University Hospital Southampton NHS
NHS Foundation Trust

Varicella zoster Immunoglobulin for post-exposure prophylaxis (PEP)

Please note that UHS Pharmacy will issue VZIG only when both
RISK ASSESSMENT and PRESCRIPTION FORM are completed and handed in

RISK ASSESSMENT FORM: PAGE 1, 2 AND 3 PRECRITPION FORM: PAGE 4 INFORMATION LEAFLET FOR PREGNANT LADIES: PAGE 5

EXPOSURE TO VZV: Risk assessment form to establish if the patient needs PEP with VZIG

VZIG should be prescribed and administered only to individuals who satisfy all of the following 3 criteria:

1. Are at risk of developing severe varicella-zoster virus (VZV) infection (see table 1 for part 1 of risk assessment)
2. Are varicella-zoster IgG seronegative (see table 2 for part 2 of risk assessment)
3. Have had a significant exposure to VZV (see table 3 for part 3 of risk assessment)

FALSIFYING THIS RISK ASSESSMENT MAY RESULT IN A PATIENT RECEIVING VZIG INAPPROPRIATELY, PUTTING THEM AT UNNECESSARY RISK OF ANAPHYLAXIS. RISK ASSESSMENTS ARE RETROSPECTIVELY REVIEWED.

Table 1. *Does this patient fall into the categories of individuals at risk of developing severe VZV infection?*

Categories of individuals at risk of severe VZV infection (please tick)		YES	NO
A) Pregnant women *VZIG prevents disease when given within 10 days of 1st exposure*	? Pregnant women within 10 days of exposure to chickenpox or shingles *Report date of first contact (mandatory) ___/___/_____*	☐	☐
B) Neonates and Infants *VZIG should be administered as soon as possible after contact and should not be delayed past seven days after initial contact.*	? Neonate of mother developing chickenpox (but not shingles) in the period between 7 days before and 7 days after delivery. *Report date of onset of chickenpox in the mother (mandatory) ___/___/_____*	☐	☐
	? Neonate of seronegative mothers exposed to chickenpox or shingles during the first 7 days of life. *Report date of first contact (mandatory) ___/___/_____*	☐	☐
	? Premature (< 28/40) and/or very low birth weight (< 1 Kg) infant irrespective of maternal VZV IgG status *OR* Infant of any age exposed to chickenpox or shingles while still requiring intensive or special care, irrespective of maternal VZV IgG status. *Report date of 1st contact (mandatory) ___/___/_____*	☐	☐
C) Immune-Compromised Patients *VZIG should be administered as soon as possible after contact and should not be delayed past seven days after initial contact.*	? Immunocompromised patient exposed to chickenpox or shingles *Report date of first contact (mandatory) _____/_____/_____*	☐	☐
	IMMUNOCOMPROMISED PATIENTS INCLUDE	PLEASE TICK	
	Individuals with severe primary immunodeficiency (e.g. severe combined immunodeficiency –SCID-, Wiskott-Aldrich syndrome and other combined immunodeficiency syndromes);	☐	
	Patients with malignancies on immunosuppressive chemotherapy or radiotherapy, and for at least six months after terminating such treatment;	☐	
	Solid organ transplant recipients on immunosuppressive treatment;	☐	
	Bone marrow transplant recipients until at least 12 months after finishing all immunosuppressive drugs;	☐	
	Patients on systemic high-dose steroids until at least three months after treatment has stopped. This includes CHILDREN on (oral or rectal) prednisolone (or its equivalent) 2mg/kg/day for at least one week, or 1mg/kg/day for one month and ADULTS on 40mg/day of prednisolone for more than one week. Occasionally, individuals on lower doses of steroids may be at increased risk of infections	☐	
	Patients on other types of immunosuppressive drugs (e.g. azathioprine, ciclosporin, methotrexate, cyclophosphamide, leflunomide and the newer cytokine inhibitors) alone or in combination with lower doses of steroids, for at least six months after treatment	☐	
	Patients with immunosuppression due to HIV infection: CD4 count < 500 in children less than 5 years of age and CD4 count < 200 in individuals older than 5 years. Please note that CD4 count may not be an accurate representation of the level of immunosuppression. If in doubt contact Virology / Immunology / Genitourinary Medicine / Paediatrician specialist in HIV.	☐	

Risk assessment: requires the "YES" answer in box A or B or C

Dr Emanuela Pelosi, Consultant Virologist, Department of Infection, University Hospital Southampton NHS Foundation Trust: prophylaxis "VZIG, Risk assessment and Prescription forms", updated 4th June 2014.

