

Varicella Zoster Virus (Chicken Pox) in Pregnancy

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Note:

This guideline provides advice of a general nature. This statewide guideline has been prepared to promote and facilitate standardisation and consistency of practice, using a multidisciplinary approach. The guideline is based on a review of published evidence and expert opinion.

Information in this statewide guideline is current at the time of publication.

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Health practitioners in the South Australian public health sector are expected to review specific details of each patient and professionally assess the applicability of the relevant guideline to that clinical situation.

If for good clinical reasons, a decision is made to depart from the guideline, the responsible clinician must document in the patient's medical record, the decision made, by whom, and detailed reasons for the departure from the guideline.

This statewide guideline does not address all the elements of clinical practice and assumes that the individual clinicians are responsible for discussing care with consumers in an environment that is culturally appropriate, and which enables respectful confidential discussion. This includes:

- The use of interpreter services where necessary,
- Advising consumers of their choice and ensuring informed consent is obtained,
- Providing care within scope of practice, meeting all legislative requirements, and maintaining standards of professional conduct, and
- Documenting all care in accordance with mandatory and local requirements

Note: The words woman/women/mother/she/her have been used throughout this guideline as most pregnant and birthing people identify with their birth sex. However, for the purpose of this guideline, these terms include people who do not identify as women or mothers, including those with a non-binary identity. All clinicians should ask the pregnant person what their preferred term is and ensure this is communicated to the healthcare team.

“Aboriginal and Torres Strait Islander recognition statement: We use the term ‘Aboriginal’ to refer to people who identify as Aboriginal, Torres Strait Islander, or both Aboriginal and Torres Strait Islander. We do this because the people indigenous to South Australia are Aboriginal and we respect that many Aboriginal people prefer the term ‘Aboriginal’. We also acknowledge and respect that many Aboriginal South Australians prefer to be known by their specific language group(s).”



Australian Aboriginal Culture is the oldest living culture in the world, yet Aboriginal people continue to experience the poorest health outcomes when compared to non-Aboriginal Australians. In South Australia, Aboriginal women are 2–5 times more likely to die in childbirth and their babies are 2–3 times more likely to be of low birth weight. The accumulative effects of stress, low socio-economic status, exposure to violence, historical trauma, culturally unsafe and discriminatory health services, and health systems are all major contributors to the disparities in Aboriginal maternal and birthing outcomes. Despite these unacceptable statistics, the birth of an Aboriginal baby is a celebration of life and an important cultural event bringing family together in celebration, obligation, and responsibility. The diversity between Aboriginal cultures, language and practices differ greatly and so it is imperative that perinatal services prepare to respectfully manage Aboriginal protocol and provide a culturally positive health care experience for Aboriginal people to ensure the best maternal, neonatal and child health outcomes.

Explanation of the Aboriginal artwork: The Aboriginal artwork used symbolises the connection to country and the circle shape shows the strong relationships amongst families and the Aboriginal culture. The horseshoe shape design shown in front of the generic statement symbolises a woman and those enclosing a smaller horseshoe shape depicts a pregnant woman. The smaller horseshoe shape in this instance represents the unborn child. The artwork shown before the specific statements within the document symbolises a footprint and demonstrates the need to move forward together in unison.

