Summary
Varicella zoster virus (VZV) causes both a primary disease (chickenpox, or varicella) and a reactivation disease (shingles or herpes zoster). This protocol will ensure that staff know what to do if in contact with these diseases either in hospital or in the community.
Implementation Plan

Summary of changes
New Policy

Action needed and owner of action

- The policy applies to all staff providing care to all patients under the care of the Trust, whether in a direct or indirect patient care role.

- Adherence to this policy is the responsibility of all staff employed by the Trust, including agency, locum and bank staff contracted by the Trust.

- This policy should be considered and included in services that are contracted and commissioned by the Trust.

Executive Summary

Varicella zoster virus (VZV) causes two distinct diseases; chicken pox as the primary infection and later when VZV reactivates shingles (Herpes zoster).

Chicken pox is an acute highly infectious disease commonly occurring in childhood. It is characterised by a fever and a generalised itchy vesicular rash. Occasionally in adults and people with impaired immune systems VZV infection can be severe and even fatal. VZV can be associated with a congenital syndrome in a small population of babies where mothers catch chicken pox in pregnancy. Neonates are also at risk of a severe illness if they become infected perinatally.

The aim of this policy is to provide healthcare workers with the necessary information to:

- Care for patients with chicken pox and shingles
- Prevent transmission of VZV with special reference to vulnerable groups
- Determine and manage non-immune patient and staff contacts
- Pre-employment Screening
- Vaccinations
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1. Introduction / Aim of the Policy
Varicella zoster virus (VZV) causes both a primary disease (chickenpox, or varicella) and a reactivation disease (shingles or herpes zoster). In childhood the primary infection is usually mild. However, varicella may cause serious complications in immuno-compromised patients, pregnant women and neonates.

Following chickenpox, VZV becomes latent, but can be reactivated, causing herpes zoster (shingles).

Varicella (Chickenpox) is an acute, highly infectious disease caused by the Varicella Zoster Virus (VZV). It is a common disease of childhood and 90% of adults raised in the UK are immune (DoH, 2006).

The aim of this Policy is to provide healthcare workers with the necessary information in relation to:
- the transmission of VZV
- the infection control management of patients
- the management of non-immune patient and staff contacts
- pre-employment staff screening
- vaccination

2. Scope of Policy
- The policy applies to all staff providing care to all patients under the care of the Trust, whether in a direct or indirect patient care role.
- Adherence to this policy is the responsibility of all staff employed by the Trust, including agency, locum and bank staff contracted by the Trust.
- This policy should be considered and included in services that are contracted and commissioned by the Trust.

3. Roles and Responsibilities

3.1 Matrons and Ward/department Managers
- It is the responsibility of Matrons and Ward/Department Managers to ensure implementation and compliance with this policy.

3.2 Wards/Departments
- The Ward/Department Manager is responsible for ensuring that staff are aware of the Policy and that it is implemented for the management of patients with VZV infection.
- The Nurse in Charge of the ward is responsible for contacting the Infection Prevention and Control Team in the event of a patient or member of staff developing clinical signs of varicella infection.
- The Nurse in Charge of the ward is responsible for contacting the Matron/Bed Manager to request a side room for the patient.
- The Nurse in Charge of the ward is responsible for ensuring that patient/staff contact lists are completed and are sent to the Infection Prevention and Control Team and the Occupational Health Department within 24 hours of the lists being requested.

3.3 All staff
- All staff must be aware of their personal responsibilities in preventing the spread of infection. Adherence to this policy is the responsibility of all staff, including agency, locum, and bank staff and those contracted to the Trust.
3.4 Infection Prevention and Control Team

- The Infection Prevention and Control Team will advise on the infection control management of patients with VZV infection.
- The Infection Prevention and Control Team/Infection Control Doctor will advise the Medical Teams on the management of susceptible in-patient contacts, including post-exposure prophylaxis.

