Varicella Zoster in Pregnancy Guideline (Chicken Pox)

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Policy on a Page: Key Messages

Aim:

To provide support for clinical decision making in the context of varicella zoster (chicken pox) in pregnancy.

Summary of key changes (for revised documents only)

- Guideline reformatted in line with the ABUHB policy template.
- Inclusion of accessibility, equality and inclusive language statements.
- Addition of a new section outlining contraindications and considerations for post-exposure prophylaxis (PEP).
- Improved signposting to the Varicella Zoster in Pregnancy Management Flowchart.
- Expanded governance, audit and monitoring arrangements.
- References updated to reflect current RCOG, UKHSA and NHS guidance.
- Addition of an RCOG patient information leaflet as an appendix.

Key Requirements:

- **Oral antivirals are now first-line post-exposure prophylaxis** for susceptible pregnant women.
- **VZIG is no longer routine first-line prophylaxis** and is reserved for situations where antivirals are contraindicated or unsuitable.

Target Audience:

This policy applies to all members of staff working within maternity services.

Training:

Staff are expected to access appropriate training where provided.

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1. Introduction/Overview

Varicella Zoster Virus (VZV) is one of the 8 herpes viruses known to infect humans. Primary VZV infection is known as chickenpox, which is a common, usually mild, self-limiting childhood infection. Chickenpox tends to be more severe in adults, in particular in pregnancy, and there is a higher risk of developing complications such as pneumonia or encephalitis.

2. Scope

This policy applies to all members of staff working within maternity services.

3. Statement/Background

If you have difficulty understanding any part of this guideline- including due to learning, sensory, or communication needs- please speak with your Line Manager or contact the authors of this guideline for support or clarification.

Staff must take a proactive approach to identifying and meeting the accessibility and communication needs of people with disabilities and/or language barriers, including offering information in alternative formats, arranging interpretation or communication support as required, and not relying solely on individuals to request adjustments.

The term “woman/ women” will be used throughout this document however, it is recognised that this refers to all pregnant, birthing and postnatal people regardless of gender identification.

This guideline supports the requirements of the Welsh Language Standards. Individuals will be offered the opportunity to communicate in Welsh, and reasonable steps will be taken to ensure that Welsh language needs are identified and accommodated where required.

4. Aim

To provide support for clinical decision making in the context of varicella zoster (chicken pox) in pregnancy.

5. Main Body

Signs and Symptoms

The primary infection (chicken pox) is characterised by fever, malaise and a pruritic rash that develops into crops of maculopapules, which become vesicular and crust over before healing. The **incubation period** (time between exposure to virus and symptoms developing) is between **1 and 3 weeks** and the disease is infectious 2 days before the rash appears and continues to be infectious until the vesicles crust over (usually 5 days after they first appeared).

1. Crops of pruritic rash:



2. Become vesicular:



3. Then crust over:



After clinical symptoms have resolved, the virus lays dormant in nerve root ganglia and can reactivate years later as shingles. This presents as a vesicular erythematous skin rash in a dermatomal distribution and is also sometimes known as herpes zoster. The exact reason for reactivation is unknown but is thought to be associated with decreased immunity or stress. A reactivation in the geniculate ganglion of the facial nerve is known as Ramsay Hunt Syndrome.

Infection with Varicella Zoster Virus (VZV) in pregnancy may cause serious maternal morbidity or mortality. It may also cause fetal varicella syndrome (FVS) and varicella infection of the newborn, which includes congenital varicella syndrome (CVS) and neonatal varicella.

Transmission

VZV is highly contagious and transmitted by respiratory droplets and by direct personal contact with vesicle fluid or indirectly via fomites (e.g. skin cells, hair, clothing and bedding). **Significant contact** is defined as **face-to-face contact > 5min, ≥ 15 minutes in the same room, household contact or a stay in the same ward**. The risk of infection following contact with herpes zoster that is not in an exposed area (e.g. thoracolumbar shingles) is remote but can occur.

Immunity

Immune = had chicken pox: VZV IgG positive

Not immune = never had chicken pox: VZV IgG negative

A person who has never had chicken pox is not immune and their blood would be negative for varicella-zoster virus immunoglobulin G (VZV IgG). These patients can catch chicken pox from contact with chicken pox or shingles. It is not possible to contract shingles from someone with chickenpox.

Over 90% of individuals >15 years old in England and Wales are seropositive for VZV immunoglobulin G (IgG) antibody. Therefore, although contact with chickenpox is common in pregnancy, primary VZV infection in pregnancy is uncommon; it is estimated to complicate 3 in every 1000 pregnancies. Women from tropical and subtropical areas who have not grown up in England and Wales are more likely to be seronegative for VZV IgG and are therefore more susceptible to the development of chickenpox in pregnancy.