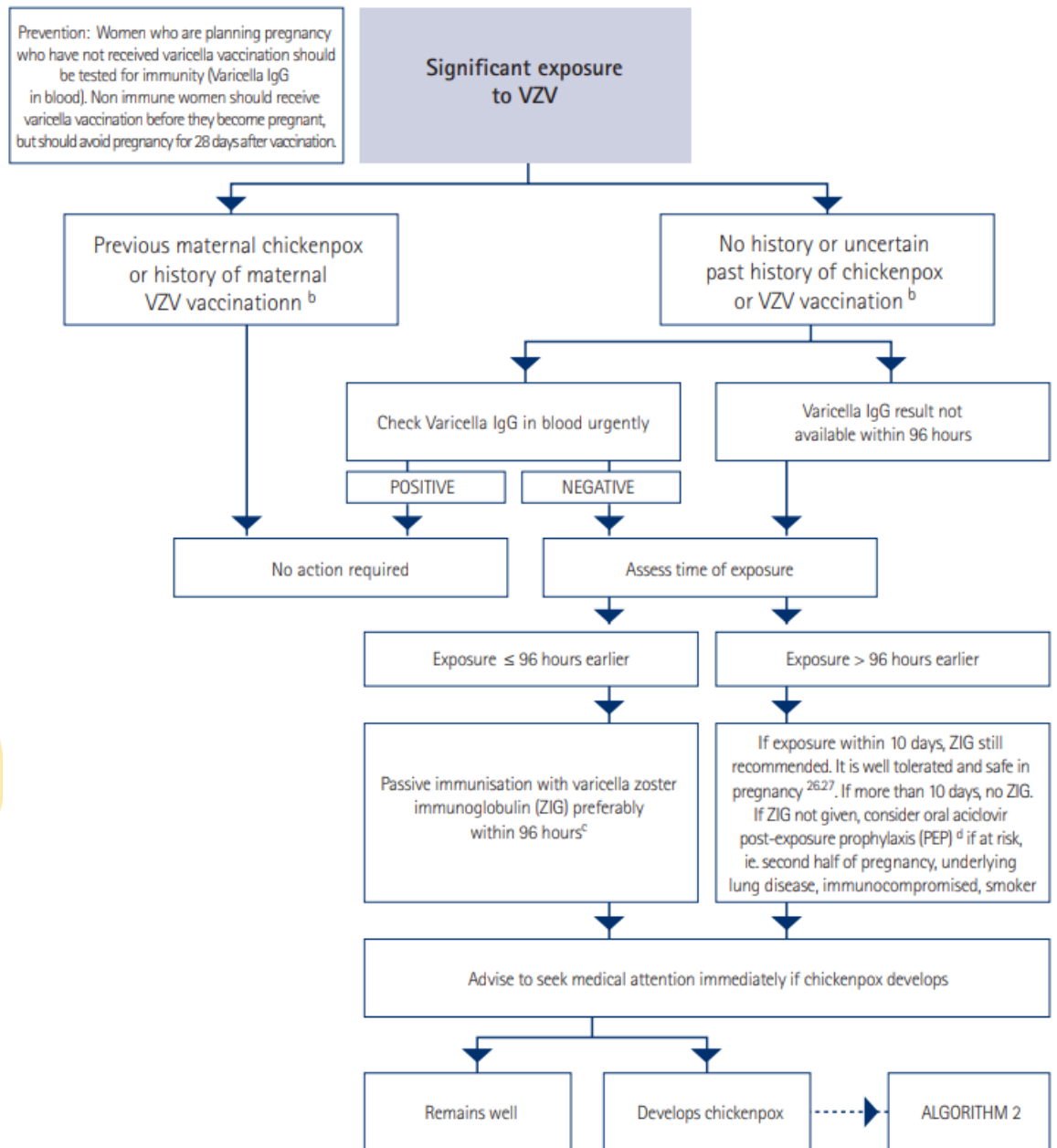
Aim and Scope of PPG

The purpose of this guideline is to provide clinicians with information on the management of women exposed to or infected with varicella zoster virus (VZV) in pregnancy. Note that the recommendations in this guideline have been adapted from [Australasian Society for Infectious Diseases \(ASID\) Guidelines](#), 3rd edition, 2022.



Varicella Zoster Virus (Chicken Pox) in Pregnancy

Flowchart 1| Exposure to Varicella Zoster Virus during Pregnancy



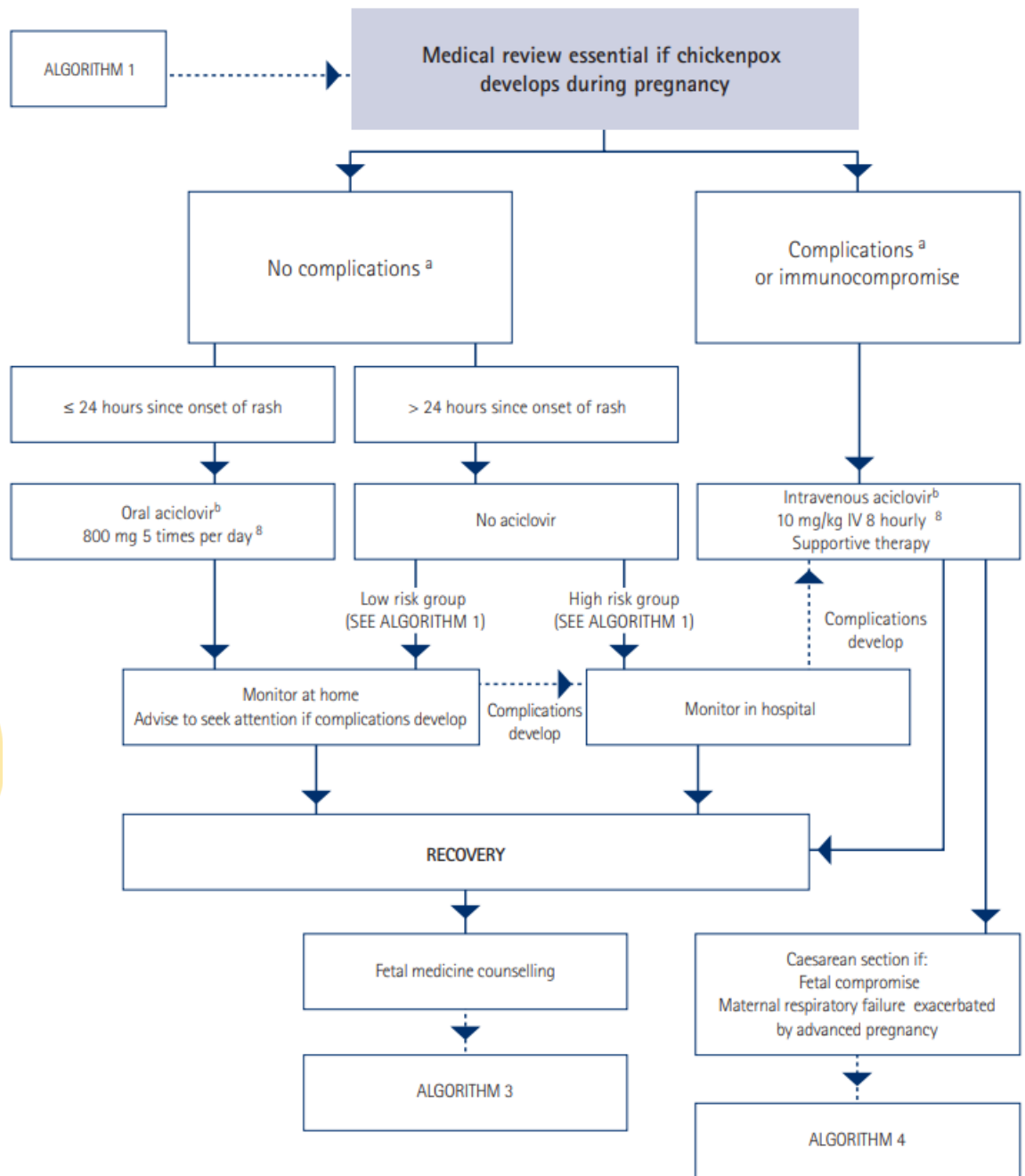
Significant exposure to Varicella Zoster:

- Living in the same household as a person with active chickenpox or herpes zoster.
- Face-to-face contact with a case of chickenpox or zoster for at least 5 minutes or being in the same room for at least one hour.
- Chickenpox cases are infectious from 2 days before rash until lesions crusted.

Varicella Zoster: ASID Algorithm 1 – Exposure to Varicella Zoster Virus during Pregnancy. Reproduced with permission from the [Australasian Society for Infectious Diseases \(ASID\) Guidelines](#), 3rd Edition, 2022.

Varicella Zoster Virus (Chicken Pox) in Pregnancy

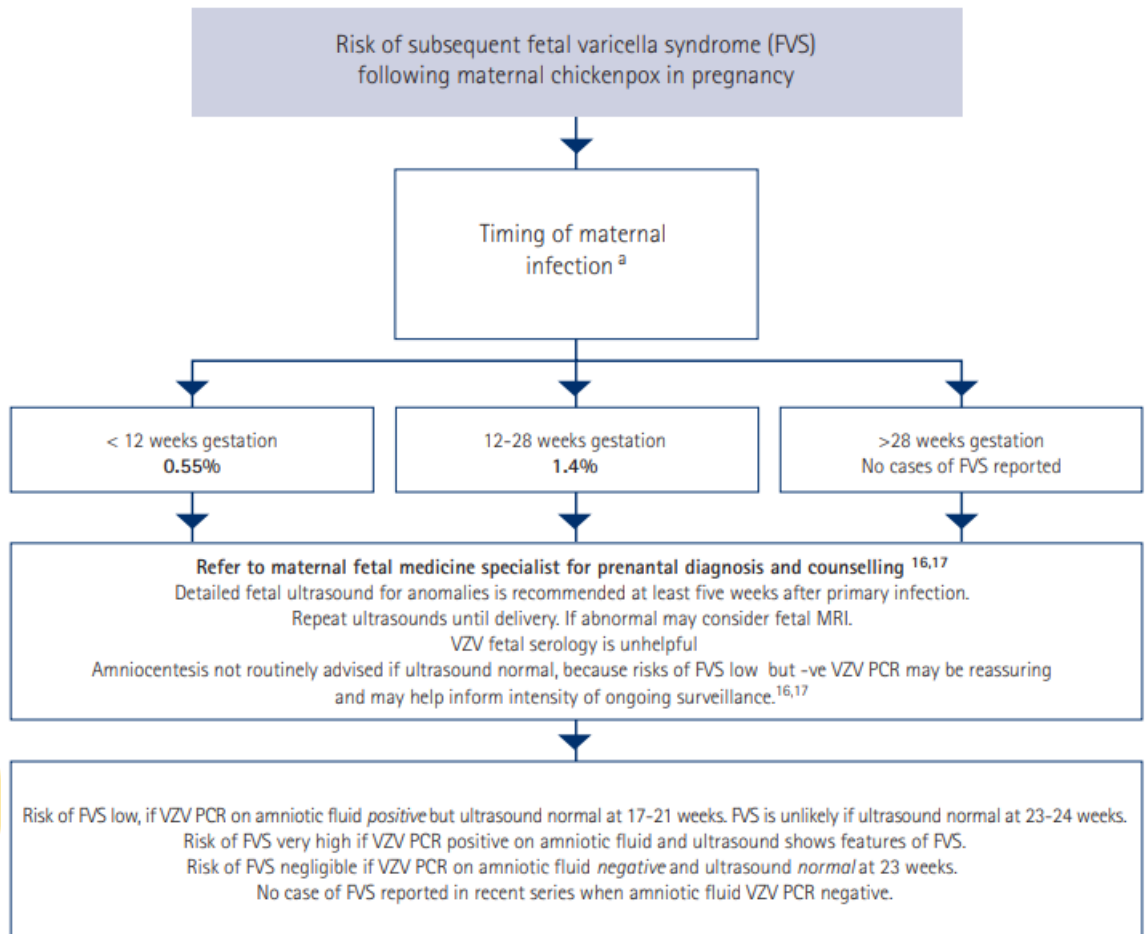
Flowchart 2| Management of Varicella Zoster Virus in Pregnancy