3.5 Occupational Health Department

- The Occupational Health Department are responsible for ensuring that healthcare workers are vaccinated against VZV according to Department of Health guidance.
- The Occupational Health Department will follow up staff contacts (list to be supplied by the ward staff) as appropriate.
Appendix 1

Procedure for vaccinating health care workers with patient contact

- **Definite history of VZV infection**
  - Yes: Consider Immune
  - No: VZV antibody test

- **VZV antibody test**
  - Positive: Consider Immune
  - Negative or equivocal: INFORMED CONSENT
    - For vaccination, advise to avoid salicylates for 6 weeks, pregnancy for 3 months and to consult OH if post vaccine rash

- **1st dose**
  - 2nd dose 4 to 8 weeks later

**Outcome**

- **Generalised rash**
  - Exclude from patient contact until lesions have crusted

- **Localised rash**
  - Cover lesions and allow to work (Unless contact with high risk patients, in which case refrain from work)

- **No VZV compatible rash**
  - Continue working

**CONTRAINDICATION**
(Immunocompromised, pregnant etc)

- VZIG prophylaxis if significant exposure to VZV
Appendix 2

Management of VZV occurring on a ward

- **Yes** known VZV +ve VZ IgG test OR Chicken pox in the past
  - No Further action needed

  - Staff
    - Exclude from work until crusting of lesions
    - Occupational Health will advise.

  - Patient
    - High risk patient e.g. neonate, Immunosuppressed
      - GIVE VZIG WITHIN 10 DAYS OF EXPOSURE AND NURSE IN ISOLATION FROM DAY 7-21 AFTER EXPOSURE.

- **No** Test for VZ IgG within 7 days of exposure
  - VZ IgG negative result
    - Exclude from work between 7-21 days following contact
      - Occupational Health will advise.

  - VZ IgG positive result
    - High risk patient e.g. neonate, Immunosuppressed
      - No further action

- **Contact Infection Control Team**
  - Identify ‘at risk’ patients and colleagues exposed
  - YES current VZV antibody status known?
    - **Yes** known VZV +ve VZ IgG test OR Chicken pox in the past
      - No Further action needed

    - **No** Test for VZ IgG within 7 days of exposure
      - VZ IgG negative result
        - Exclude from work between 7-21 days following contact
          - Occupational Health will advise.

      - VZ IgG positive result
        - High risk patient e.g. neonate, Immunosuppressed
          - GIVE VZIG WITHIN 10 DAYS OF EXPOSURE AND NURSE IN ISOLATION FROM DAY 7-21 AFTER EXPOSURE.

- **In Patient Case**
  - Identify ‘at risk’ patients and staff exposed

- **Is current VZV antibody status known?**
  - **Yes** known VZV +ve VZ IgG test OR Chicken pox in the past
    - No Further action needed

  - **No** Test for VZ IgG within 7 days of exposure
    - VZ IgG negative result
      - Exclude from work between 7-21 days following contact
        - Occupational Health will advise.

    - VZ IgG positive result
      - High risk patient e.g. neonate, Immunosuppressed
        - GIVE VZIG WITHIN 10 DAYS OF EXPOSURE AND NURSE IN ISOLATION FROM DAY 7-21 AFTER EXPOSURE.

** Only staff with a history of chickenpox or serological evidence of VZ immunity should attend the patient
Appendix 3

Management of VZV exposure in Immunosuppressed patients

Is Patient Immunocompromised?
- Having or within 6 months of chemotherapy/generalised radiotherapy.
- On immunosuppressives following organ transplant.
- Bone marrow transplant within previous 6 months.
- Child who in previous 3 months had had prednisolone at 2mg/kg/day for 1 week or 2mg/kg/day for 1 month.
- Adult who in previous 3 months has had 40mg of prednisolone/day for >1 week.
- Patients on lower doses of steroids in combination with cytotoxic drugs.

Does index case definitely have chickenpox/zoster?

Was contact during infectious period?

Is current VZ status positive?

**YES**

No further action

**NO**

Give VZIG ideally within 7 days, but up to 10 days after exposure.

