### Trust Guideline for the Management of Varicella–Zoster Infection for Health Care Workers

**A Clinical Guideline recommended for use**

<table>
<thead>
<tr>
<th>In:</th>
<th>Workplace Health and Wellbeing</th>
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<tbody>
<tr>
<td>By:</td>
<td>Occupational Health Nursing and Medical staff</td>
</tr>
<tr>
<td>For:</td>
<td>All Health Care Staff, other agency / contracted workers and students</td>
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</tr>
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<td>Supported by:</td>
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<tr>
<td>Assessed and approved by the:</td>
<td>Chair’s action 31 March 2014 and reported to Clinical Guidelines Assessment Panel (CGAP) ………16 April 2014</td>
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Quick reference guideline A – Initial Screening process

Does the Health Care Worker (HCW) have a definite history of VZV infection (chicken pox or shingles) or documented evidence of x2 doses of Varicella vaccine?

- Yes
  - Have they come to the UK from a tropical country?
    - No
      - Consider Immune
        - No further action required
    - Yes
      - VZV antibody test

- No
  - Antibody test result positive?
    - Yes
      - Are they immuno-compromised e.g. steroids / HIV / cancer treatment etc?
        - No
          - Vaccination is contraindicated unless immunosupression resolves
        - Yes
          - Is this a female member of staff?
            - No
              - Offer vaccination 2nd dose should be given 4-8 weeks after first dose. Pregnancy should be avoided for 3 months following each vaccination.
            - Yes
              - Routine Follow up serological testing is not routinely required.

- No
  - Are they pregnant or suspect they might be?
    - Yes
      - Defer vaccination until pregnancy finished or pregnancy is not confirmed
    - No
      - Routine Follow

Occ Health  HCW

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Quick Reference Guide B– Contact Screening

HCW had contact with a case of varicella

Previous history of varicella or serological evidence of immunity to varicella?

Yes  No

No further action  Urgent serology testing for varicella antibodies required

Immune  Not immune

No further action, document result  Are they immunocompromised or pregnant?

Day 8-21 post contact exclude from work  Offer VZV Vaccine during exclusion period

Occupational Health to discuss with microbiologist for consideration of VZV Immunoglobulin
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1.0 Objective/s

1.1 To ensure compliance with the Professional Letter (PL) Chief Medical Officer (CMO) (2003)8: Chickenpox (Varicella) immunisation for Health Care Workers (HCWs).

1.2 To provide guidance on the management of staff when in contact with a case of Chickenpox or shingles.

1.3 To support and advise the Trust in its commitment to protecting the health of its employees and protecting patients.

2.0 Rationale

2.1 Varicella (Chickenpox) is an acute, highly infectious disease caused by the Varicella Zoster Virus (VZV). In hospitals, Varicella infected persons have transmitted the illness to susceptible persons through airborne routes and without having direct contact.

2.2 Groups most at risk of serious illness if infected include:
- Patients with leukaemia and other haematological and non-haematological malignancies.
- transplant recipients
- patients with AIDS
- patients on high dose steroids
- neonates
- pregnant women.

2.3 The Department of Health PL CMO (2003)8: Chickenpox (Varicella) immunisation for Health Care Workers (HCWs). recommended that Health Care Workers with a negative or uncertain history of chicken pox should be serologically tested and vaccine offered to those without Varicella zoster antibody. This would not only reduce the exposure of vulnerable patients to staff with varicella but would also avoid the need to exclude susceptible staff and the significant costs that are incurred following a VZV exposure.

3.0 Definitions of Terms Used

3.1 Varicella - Zoster Virus (VZV).
(VZV) is a herpes virus which causes 2 distinct clinical syndromes - chickenpox and shingles. Susceptible individuals may develop chickenpox following contact with a case of chickenpox or shingles. Shingles is due to reactivation of the virus and can develop only in those who have already had chickenpox.

3.2 Chickenpox.
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In the UK, chickenpox occurs most commonly during childhood and over 90% of adults are already protected. Chickenpox is the primary infection and is predominantly an infection of childhood. It may begin with a flu-like illness for 1-2 days before onset of the rash. Skin lesions develop in crops and progress from macules through papules and vesicles to scabs over several days. Virus can be isolated from vesicle fluid and the base of fresh lesions.

The incubation period is 10 - 21 days, usually about 14 days, but may be prolonged in immunocompromised patients. Infectivity commences for 1-2 days, but may be as long as 4 days before onset of rash, and persists until crusts have formed, usually about 5 days after rash appears.