Varicella Zoster: ASID Algorithm 2 – Management of Chicken Pox in Pregnancy. Reproduced with permission from the Australasian Society for Infectious Diseases (ASID) Guidelines, 3rd Edition, 2022.

Varicella Zoster Virus (Chicken Pox) in Pregnancy

Flowchart 3| Fetal Medicine Counselling following Varicella Zoster Virus in Pregnancy

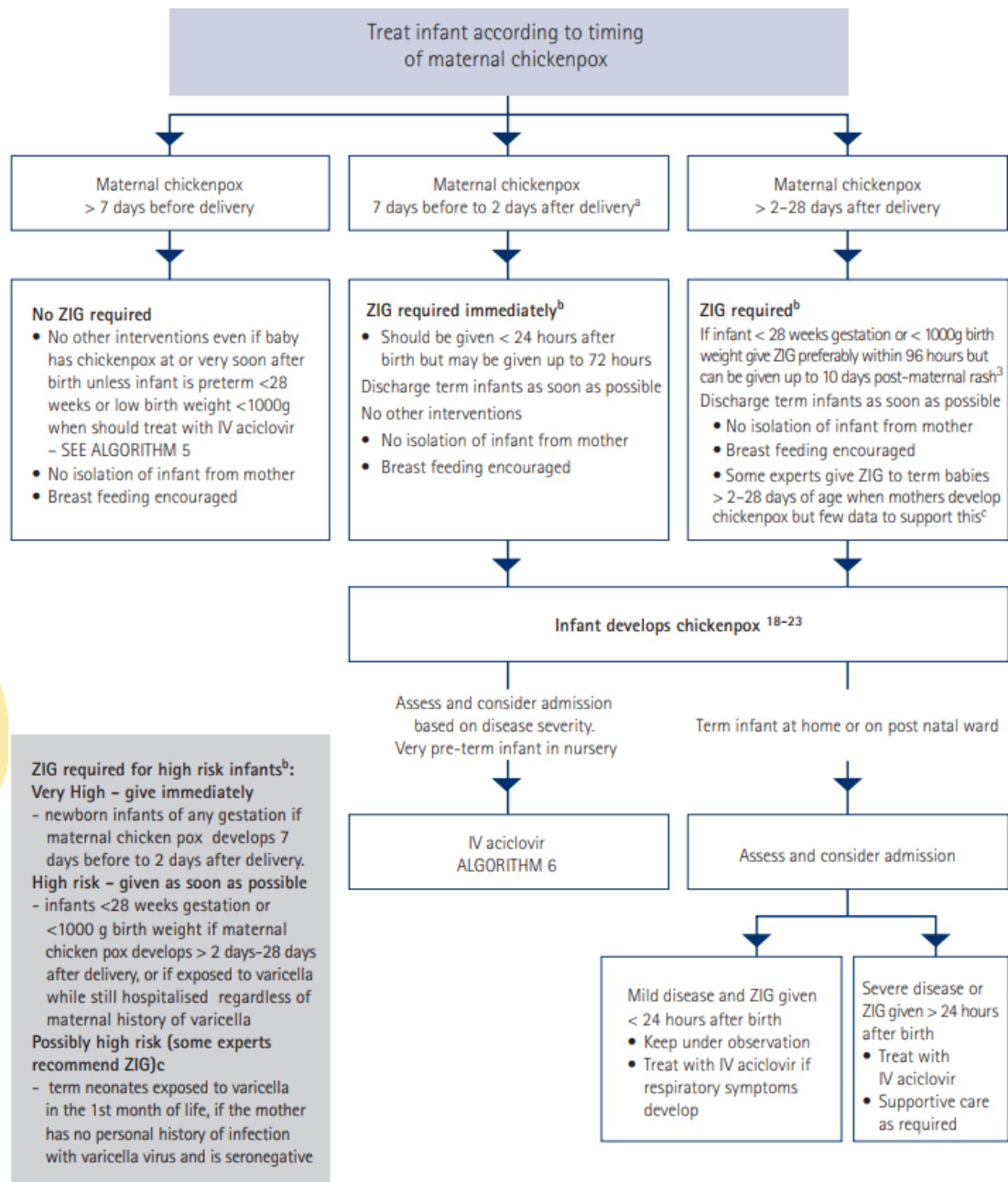


Varicella Zoster: ASID Algorithm 3 – Fetal Medicine Counselling following Chicken Pox in Pregnancy. Reproduced with permission from the [Australasian Society for Infectious Diseases \(ASID\) Guidelines](#), 3rd Edition, 2022.



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Flowchart 4| Management of Infants from Mothers with Perinatal Varicella Zoster Virus