Table 2. *VZV IgG status: Is this patient VZV IgG seronegative?* Please tick

Please note that: → The immune status of immunocompetent **pregnant women**, without a past history of chickenpox, can be determined by testing the remaining of the samples used for the antenatal screening for infection (stored for the duration of the pregnancy), if there is enough left. Pregnant contacts with a positive history of chickenpox do not require VZIG → **Immunosuppressed contacts** should be always tested, irrespective of their history of chickenpox. → The determination of the serostatus to VZV is performed in the Serology Laboratory (Mondays to Fridays from 9am to 5pm and Saturday mornings from 9am to 11 am). → Clotted blood or EDTA blood samples are suitable for antibody test. → Please communicate to the Serology Laboratory (tel. No 023 8120 6342) that a sample for urgent testing has been collected. → It can be requested as urgent test (result available within 1 hour of sample receipt)	Sero-Negative (Eligible for VZIG)	Sero-Positive (NOT eligible for VZIG)
	[]	[]

For some VZV contacts the VZV IgG status can be assumed from the patient's history	
? **Neonate** of mother developing chickenpox in the period 7 days prior to 7 days post delivery PLEASE NOTE THAT NEONATES, WHOSE MOTHER DEVELOPS VARICELLA BEWTEEN 4 DAYS PRIOR DELIVER TO TWO DAYS POST DELIVERY, NEED ACICLOVIR PROPHYLAXIS IN ADDITION TO VZIG. ACICLOVIR SHOULD BE ADMINISTERD INTRAVENOULSY FOR 7 DAYS AT A DOSE OF 10MG/KG THREE TIMES/DAY.	These babies are VZV IgG negative and need VZIG []
? **Neonate** exposed to chickenpox or shingles during the first 7 days of life and whose mothers are seronegative.	These babies are VZV IgG negative and are eligible for VZIG []
? Immunocompetent pregnant women with history of chickenpox.	These patients are VZV IgG positive and do not need VZIG []
? Immunocompromised patient regularly on high dose IV immunoglobulin	These patients are VZV IgG positive and do not need VZIG []
If VZV IgG result cannot be obtained → Within seven days of exposure in immunocompromised patients and infants *OR* → Within 10 days of exposure in pregnant women (This happens when patients report to the clinicians the exposure to VZV near the end of the window period for administering VZIG post exposure prophylaxis and the testing laboratory is closed – i.e. Saturday afternoons, Sundays and Bank holidays), UHS Pharmacy will issue VZIG even if the VZV serostatus has not been determined (unknown VZV IgG status).	VZV IgG testing cannot be performed early enough to inform management []
Risk assessment: requires seronegative status or unknown (yellow boxes)	

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Table 3. *Has this patient had a significant contact with VZV?*

Assessment of significant exposure to VZV (please tick):		YES	NO
A) Type of VZV infection in the index case *(Indicative of extent of viral shedding and risk of exposure)*	? Index case has chickenpox or disseminated zoster	☐	☐
	? Index case is an immunocompetent individual with exposed zoster lesions (e.g. ophthalmic zoster) with or without continuous home contact with the patient at risk	☐	☐
	? Index case is an immunocompetent individual with lesions at any part of the body and with continuous home contact with the patient at risk (In these cases a significant contact may derive from non-exposed zoster lesions)	☐	☐
	? Index case is an immunosuppressed patient, with zoster lesions on any part of the body (in whom viral shedding may be greater)	☐	☐
B) Timing of exposure in relation to onset of rash in index case	? Exposure to chickenpox or disseminated zoster in the period between 48 hours before onset of rash until cropping has ceased and all lesions are crusted. (Please note: the index case is infectious between 48 hours before onset of rash until cropping has ceased and all lesions are crusted).	☐	☐
	? Exposure to localised zoster from the day of onset of rash until crusting. (Please note that the index case is infectious from the day of onset of rash until crusting).	☐	☐
C) Closeness and duration of contact	? Maternal/neonatal (always significant exposure)	☐	☐
	? Continuous home contact (always significant exposure)	☐	☐
	? Contact in the same room (house or classroom or a 2-4 bed hospital bay for at least 15 minutes)	☐	☐
	? Face-to-face contact (for example while having a conversation)	☐	☐
	? Large open wards: please note that air-borne transmission at a distance has occasionally been reported in large open wards. In this case administration of VZIG to all susceptible high-risk contacts should be considered.	☐	☐
Risk assessment: requires ≥ one "YES" answer in all 3 boxes (A, B and C).			