Universal immunity testing is not done in the UK. To check a pregnant patient’s immunity status i.e. post VZV contact, call the serology laboratory on 44505 to ask them to test the patient’s booking blood for

VZV IgG. If there is no booking blood in storage, send one SST II yellow bottle (same as for electrolytes) to check for VZV IgG.

Preventing Varicella Zoster

Preventing Varicella Zoster Pre-Pregnancy

Non-immune pregnant patients are advised to avoid contact with chicken pox and shingles during the pregnancy and to seek medical attention should they do so.

Those who are not immune can be offered immunisation pre-pregnancy or postpartum but **not during pregnancy**. Women who are vaccinated postpartum can be reassured that it is safe to breastfeed. It is a live attenuated vaccine administered in two separate doses 4 – 8 weeks apart. If a woman of reproductive age is vaccinated, she should be advised to avoid pregnancy for 4 weeks after the second dose and to avoid contact with susceptible pregnant women should a post-vaccination rash occur.

Preventing Varicella Zoster During Pregnancy

**Please refer to the Varicella Zoster in Pregnancy Management Flowchart as per Appendix 1 for concise summary.*

All pregnant patients should be asked about previous chickenpox/shingles infection or varicella vaccination at their booking appointment.

If a pregnant woman gives a history of contact with chicken pox or shingles, take a careful history and ascertain her immunity (see 'Immunity' above). If she is immune, no further action needed and the patient can be reassured and discharged.

History taking:

- the type of VZV infection
- timing of the exposure
- the closeness and duration of contact

Significant contact is defined as:

- ≥ 15 minutes in the same room
- Face to face contact > 5min
- Household contact
- Stay in the same ward

***Pregnant women with an uncertain or no previous history of chickenpox, or who come from tropical or subtropical countries, who have been exposed to infection should have a blood test to determine VZV immunity or non-immunity*.**

If the pregnant woman is not immune to VZV and she has had a significant exposure, she should be offered post exposure prophylaxis (PEP). RCOG guidance recommends **oral antiviral therapy (acyclovir or valaciclovir) as the first choice of PEP** (this has been updated in 2024 due to a national shortage of VZIG). **PEP should be given from day 7 – day 14 following exposure.**

Varicella-zoster immunoglobulin (VZIG) may be considered for those who have a contraindication to antivirals. VZIG is effective when given up to 10 days after contact (in the case of continuous exposures, this is defined as 10 days from the appearance of the rash in the index case). Note that VZIG is manufactured from the plasma of human blood donors. Adverse effects include pain and erythema at the injection site. The risk of anaphylaxis is cited as less than 0.1%. No case of blood-borne infection has been reported with the use of VZIG.

Medication doses for PEP:

Aciclovir 400mg PO QDS for 7 days

Valaciclovir 1000mg PO TDS for 7 days

VZIG 1g IM

Non-immune pregnant women who have been exposed to chickenpox should be managed as potentially infectious from 8–28 days after exposure if they receive VZIG and from 8–21 days after exposure if they do not receive VZIG.

Women who have had exposure to chickenpox or shingles (regardless of whether or not they have received VZIG) should be asked to notify their healthcare provider if a rash develops. In this case, she should be isolated from other pregnant women. If further exposure occurs, a second course of antivirals can be prescribed from seven days after the exposure. If VZIG is used as PEP, it can be repeated if a further exposure is reported and 3 weeks have elapsed since the last dose.

PEP Contraindications/ Considerations

- **Severe Renal Impairment or Intestinal Malabsorption:** If a woman cannot absorb oral medication or has severe kidney toxicity/impairment where oral/IV aciclovir or valaciclovir cannot be safely given or adjusted, **varicella-zoster immunoglobulin (VZIG)** or **intravenous immunoglobulin (IVIG)** is used instead.
- **Live Varicella Vaccine Contraindication:** While antiviral drugs are safe, the **live-attenuated varicella vaccine** is strictly contraindicated during pregnancy (and pregnancy must be avoided for 1-month post-vaccination).
- **Timing / Therapeutic Role:** VZIG has **no therapeutic benefit** once an active chickenpox rash has already broken out; antivirals (not VZIG) are required for active infection. Conversely, VZIG or alternative immunoglobulin is reserved for post-exposure prophylaxis when oral/IV antivirals are unsuitable or contraindicated.

Varicella Zoster in Pregnancy

Risks to the Mother

Women with exposure to chickenpox who develop a rash should be advised to inform their doctor or midwife early (regardless of PEP).

Varicella infection in adults is associated with increased morbidity including pneumonia, hepatitis and encephalitis. Rarely, it may result in death.