Unknown

Test VZ antibody urgently

Negative

Positive

No further action
Appendix 4

Management of VZV exposure in Neonates

- Is mother the index case and has she got Chickenpox?
  - (If zoster, no action required)
  - Yes: Consider Acyclovir if rash occurred between 4 days before and 2 days after delivery
  - NO: Full-term and mother is immune, no further action required.
- Was the contact in the first 7 days of life?
  - NO: Full-term infant no further action.
  - YES: Prem/LBW infant
- Was onset of rash between 7 days before and 7 days after delivery?
  - NO: No further action
  - YES: Give VZIG to neonate
- If it is a significant exposure
  - NO: If prem/LBW and still in NNU, give VZIG even if contact >7 days after birth (if infant VZA negative) If < 28/40 gestation or <1 kg at birth may give VZIG without testing. (Testing is still recommended though)
  - YES: Check maternal or infant blood for VZ IgG as soon as possible
- If VZ IgG positive, no further action required.
- If VZ IgG negative, give VZIG within 10 days of initial exposure
Appendix 5

Management of VZV exposure during pregnancy

2. Does contact constitute a significant exposure?
   - **No**
     - No further action required
   - **Yes**
     - What is the VZ immune status?

3. **Unknown**
   - Test blood for VZ IgG immediately
   - Unknown
     - History of chickenpox/shingles or Known VZ IgG positive
       - No further action required
       - Positive VZ IgG result
     - Negative VZ IgG
       - Give VZIG within 10 days of initial exposure
4. About the Disease

4.1 Chickenpox: signs and symptoms
The illness usually starts with one or two days of fever, malaise and coryzal symptoms, although this is not always present, especially in children. Crops of vesicles sparser on the limbs than on the trunk appear over 3-5 days. After three – four days the vesicles start to dry and scab and are followed by another crop of fresh vesicles. In some cases, the vesicles are very few and may not be noticed, whilst in others they may cover most of the body.

Children who have become infected with VZV may remain asymptomatic or develop chickenpox. Nearly all children recover completely and have detectable antibodies for many years. Re-infection with VZV is rare. The virus can become latent in sensory nerves and present in later life as herpes zoster (shingles).

Adults with chickenpox may develop more severe diseases including pneumonia.
- Pregnant women are at particular risk of complications affecting the foetus/neonate which arise as a result of the mother contracting the infection. Congenital abnormalities and/or foetal death can occur if the mother contracts chickenpox during the first 20 weeks of pregnancy;
- Maternal infection in the week before and the week after delivery can cause severe and even fatal disease in the neonate.
- Infection in immunocompromised patients carries a high risk of developing disseminated disease and encephalitis.

Infectivity: The virus is shed from the naso-pharynx for up to five days but usually 1-2 days before the rash appears, and then from skin lesions, for seven days following the onset of the rash and until lesions have dried. Infectivity may be prolonged in patients with altered immunity.

4.2 Shingles: Signs and symptoms
Following chickenpox infection, the virus can lay dormant in the nervous tissue for many years but may reappear following reactivation of the virus as shingles. The causes of reactivation are unknown, but on the whole medical conditions that suppress the normal immune system seem to be the main contributing factor.

The early signs of shingles begin usually with pain in the affected nerve area – most commonly on the chest. A rash of fluid filled blisters will then appear in the affected area, typically on one side of the body. The rash usually lasts for 7 days but the neuralgic pain may persist much longer. Persistent pain known as ‘post herpetic neuralgia’ is common amongst the elderly; it often lasts for 3 to 6 months – sometimes even years.

Infectivity: The virus is shed from the skin lesion until it dries and forms scabs. Airborne transmission may occur.

Non immune individuals may develop chickenpox from contact with a person with shingles.

5. Transmission
Varicella zoster virus is spread from person-to-person by three modes of transmission:
- direct contact with vesicle fluid;
- contact with articles (e.g. clothes and bedding) soiled by vesicle fluid or infected respiratory secretions;
- Inhalation of virus by the respiratory route.
Respiratory infection can be caused by inhalation of large droplet particles or smaller airborne particles. Airborne particles can be suspended in the air for several minutes and may travel several metres from the patient. Varicella zoster virus is therefore a highly transmissible agent.