Risk assessment for administering VZIG			*Date*
Performed by (block letters)	*Doctor's signature*	*Designation*	*Department/Surgery*
Patient's name	*Patient's date of birth*	*Patient's address / Ward*	
	Hospital number		

All of the following are required:	*Please tick below as appropriate:*	
Table 1: "Yes answer" to one of the 3 boxes ("box A" or "box B" or "box C")	YES	NO
Table 2: "VZV IgG Seronegative status" (or "Not determined")	YES	NO
Table 3: ≥ one "Yes" answer in all 3 boxes ("box A" and "box B" and "box C")	YES	NO

If ALL THREE answers above are "Yes", the Patient REQUIRES VZIG.
Go to page 4 of this document to prescribe VZIG

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Please note: VZIG is issued only when the UHS Pharmacy receives VZIG PRESCRIPTION & the RISK ASSESSEMENT FORMS (required for VZIG returns to the Department of Health
Deliver or Fax (023 8120 6792) prescription and risk assessment forms to main dispensary Southampton General Hospital. If faxed, the original prescription will need to be received by pharmacy within 72 hours.
Out of hours contact the Pharmacist on call through UHS switchboard
(Tel 023 80 777 222)

Prescription for Supply of Varicella-Zoster Immunoglobulin (VZIG) for Post-Exposure Prophylaxis

Patient Details

Patient Forename	*Patient Surname*	*Date of Birth*	*NHS or Hospital number*
Patient's Address			

Product Details

Product (including form and strength where necessary)	*Quantity (see table below)*
Varicella zoster Immunoglobulin	

Directions		
	Deep intramuscular injection []	Deep subcutaneous injection in patients with bleeding disorder [] Please state kind of bleeding disorder

Authorising details This section must be completed by the doctor who performed the risk assessment

Name (in block letters)	*Designation*	*Contact number*
Signature	*Ward/Surgery*	*Date*

Collection/Delivery Method: *Please check that arrangements are in place to have the injection(s) administered.* Please specify

Patient or Representative collecting []	Taxi or Courier arranged by GP Surgery or Other Hospital []	UHS Pharmacy can send the product to UHS A&E by prior arrangement (A&E phone No available through UHS switchboard). Please state name and contact details of A&E Nurse or Consultant with whom VZIG treatment administration has been agreed.

Pharmacy Use Only Make sure that VZIG vials are stored within are the cold chain until use

Screened by	Dispensed by:	Checked by:	Product details:	Batch No	Date:
			VZIG		Essential record keeping Log details of this supply in the immunoglobulin register. Ensure one copy is made (for the patient/healthcare professional) The original prescription and risk assessment form needs to be filed in the IM immunoglobulin folder. Please file appropriately immediately after checking
Cost code Inpatients: Ward Outpatients: Pathology SGH		Stock location Fridge, SGH main dispensary	Expiry date	No of vials	

VZIG treatment details	
Dosage	*Timing*
0 – 5 Years 250mg (1 vial) *6 – 10 Years 500mg (2 vials)* *11 – 14 Years 750mg (3 vials)* *15 years and older 1000mg (4 vials)*	*Pregnant women: within 10 days of contacts.* *All other vulnerable individuals: as soon as possible after exposure.* *Give second dose if further exposure occurs and three weeks have lapsed since first dose.*

Please note:

Incubation period can be prolonged up to 28 days in exposed individuals treated with VZIG. This should be considered for infection prevention purposes, in case of future hospital appointments.