Red flags for potentially life-threatening chicken pox:

- Respiratory symptoms
- Photophobia
- Seizures
- Drowsiness
- Haemorrhagic rash
- Bleeding
- Dense rash with or without mucosal lesions

If the woman smokes cigarettes, has chronic lung disease, is immunosuppressed (including those who have taken systemic corticosteroids in the preceding 3 months) or is in the second half of pregnancy, a hospital assessment should be considered even in the absence of complications. Women with suspected chickenpox should be reviewed in a separate assessment room and should not be asked to wait in an area with other pregnant women.

Management

**Please refer to the Varicella Zoster in Pregnancy Management Flowchart as per Appendix 1 for concise summary.*

VZIG has no therapeutic benefit once chickenpox has developed and should therefore not be used in pregnant women who have developed a chickenpox rash.

Oral Aciclovir 800mg 5 times a day 7/7 should be prescribed for pregnant women with chickenpox if they present **within 24 hours of the onset of the rash**. Aciclovir is not licensed for use in pregnancy and the risks and benefits of its use should be discussed with the woman, however, there is no data currently showing significant increase in harm to the fetus. Aciclovir should be given to all pregnant women with severe chickenpox.

Women should avoid contact with potentially susceptible individuals, e.g. other pregnant women and neonates, until the lesions have crusted over. This is usually about 5 days after the onset of the rash. Symptomatic treatment and hygiene is advised to prevent secondary bacterial infection of the lesions.

Appropriate treatment should be decided in consultation with a multidisciplinary team that includes an obstetrician or fetal medicine specialist, a virologist and a neonatologist. Women hospitalised with varicella should be nursed in isolation from other pregnant women, neonates and non-immune staff.

The timing and mode of delivery of the pregnant woman with chickenpox must be individualised. When epidural or spinal anaesthesia is undertaken in women with chickenpox, a site free of cutaneous lesions should be chosen for needle placement.

Risks to the Fetus

There is no increased risk of spontaneous miscarriage in the first trimester. If the pregnant woman develops varicella or shows serological conversion in the first 28 weeks of pregnancy, she has a small risk of fetal varicella syndrome (FVS) and she should be informed of the implications.

FVS is characterised by one or more of the following:

- Skin scarring in a dermatomal distribution
- Eye defects (microphthalmia, chorioretinitis or cataracts)

- Limb hypoplasia
- Microcephaly
- Cortical atrophy
- Mental retardation
- Dysfunction of bowel and bladder sphincters)

It does not occur at the time of initial fetal infection but results from a subsequent herpes zoster reactivation in utero and only occurs in a minority of infected fetuses. FVS has been reported to complicate maternal chickenpox occurring as early as 3 weeks and as late as 28 weeks of gestation. There are no documented cases of typical FVS following third trimester maternal infection. Pooled data (see RCOG (2024) Guideline) suggests approximately 1% chance of FVS if maternal chicken pox occurs.

Prenatal Diagnosis of Fetal Varicella Infection

Women who develop chickenpox in pregnancy should be referred to a fetal medicine specialist, at 16–20/40 or 5 weeks after infection for detailed ultrasound. A time lag of at least 5 weeks after the primary maternal infection is advised because ultrasound performed at 4 weeks has failed to detect abnormalities. Ultrasound findings suggestive of FVS include limb deformity, microcephaly, hydrocephalus, soft tissue calcification and growth restriction can be detected. Fetal MRI may provide additional information.

VZV can be detected in amniotic fluid. The presence of VZV DNA has a high sensitivity but a low specificity for the development of FVS. No case of FVS occurred when amniocentesis was negative for VZV DNA. The negative predictive value of this combination of amniotic fluid testing and ultrasound is good but the positive predictive value is poor therefore women who develop varicella infection during pregnancy should be counselled about the risks versus benefits of amniocentesis to detect

varicella DNA. Amniocentesis should not be performed before the skin lesions have completely healed.

Risks to the Neonate

If maternal infection occurs in the last 4 weeks of a pregnancy, there is a significant risk of varicella infection of the newborn. A planned delivery should normally be avoided for at least 7 days after the onset of the maternal rash to allow for the passive transfer of antibodies from mother to child, provided that continuing the pregnancy does not pose any additional risks to the mother or baby. A neonatologist should be informed of the birth of all babies born to women who have developed chickenpox at any gestation during pregnancy. Women with chickenpox should breastfeed if they wish to.

Varicella infection of the newborn (previously called congenital varicella) refers to VZV infection in early neonatal life resulting from maternal infection near the time of delivery or immediately postpartum, or from contact with a person other than the mother with chickenpox or shingles during this time. The route of infection could be transplacental, ascending vaginal or result from direct contact with lesions during or after delivery.