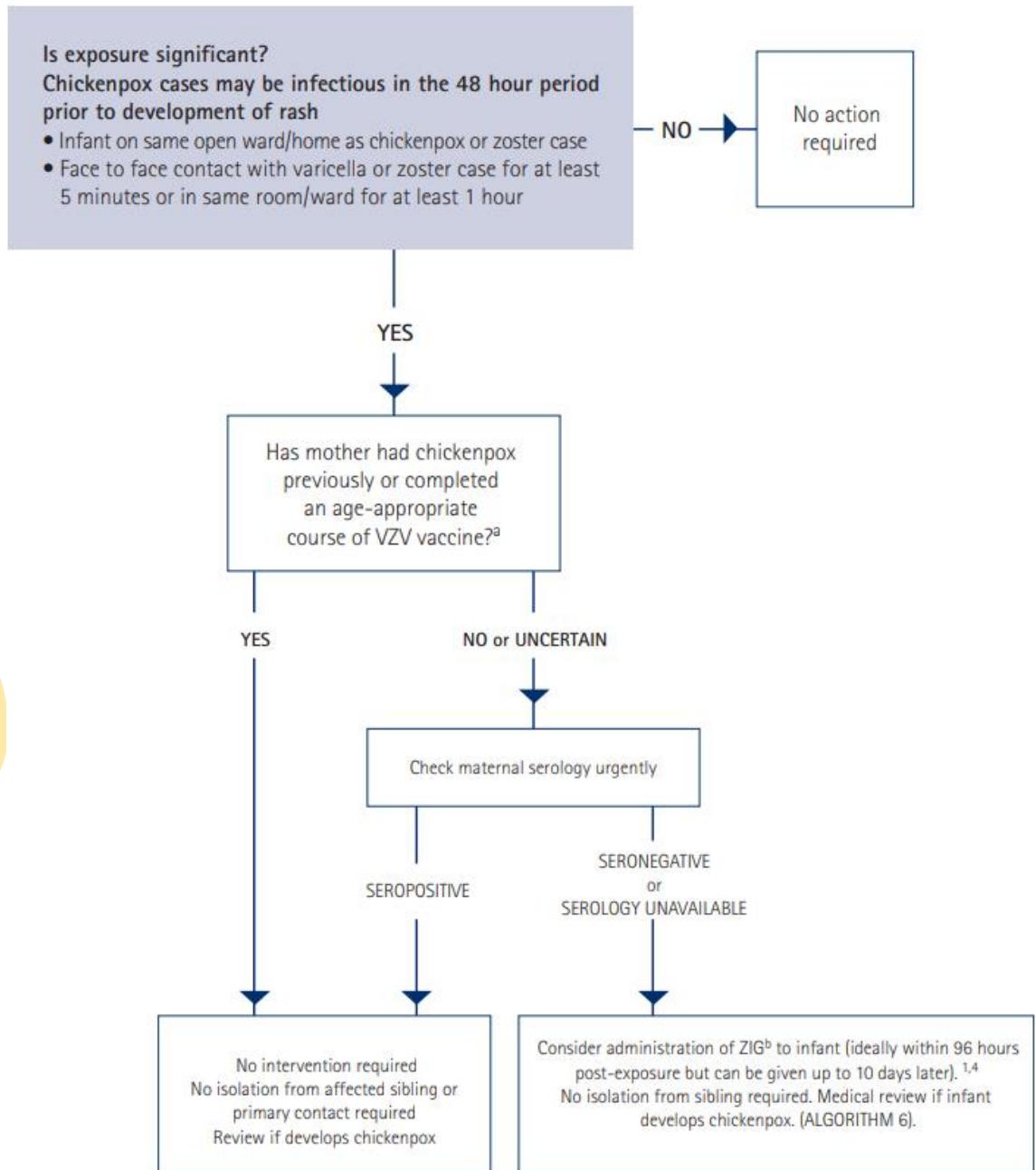


ZIG required for high risk infants^b:
Very High – give immediately
 - newborn infants of any gestation if maternal chicken pox develops 7 days before to 2 days after delivery.
High risk – given as soon as possible
 - infants <28 weeks gestation or <1000 g birth weight if maternal chicken pox develops > 2 days-28 days after delivery, or if exposed to varicella while still hospitalised regardless of maternal history of varicella
Possibly high risk (some experts recommend ZIG)^c
 - term neonates exposed to varicella in the 1st month of life, if the mother has no personal history of infection with varicella virus and is seronegative