An exposure to varicella zoster virus is significant if:
- The index case has chickenpox, disseminated zoster or an exposed localised lesion e.g. ophthalmic zoster. If the index case is Immunosuppressed then a local lesion anywhere may be significant as shedding is greater from these individuals.
- Exposure occurs between 48 hours before onset of a rash up to crusting of all lesions (chickenpox) or from the day of onset of rash to crusting of all lesions in shingles
- Contact with index case is in the same room e.g. in a house or classroom or hospital bay for at least 15 minutes or direct face to face contact e.g. when having a conversation for more than 5 minutes.

6. Treatment

There is no specific treatment for chickenpox, but acyclovir may occasionally be used in patients at high risk of complications. It is a viral infection which will not respond to antibiotics. Treatment should be aimed at relieving the symptoms of the fever and itchiness.

Shingles can be treated with the oral antiviral 'acyclovir', under the clinician’s guidance. People at high risk of developing serious complications from chickenpox may be given immunoglobulin (VZIG), after exposure to a case (but not as a treatment) This includes pregnant women, immunocompromised patients, those who have recently been on steroids, neonates whose mothers develop chickenpox within 7 days before and 7 days after delivery and neonates who are VZ negative and exposed to chickenpox or shingles in the first 7 days, The Infection Control Doctor will be able to offer advice accordingly.

7. Management of Patients with Suspected or Confirmed VZV

Patients with suspected or confirmed chickenpox or shingles must not be nursed on Oncology wards (Wessex) or in the vicinity of patients who are categorised as “high risk”.

7.1 Potentially high risk (susceptible) patients include:
- Those who have received oral or parenteral steroids (other than replacement therapy) in the previous three months
- Patients with leukaemia, lymphoma or bone marrow transplants recipients
- Patients who have had solid organ transplants
- Patients who have had radiotherapy in the past three months
- AIDS patients
- Critically ill patients, i.e. long stay on ITU
- Pregnant women
- Infants under one month old.

If a patient is immuno compromised and contracts VZV then the decision regarding where the patient should be nursed will be made in consultation with the Clinician responsible for his/her care and the Infection Prevention and Control Team/Consultant Microbiologist.

7.2 Immuno-compromised Patients
- Routine screening is advised in the absence of a reliable history.
- For screening purposes immuno-compromised patients should include:
  - those receiving continuous or intermittent high dose steroids (more than 2 mg/kg/day)
  - those with leukaemia, lymphoma, bone marrow transplants or solid organ transplants
  - those who have received radiotherapy
7.3 Patient Contacts
Managing contacts of patients with chickenpox or shingles involves 3 processes:
- Deciding if the contact is non-immune and therefore at risk of acquiring chickenpox.
- Preventing non-immune contacts spreading infection to others.
- Preventing or ameliorating severe disease in non-immune contacts using VZIG.

Following this assessment we need to ascertain that:
- Patient contacts in the high risk categories should be screened for VZV antibodies following VZV exposure. If they are non immune VZIG will need to be given. This will be co-ordinated by the consultant Microbiologist.
- Patients not in these high risk groups should be assessed accordingly:
  - A reliable past history of shingles or chickenpox. No further action will be required.
  - VZV tests show they are immune. No further action is required.
  - Non-immune patient contacts who are not in the high risk category should be nursed in isolation until discharged for up to twenty-one days.

8 Infection Control Precautions
Patients with varicella infection should not be admitted to hospital unless absolutely necessary due to the risk they pose to other patients. Non-immune persons who have been exposed to varicella zoster virus within the previous 21 days are at risk of developing chickenpox and they should also avoid contact with hospital if possible.

8.1 Ensuring staff are immune to infection
All staff with patient contact should have immunity to infection with varicella zoster virus. When new staff commence employment they will be screened for a history of previous chickenpox by the occupational health department. Staff members who cannot recall having had a definite episode of chickenpox will be tested for antibodies to varicella zoster virus. Staff who are found to have negative or equivocal antibodies to varicella zoster virus will be vaccinated against the infection. Any staff member who is concerned that he or she may not be immune to varicella zoster virus must not have contact with a patient with chickenpox or shingles. He or she should contact the occupational health department immediately for advice.

