaking background, call the interpreter service: NSW Ministry of Health Policy Directive PD2017_044-Interpreters Standard Procedures for Working with Health Care Interpreters.

## 6 NATIONAL STANDARDS

- Standard 2 – Partnering with consumers
- Standard 3 – Preventing and Controlling Infections
- Standard 5 – Comprehensive Care

## 7 REVISION AND APPROVAL HISTORY

| Date | Revision No. | Author and Approval |
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| Feb 2025 | V1 | Transcribed to new template & for revision of References |
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