Varicella Zoster: ASID Algorithm 4 – Management of Infants from Mothers with Perinatal Chicken Pox. Reproduced with permission from the [Australasian Society for Infectious Diseases \(ASID\) Guidelines](#), 3rd Edition, 2022.

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Flowchart 5| Management of Term Neonates Exposed to Varicella Zoster Virus in the Postnatal Wards or at Home

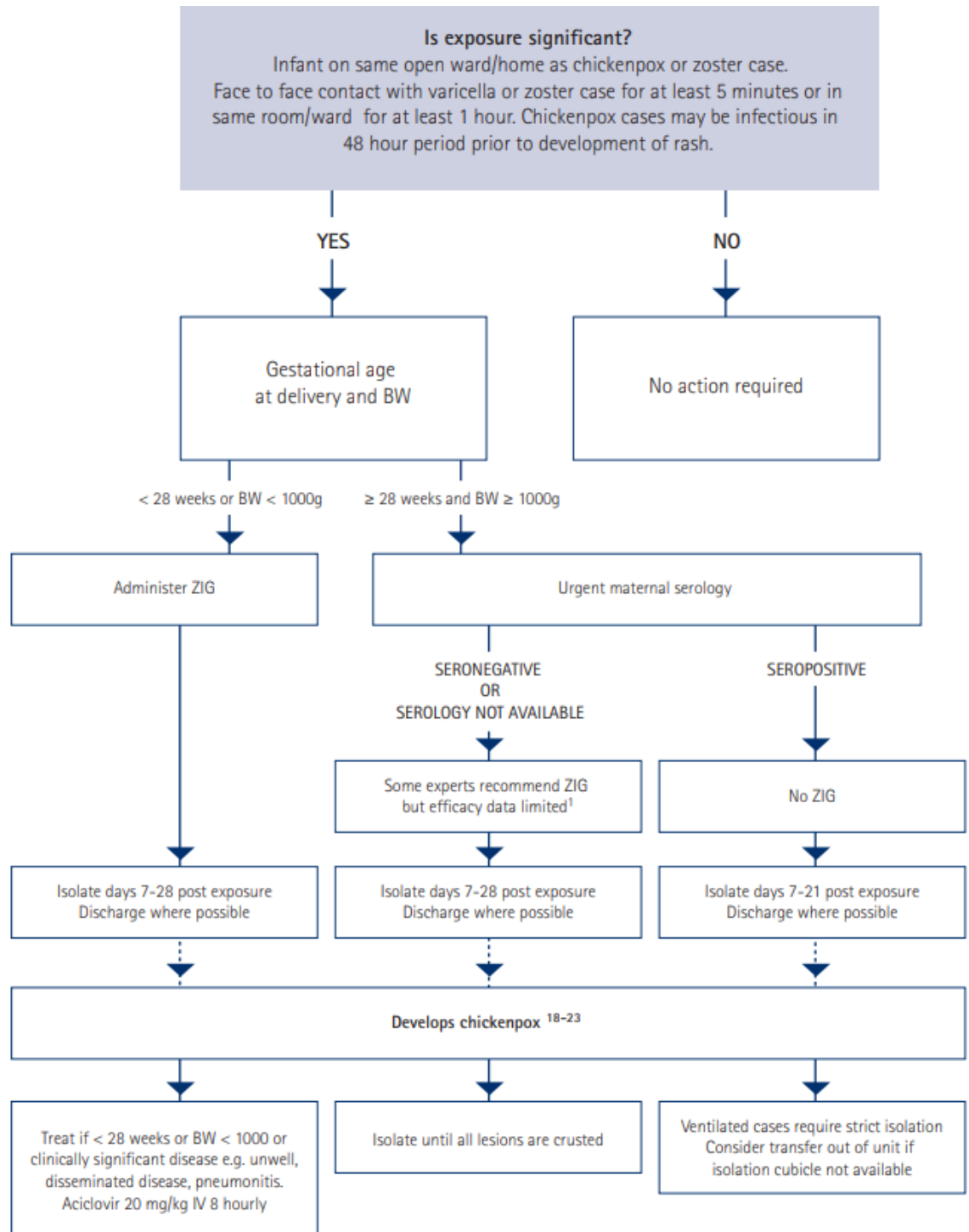


Varicella Zoster: ASID Algorithm 5 – Management of Term Neonates Exposed to VZV in the Postnatal Wards or at Home. Reproduced with permission from the [Australasian Society for Infectious Diseases \(ASID\) Guidelines](#), 3rd Edition, 2022.