8.2 Communication
In the event of a case of chickenpox or shingles being identified, there is a need for both staff and patient contact tracing to be carried out to identify any susceptible individuals, especially pregnant staff members. The Infection Control Team (ICT) in conjunction with the Occupational Health Department (OHD) and ward staff will perform this duty. To ensure that this is done as quickly as possible it is essential that early communication of cases be made to the ICT.

Chickenpox is, however, not a disease that is notifiable to the Consultant in Communicable Disease Control.

Staff members should have their anti-VZV antibody status established at their pre-employment screen carried out by OHD, if they are uncertain about whether they had chickenpox as a child or are sure that they have never had chickenpox before.

8.3 Isolation
- All patients with either chickenpox or shingles should be nursed in a single room preferably with its own toilet facilities. If designated toilet facilities are not available the patient should use a commode, which should be decontaminated after every use. If the room has negative pressure facilities these should be switched on. If several patients have chickenpox they could be cohorted together.
• Patients should be isolated until all of the skin lesions are crusted, which is usually about 4 - 7 days after the appearance of the rash.
• Non-immune persons who have been exposed to a patient with varicella-zoster infection should be isolated from 7 days following their first exposure until 21 days after their last exposure. This period should be extended to 28 days after the last exposure if the source patient was given varicella zoster immunoglobulin (VZIG). This is because administration of VZIG can prolong the period of varicella zoster virus excretion.
• Patients being admitted with chickenpox or shingles MUST go straight into a side room.
• If a case is reported after admission the patient MUST be side roomed immediately and isolation precautions commenced. The Infection Control Team must be made aware and contact tracing undertaken.

8.4 Protective Clothing
• During the period of isolation, disposable aprons and gloves must be worn for direct patient contact and by anyone entering the isolation room containing the patient. Hands must be washed with soap and water after removal of gloves.
• **STRICT COMPLIANCE WITH HAND WASHING TECHNIQUES MUST BE OBSERVED AT ALL TIMES.**

8.5 Disposal of clinical waste
• All waste from the room should be disposed of in the yellow clinical waste stream for the duration that the patient is in isolation.

8.6 Cutlery/Crockery
• Normal ward issue can be used as long as it goes through the dish washer.

8.7 Linen
• All linen must be disposed of as ‘infected’ linen and be placed into a red alginate (water soluble) bag before being placed into a red plastic bag.

8.8 Cleaning
• The patient environment must be cleaned three times a day with a detergent solution followed by an Actichlor solution.

8.9 Deep Clean
• The room must be deep cleaned with a detergent solution followed by an Actichlor solution when the patient vacates the room.
• The curtains must be changed and sent as ‘infected linen’
• All patient equipment must be cleaned before leaving the room with a detergent solution followed by an Actichlor solution

8.10 Visits to other departments
• Visits to other departments should be kept to a minimum. When this is needed, prior arrangements should be made with the senior staff of the department concerned. Infected patients should be treated at the end of the working session and they should spend the minimum time in the department. They should only be sent for when the receiving department is ready and not left in a waiting area with other patients.
• These guidelines should never jeopardise clinical need.
• The staff in the receiving department must be informed prior to the visit so that only staff members who are known to be immune to VZV will look after the patient.
8.11 Visitors
- Visitors must be informed of the risks. Susceptible visitors must be advised to avoid contact.

9. The Management of Patients Infected with Varicella going to Theatre
Non urgent elective surgery should be re-scheduled for when the VZV infection has cleared.

9.1 Preparing the emergency patient for theatre
- The patient’s named nurse should inform the duty Theatre Manager that the patient has VZV infection. The patient’s confidentiality must be maintained.
- The House Officer should discuss the case with the Consultant Microbiologist as soon as possible.
- All staff caring/treating the patient must have immunity to VZV (past infection with chickenpox or shingles).
- Gloves and aprons must be worn by staff who have direct contact with the patient.
- Areas of skin affected by shingles must be covered with a semi occlusive dressing.