Severe or fatal varicella can still occur despite VZIG prophylaxis.

Patients developing chickenpox despite VZIG post-exposure prophylaxis should be promptly assessed and acyclovir treatment should be considered. Treatment and route of administration (oral or IV) should be decided according to the patient's immune status and to the severity of the disease.

In some circumstances acyclovir PEP is recommended in addition to VZIG PEP. These cases include:
1) Neonates whose mother has developed chickenpox between 4 days prior to two days post delivery: intravenous acyclovir, 10mg/kg three times/day for 7 days.
2) Severely immunocompromised patients: oral (if drug absorption is not compromised) acyclovir, 800mg 5 times/day for 14 days, starting 5 days after contact.

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"VZIG, Risk assessment and Prescription forms", updated 4th June 2014

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Contact with Chickenpox and Shingles in Pregnancy

Information leaflet for the pregnant lady

What are chickenpox and shingles?

Chickenpox and **shingles** are diseases caused by the same virus, called ***varicella-zoster virus***. When people develop chickenpox they produce antibodies to the virus and become immune (they will not develop chickenpox again). When a person recovers from chickenpox the virus is not eliminated from the body, but it remains asleep within the body for the rest of life. In some individuals the virus can reactivate from the dormancy state to cause a localised rash called shingles. While chickenpox is common in childhood, shingles is common in older adults.

Why is it important to avoid chickenpox during pregnancy?

If you get chickenpox as an adult, the illness is usually more severe compared to children and complications are more common, particularly if you are pregnant. The most common complication is **pneumonia** (infection of the lungs). The risk is higher if you smoke, have lung disease or are taking treatments that affect your immune system (for example steroids). There is also a very small chance (less than 2%) that chickenpox is passed to your unborn baby to cause a disease called **fetal varicella syndrome** when you develop chickenpox in the first 2 trimesters of pregnancy. This can cause the baby to be born with serious abnormalities.

Why am I offered varicella zoster immunoglobulin (VZIG)?

You are offered a product called **varicella zoster immunoglobulin or VZIG** because you are at risk of developing chickenpox (you do not have antibodies to the chickenpox virus and you have come into contact with somebody with chickenpox or shingles). **VZIG prevents chickenpox from developing, as it contains antibodies to the chickenpox virus**. This will protect you against becoming ill from chickenpox and will also protect your unborn baby.

How long after contact with chickenpox should VZIG be given?

VZIG is effective if given within ten days of coming into contact with the virus. If you come into contact again with chickenpox during this pregnancy and more than 3 weeks after receiving VZIG, you should have a repeat dose of this product.

How is VZIG treatment given?

VZIG is given by intramuscular injection in the buttock or in the thigh. You should receive 4 vials of this product. All 4 vials must be administered at the same time but the product can be divided in more than one injection to reduce the discomfort.

What happens if I develop chickenpox despite having received treatment with VZIG?

In some women VZIG does not prevent chickenpox from developing and the disease can develop up to 28 days after exposure; however, VZIG is still able to attenuate the disease (this means the illness is less serious) and may also help to protect your baby..

It is important that you contact your GP or midwife as soon as the chickenpox rash develops, as you may be offered treatment with an antiviral drug called **aciclovir**. This drug also helps to prevent the chickenpox complications and should be started within 24 hours of the rash first appearing. You will be then referred for a detailed ultrasound scan at 3-5 weeks after the disease has cleared to make sure there are no signs of fetal abnormalities.

VZIG may be also given to your newborn baby to protect her/him from a severe form of **neonatal chickenpox**. This can happen if you develop chickenpox within seven days before or after giving birth.

Can I be immunised against chickenpox?

Once you have given birth, you can ask your GP to request a blood test to check whether you are still at risk of developing chickenpox. If this is the case you can be immunised against chickenpox. If you consider further pregnancies, you should wait 3 months after completing the vaccination course (2 injections one month apart) before trying to become pregnant again.