Varicella Zoster Virus (Chicken Pox) in Pregnancy

Flowchart 6| Treatment and Isolation of Infants Exposed to Varicella Zoster Virus within the Neonatal Unit



Varicella Zoster: ASID Algorithm 5 – Management of Term Neonates Exposed to VZV in the Postnatal Wards or at Home. Reproduced with permission from the [Australasian Society for Infectious Diseases \(ASID\) Guidelines](#), 3rd Edition, 2022.



Varicella Zoster Virus (Chicken Pox) in Pregnancy

Table of Contents

Aim and Scope of PPG.....	1
Flowchart 1 Exposure to Varicella Zoster Virus during Pregnancy	2
Flowchart 2 Management of Varicella Zoster Virus in Pregnancy	3
Flowchart 3 Fetal Medicine Counselling following Varicella Zoster Virus in Pregnancy	4
Flowchart 4 Management of Infants from Mothers with Perinatal Varicella Zoster Virus.....	5
Flowchart 5 Management of Term Neonates Exposed to Varicella Zoster Virus in the Postnatal Wards or at Home	6
Flowchart 6 Treatment and Isolation of Infants Exposed to Varicella Zoster Virus within the Neonatal Unit.....	7
Summary of Practice Recommendations	9
Abbreviations	9
Definitions	9
Introduction	10
Transmission	10
Infectious Period.....	10
Incubation Period.....	10
Clinical Presentation.....	10
Maternal Risks	11
Effects on Fetus.....	11
Management.....	11
Maternal.....	11
Neonatal	11
Infection Control Precautions	11
Birth and Postnatal Care	12
Resources.....	12
References	12
Acknowledgements	13
Review Group.....	13
Major Contributors	13
SAPPG Management Group Members	13
Document Ownership & History	14



Varicella Zoster Virus (Chicken Pox) in Pregnancy

Summary of Practice Recommendations

Varicella vaccination is recommended for non-immune women prior to conception, with pregnancy avoided for 28 days post vaccination.

Routine antenatal screening for varicella is **not** recommended.

Women exposed to VZV in pregnancy with **no history** of chicken pox or VZV vaccination should have urgent maternal serology for IgG ([Flowchart 1](#)).

For women with confirmed chicken pox, a medical review is required to assess requirement for antiviral therapy ([Flowchart 2](#)).

Refer the woman to **Maternal Fetal Medicine (MFM)** for prenatal diagnosis and counselling ([Flowchart 3](#)).

Infants are to be managed based on the timing of maternal chicken pox ([Flowchart 4](#)).

Infants should not be isolated from their mother.

Send placenta for anatomical pathology.

Term neonates exposed to VZV in the hospital environment or at home should be managed as per [Flowchart 5](#).

Manage neonates exposed to VZV within the Neonatal unit as per [Flowchart 6](#).

Abbreviations

>	Greater than
≥	Equal to or greater than
<	Less than
≤	Equal to or less than
g	Gram(s)
mg	Milligram(s)
mL	Millilitre(s)
Microg	Microgram(s)
BW	Birth Weight
HIV	Human Immunodeficiency Virus
IV	Intravenous
NHIG	Normal Human Immunoglobulin
VSV	Varicella Zoster Virus
ZIG	Varicella Zoster Immunoglobulin

Definitions

Shared decision making	Shared decision making involves discussion and collaboration between a consumer and their healthcare providers. It is about bringing together the consumer's values, goals, and preferences with the best available evidence about benefits, risks and uncertainties of screening, investigations, and treatment, to reach the most appropriate healthcare decisions for that person.
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Varicella Zoster Virus (Chicken Pox) in Pregnancy

Introduction

Varicella (Chicken Pox) is a viral infection caused by the *Varicella Zoster Virus* (VZV). Shingles (*Herpes Zoster*) is a painful, blistering rash, caused by the reactivation of the VZV. It can only occur in people who have previously had chicken pox, more commonly in people aged over 40 years.

The Australasian Society for Infectious Diseases (ASID) [Management of Perinatal Infections](#), 3rd edition guideline has been endorsed for use in South Australia to support the assessment and management of *Varicella Zoster* in pregnancy (Chicken Pox) in South Australia.

Varicella Zoster Virus infections are notified to SA Health by pathology services only. Medical Practitioners are to notify if it is suspected the woman has died from the disease. Further information is available at: [Notifiable disease reporting | SA Health](#)

Transmission

- Transmitted through airborne/respiratory droplets and direct contact with the vesicle fluid.