9.2 Theatre Reception/AAnaesthetic Room
- The patient must go straight into the operating theatre.
- All staff must wear nitrile gloves and aprons for direct patient contact.
- Anaesthetic circuits and bacterial filters must be used, and changed following the case.

9.3 Theatre
- Air conditioning/ultra clean air systems must be working.
- Theatre personnel must be kept to a minimum. All staff must have immunity to VZV.

9.4 Recovery
- The patient should be recovered in theatre and returned directly to the ward isolation room.
- Exposed surfaces should be washed using neutral detergent rinsed and dried and then cleaned with an Actichlor solution. If Actichlor + is used in theatres then the neutral detergent wash is not required.

10 Maternity Unit/Neonatal Unit
Women with chickenpox must not be admitted to the maternity unit unless there is an overriding obstetric need. In addition to the measures above, if a mother has or develops chickenpox whilst on the Maternity Unit:

- Isolate from other mothers, babies, neonates and those known to be susceptible
- If mother develops chickenpox less than 7 days before delivery or up to 7 days after, her baby must be given VZIG – Please contact a Microbiologist.
- The immune status of mothers in close contact should be assessed. Pregnant contacts with a positive history of chickenpox do not require VZIG. Those with a negative history must be tested for VZ antibody before VZIG is given. The outcome in pregnant women is not adversely affected if administration is delayed up to 10 days after initial contact while a VZ antibody test is undertaken. VZIG is also indicated for babies of susceptible mothers.
- A full-term neonate whose mother is immune to chickenpox (due to previous infection or infection occurring during pregnancy and resolving more than 7 days before delivery) is usually protected from chickenpox by transfer of maternal antibody. Such neonates will usually not develop chickenpox if exposed to varicella infection (i.e. from chickenpox or shingles in someone other than the mother or from shingles in the mother).
• Premature neonates (exposed to VZV) of less than thirty weeks gestation or weighing less than one kilo at birth may not have acquired antibodies. These individual cases should be discussed by the Consultant Paediatrician and the Consultant Microbiologist.
• Mothers with chickenpox or shingles should be nursed in isolation until non-infectious. They should not visit the Neonatal Unit.

11 Assessing Immunity to VZV
• If a reliable history of past infection with chickenpox or shingles is established, the person is considered VZV immune. This excludes bone marrow transplant patients who must be considered non-immune regardless of previous history.
• Antibody testing can be performed to assess immunity to VZV.

11.1 Health Care Workers

11.1.1 Pre-employment Screening
• Occupational Health Department will assess all new staff who have contact with patients and maintain a database. Varicella vaccine is recommended for non-immune healthcare workers who work in primary care and in hospitals and who have direct patient contact. This is to protect vulnerable patients from acquiring chickenpox from an infected member of staff (DoH, 2003).
• People with a history of chickenpox or shingles – are considered VZV immune.
• If an individual has no history of chickenpox or shingles antibody testing should be performed.
• Staff with shingles should be advised not the have patient contact from the time the symptoms appear until the lesions have healed.
• Staff who are found not to be VZV immune must never care for patients with chickenpox or shingles.

11.1.2 Staff who acquire chickenpox/shingles
• Any staff member thought to have either chickenpox or shingles must be referred to the OHD immediately. If the staff member is diagnosed as having chickenpox or shingles by OHD they will be responsible for informing the ICT.
• Staff members diagnosed by their General Practitioner must inform the OHD and ICT immediately, so that they can institute the appropriate action.

11.2 Pregnant Staff
• Staff who may be pregnant and have no history of VZV infection or are VZV antibody negative must avoid all contact with staff or patients with VZV disease. VZV infection can be particularly severe in pregnancy.
• Any non-immune, pregnant staff member who comes into contact with a patient with varicella infection should seek advice from the occupational health department immediately.

12.0 Varicella Vaccine
Varicella vaccine contains live attenuated varicella zoster (Oka strain) virus; it provides protection for about 80% of recipients. 2 doses are given, with an interval of 4 to 8 weeks between doses.