If maternal infection occurs 1–4 weeks before delivery, up to 50% of babies are infected and approximately 23% develop clinical varicella, despite high titres of passively acquired maternal antibody. Severe chickenpox is most likely to occur if the infant is born within 7 days of onset of the mother’s rash or if the mother develops the rash up to 7 days after delivery. For babies born to mothers who have had chickenpox within the period 7 days before to 7 days after delivery, it is therefore vital that the neonate receives prophylaxis as soon as possible with VZIG with or without Aciclovir; there is no need to test in these circumstances. If there are active chickenpox lesions close to the nipple, they should express breast milk from the affected breast until the lesions have crusted

over. The expressed breast milk may be fed to the baby who is receiving treatment with VZIG and/or Aciclovir

6. Roles and Responsibilities

It is the responsibility of the teams working within maternity services to ensure that this guideline is adhered to when managing varicella zoster (chicken pox) in pregnancy.

7. Consultation

All new or significantly revised policies will be subject to consultation within the division via the Clinical Effectiveness Forum (CEF) and with relevant professional groups and/ or individuals present.

Individuals with expertise in obstetrics and midwifery have been consulted with in the development of this policy.

8. Equality Impact Assessment

An equality impact assessment has been carried out and approved as this guideline prioritises care based on standardised assessment and clinical need.

9. Training Requirements

Staff are expected to access appropriate training where provided. Training needs will be identified through appraisal and clinical/ educational supervision.

10. Audit and Review

This policy will be reviewed on a 3-yearly basis, unless significant changes to clinical practice/ national policy arise.

Maternal/ neonatal outcomes will be monitored via the local maternity dashboard. Patient experience will be gauged through CIVICA and Listening to People procedures.

11. References

Ion, A., Orzan, O. A., & Balaceanu-Gurau, B. (2025) *Varicella Zoster Virus Infection and Pregnancy: An Optimal Management Approach* [Online]. Available at: Varicella Zoster Virus Infection and Pregnancy: An Optimal Management Approach - PMC (Accessed 22 October 2026)

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UK Health Security Agency (2026a) *Chickenpox: public health management and guidance* [Online]. Available at: Chickenpox: public health management and guidance - GOV.UK (Accessed 22 October 2026)

UK Health Security Agency (2026b) *Post-exposure prophylaxis for chickenpox and shingles* [Online]. Available at: Post-exposure prophylaxis for chickenpox and shingles - GOV.UK (Accessed 22 October 2026)

UK Health Security Agency (2026c) *Varicella* [Online]. Available at: Green Book Chapter (Accessed 22 October 2026)

12. Appendices

Appendix 1: Varicella Zoster in Pregnancy Management Flowchart

Pregnant patient presents with significant exposure to chickenpox. First establish their immunity.

Uncertain if previous history of chickenpox

Known previous history of chickenpox → Reassure

Ascertain current immune status for chicken pox:

- ➔ Ask lab to check booking sample (if available) for VZV IgG
- ➔ Check current VZV IgG blood test (this can be requested by GP/ community midwife to avoid triage attendance)

VZV IgG positive → Reassure

VZV IgG negative

- ➔ Commence on PEP: **oral antivirals** (Aciclovir 400mg PO QDS or Valaciclovir 1000mg PO TDS) from **day 7-14 post exposure**
- ➔ Give VZIG if oral antivirals are contraindicated
- ➔ Pt potentially infectious for 8-28days
- ➔ Discuss postpartum varicella vaccination
- ➔ A further exposure occurs, repeat antivirals

If patient develops chickenpox rash

- ➔ Should immediately inform doctor or midwife
- ➔ Should avoid contact with susceptible individuals until the lesions crust
- ➔ **Oral Aciclovir (800mg 5 times a day for 7 days)** should be started **within 24 hrs of onset of rash** and if more than 20 weeks of gestation (consider if <20 weeks)
- ➔ Avoid delivery at least for 7 days after onset of rash to allow for passive transfer of antibodies (earlier delivery maybe considered in respiratory failure secondary to pneumonia)
- ➔ If severe infection, admit to hospital and start IV Aciclovir
- ➔ Inform paeds at delivery

Chickenpox maternal complications: pneumonia (10%), hepatitis and encephalitis and, occasionally, mortality

First trimester:

- No increased risk of miscarriage
- <28weeks: small risk of FVS
- **Refer to fetal med between 16-20 weeks or 5 weeks after infection**

At booking, if no previous history of chickenpox:

- Advise to avoid contact with chickenpox and shingles and to report immediately of any contact.
- If received varicella vaccine, avoid pregnancy for 4 weeks

Significant exposure:

- ≥ 15 minutes in the same room
- Face to face contact > 5min
- Household contact
- Stay in the same ward

Indications for referral to hospital:

- If pt develops respiratory, neurological symptoms or haemorrhagic rash
- If pt smokes cigarettes and has chronic lung disease
- Pt immunosuppressed (taken systemic corticosteroids in the preceding 3 months)

Appendix 2: Information for you Chickenpox and pregnancy (RCOG, 2015)

Please follow the hyperlink to access the Information for you Chickenpox and pregnancy (ROCG, 2015) patient information leaflet.