Infectious Period

- Chicken Pox:
 - from 2 days prior to the rash, until 5 days post rash appearance, and all blisters have dried up.
- Shingles:
 - from rash appearance until blisters have dried up.

Incubation Period

- Chicken Pox:
 - 10 to 21 days (commonly 14 to 16 days) but varies in immunocompromised people.

Clinical Presentation

Clinical Features

- Mild fever.
- Red, spotty rash that can spread over the body (maculopapular).
- Rash turns into itchy, fluid filled blisters (vesicular).
- Headache.
- Runny nose and cough.

Complications

- Pneumonia.
 - Varicella pneumonia in adults can be severe.
- Encephalitis.
 - Leading to seizures, confusion, or coma.
- Bacterial superinfection of skin lesions.
 - Sepsis, cellulitis.
- Acute Cerebellar Ataxia.
- Thrombocytopenia.
- Aseptic Meningitis.
- Transverse Myelitis.¹



Varicella Zoster Virus (Chicken Pox) in Pregnancy

Maternal Risks

- Pregnant women are 10–20% more likely to develop VZV pneumonia.
 - VZV pneumonia can be more severe in the third trimester due to the gravid uterus effects on respiratory function.²

Effects on Fetus

- Risk of transmission to the neonate is up to 50% if maternal infection occurs 1–4 weeks prior to birth.
 - Approximately 23% will develop clinical varicella.³
- Risk of fetal varicella syndrome abnormalities include:⁴
 - skin scars (78%)
 - eye abnormalities (60%)
 - limb abnormalities (68%)
 - prematurity and low birth weight (50%)
 - cortical atrophy and intellectual disability (46%)
 - poor sphincter control (32%)
 - early death (29%).

Management

Maternal

- If a woman is exposed to VZV in pregnancy, refer to [Flowchart 1](#).
- If a woman has confirmed chicken pox in pregnancy, refer to [Flowchart 2](#).
- Women who develop chicken pox in pregnancy should be referred to MFM, for discussions and detailed ultrasounds examination.³ See [Flowchart 3](#).

Neonatal

- Management of the infant from mothers with perinatal chicken pox is dependent on the timing of infection. See [Flowchart 4](#).
- Term neonates exposed in the hospital environment or at home, refer to [Flowchart 5](#).
- Neonates exposed within the Neonatal unit, refer to [Flowchart 6](#).
- For infants requiring Varicella Zoster Immunoglobulin (ZIG) refer to the *Varicella-Zoster Immunoglobulin Neonatal Medication Guideline*, found in the A–Z listing at www.sahealth.sa.gov.au/neonatal.

Infection Control Precautions

- Healthcare providers should refer to their local policies, to minimise transmission of vaccine preventable diseases within the workplace.
- Non-immune staff should avoid providing care for women/infants with chicken pox or shingles.



Varicella Zoster Virus (Chicken Pox) in Pregnancy

Birth and Postnatal Care

- Place of birth should be determined on maternal and fetal condition, and facilities available in consultation with the family and multi-disciplinary team.

Send placenta for anatomical pathology post birth.

See *Anatomical Pathology Management of the Placenta* PPG in the A–Z listing at www.sahealth.sa.gov.au/perinatal.

- Infants should not be isolated from their mother.
- Breastfeeding is encouraged.

Resources

Australian Charter of Healthcare Rights: (www.safetyandquality.gov.au)

[Australian Charter of Healthcare Rights | Australian Commission on Safety and Quality in Health Care](#)

Australian Government Pregnancy, Birth and Baby: (www.pregnancybirthbaby.org.au)

[Pregnancy, Birth and Baby | Pregnancy Birth and Baby \(pregnancybirthbaby.org.au\)](#)

Medicines Information: (sahealthlibrary.sa.gov.au)

<https://sahealthlibrary.sa.gov.au/friendly.php?s=SAPharmacy>

SA Health Pregnancy:

[Pregnancy | SA Health](#)

SAPPGs Web-based App:

[Practice Guidelines \(sahealth.sa.gov.au\)](#)

Pathology Tests Explained: (<https://pathologytestsexplained.org.au/>)

[Pathology Tests Explained](#)

ASID Guideline

[ASID+Management+of+Perinatal+Infections+3rd+Edition.pdf](#)

SA Health Chicken Pox and Shingles Consumer Fact Sheet

[You've Got What? 5th Edition](#)

Australian Immunisation Handbook - Zoster Immunoglobulin-VF (human)

[Zoster Immunoglobulin-VF \(human\) | The Australian Immunisation Handbook](#)

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4. Palasanthiran P, Starr, M., Jones, C., and Giles, M. Management of Perinatal Infections. Sydney: Australasian Society for Infectious Diseases (ASID) Inc; 2022.



Varicella Zoster Virus (Chicken Pox) in Pregnancy

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07/09/2015	V5.0	SA Health Safety & Quality Strategic Governance Committee	Reviewed.
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