12.1 Storage
• In the dry state at 2-8°C.
• Check expiry date before use.
• Reconstitute with the diluent supplied by the manufacturer and use within 1 hour.
12.2 Dose
- 0.5mls administered by subcutaneous injection. The upper arm (deltoid region) is the preferred site of injection.
- Give a total of 2 doses at an interval of 4 to 8 weeks.

12.3 Adverse reactions
- Up to 10% of vaccines may develop a vaccine-associated rash, either localised or generalised, within 6 weeks of immunisation.
- The rash may be papular or vesicular.
- Transmission of vaccine virus from immunocompetent vaccine to susceptible close contacts has occasionally been reported.
- Transmission in the absence of a post-vaccine rash has not been documented.
- Other adverse reactions include pain and redness at the injection site (20% of vaccines), fever, fatigue, and headache.
- Rare side effects include seizures, encephalitis, pneumonia, thrombocytopenia, and anaphylaxis.

12.4 Contraindications
- Acute illness (vaccination should be postponed)
- **Immunodeficiency states**, such as subjects with leukaemia, lymphomas, blood dyscrasias, clinically manifest HIV infection, or patients receiving immunosuppressive therapy (including high dose steroids)
- Receipt of antibodies passively (immunoglobulin or blood transfusion) within three months may neutralise the live vaccine virus (not an absolute contraindication, vaccination should be postponed)
- Receipt of another live vaccine, including BCG, within 3 weeks
- Pregnancy and breast feeding
- Hypersensitivity to Neomycin
- Hypersensitivity reaction following the first dose
- Concurrent treatment with Acyclovir

12.5 Follow up
- Women of childbearing age should be advised to take adequate precautions to prevent pregnancy occurring between the 2 doses and for 3 months after the second dose.
- Salicylates (Aspirin containing compounds) should be avoided during the period between the 2 doses of the vaccine and for 6 weeks after the second dose.
- The staff member should be advised to report to OH if they develop a rash within 4 to 6 weeks of the first or second dose.
- Any staff member who develops a generalised rash should avoid patient contact until all the lesions have crusted and the scab has been shed naturally from all exposed lesions.
- A staff member who develops a localised rash that can be covered with a bandage or clothing should be allowed to continue working unless in contact with high-risk patients (see high risk groups), when an individual risk assessment should be made after discussion with an OH doctor.
- If after vaccine a rash develops, it is possible to transmit the virus. Therefore pregnant non-immune household contacts should be advised to seek medical advice from their GP, as they will need to have their varicella status determined (serology testing) and (VZIG) immunoglobulin administered if indicated.
- A few (approximately 20%) of people after vaccination may still develop chickenpox on subsequent exposure to varicella, however it will not be severe i.e. an attenuated disease (few spots +/- fever). These staff should therefore be advised to stop work immediately and contact Occupational Health if they develop symptoms suggestive of mild varicella (few spots +/- fever).
**NB: Routine post-vaccination serological testing is not advised.**

12.6 Post-Exposure Prophylaxis

The aim of post-exposure prophylaxis is to protect individuals at high risk of suffering from severe varicella infection. VZIG is recommended for individuals who fulfil all of the following criteria (DoH, 2006):

- significant exposure to chickenpox or herpes zoster
- a clinical condition that increases the risk of severe varicella (this includes pregnant women, neonates and immunocompromised individuals)
- no antibodies to varicella virus

There is some evidence that varicella vaccine administered within 3 days of exposure may be effective in preventing chickenpox. Therefore non immune staff will be offered the vaccine if they have a significant exposure to VZV;

- Only 75% of people seroconvert after 1 dose of the vaccine. A 2nd dose should therefore be given 4 to 8 weeks later.
- Restrictions as per this policy will still apply to non-immune staff given the vaccine as post-exposure prophylaxis.
- Post-vaccination serological testing is not advised, if the vaccine is given as post-exposure prophylaxis.

If a health care worker is exposed to varicella or herpes zoster between the 1st and 2nd dose of the vaccine, the 2nd dose should be given immediately.

References


Department of Health (2003) Chickenpox (Varicella) immunisation for health care workers