3.3 Shingles
Shingles is due to the reactivation of latent VZV. It can occur at any age but most patients are over 50 years. The disease often begins with paraesthesiae in the involved segment for 2-3 days. Erythematous maculopapular lesions develop which rapidly evolve into vesicles and may coalesce to form bullae. Infectivity persists for 5-7 days after onset of rash although immuno-compromised patients may be infectious for longer.

4.0 Responsibility of Trust
4.1 To ensure the Health & Safety of patients is not compromised by their exposure to HCWs who are infected with VZV.
4.2 To manage and contain the impact on staff and other patients if an outbreak occurs.

5.0 Responsibility of Employee
5.1 HCWs who are uncertain regarding their history of chickenpox should attend occupational health for serological testing.
5.2 HCWs who are not immune and have had a contact with VZV (either work based or socially) should advise occupational health as soon as possible so that any necessary contact tracing can be implemented.
5.3 HCWs who develop a rash after having the vaccine should report to Occupational Health before having patient contact.

6.0 Responsibility of Managers
6.1 To ensure all staff within their environments attend immunisation updates when commencing employment within the trust.
6.2 To inform Infection Prevention & Control and Workplace Health and Wellbeing if a member of staff or patient is diagnosed / exposed to VZV.
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6.3 To provide information to Workplace Health and Wellbeing / Control of Infection team when contact tracing programmes are required.

6.4 To implement exclusion from work policies if staff members are identified through Workplace Health and Wellbeing as being ‘at risk’ of incubating Varicella.

7.0 Role of Occupational Health

7.1 To assess (see Quick Reference Guide A) HCWs evidence as to whether they are immune to VZV. Acceptable evidence is suggested as:
- Confirmation of chickenpox or shingles on the health questionnaire
- Documented evidence of two doses of Varicella vaccine
- Documented serology evidence of immunity to Varicella

7.2 To undertake serological testing on all new HCWs who have an uncertain or negative history to VZV.

7.3 To undertake serological testing on all HCWs who have arrived from tropical countries regardless of whether they give a positive history of VZV

7.4 To undertake serological testing in immunocompromised HCWs, as exposure and development of Varicella in these individuals could have more severe consequences.

7.5 To offer the Varicella vaccine to those HCWs who have direct patient contact and test negative to serological testing, providing no contra-indications for the vaccine administration are identified. This will protect susceptible HCWs as well as vulnerable patients from acquiring chickenpox from an infected member of staff.

7.6 The vaccine can be offered after a potential contact with chickenpox irrespective of the interval since exposure, to reduce the risk of HCWs exposing patients to VZV in the future (DOH, 2006).

7.7 Where a Health Care worker declines vaccination, the Occupational Health professional should explore their reasons for declining, explaining the benefits of vaccination and the individuals professional duty to protect their patients from infection and encourage them to take up the vaccination. If they still decline, then their manager will be informed of their non-immune status.

7.8 To advise both the HCW and their manager if a period of exclusion from work is required due to a contact with the virus in the seronegative and unvaccinated individual. It is recommended that a HCW diagnosed with chickenpox to remain away from the workplace until there are no new lesions and all lesions have crusted over. It is recommended that a HCW diagnosed with localised herpes zoster on a part of the body that can be covered with a bandage and/or clothing, and who does not work with high-risk patients,
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should be allowed to continue working. If the HCW is in contact with high-risk patients, then an individual risk assessment should be carried out.

7.9 To liaise with Microbiology if consideration of VZV immunoglobulin is required.

7.10 To implement Contact Tracing programmes with Infection Prevention & Control for areas where staff or patients have been diagnosed with VZV accordingly within appropriate time scales (see Quick reference Guide B) and keep managers informed regarding the outcome of the programmes.

8.0 Role of Infection Prevention & Control

8.1 To inform Workplace Health and Wellbeing of any cases of VZV as soon as possible so that staff contact tracing can be commenced if required.

8.2 To initiate Contact tracing of any patient contacts from an inpatient case.

9.0 Clinical audit standards

9.1 To ensure all staff who have an uncertain history of VZV have serology testing

9.2 To ensure all staff who are VZV negative are offered the VZV vaccination and if refused that this is clearly documented in their OH record.

10.0 References/ source documents

Department of Health: Immunisation against Infectious disease [link]

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

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## Trust Guideline for the Management of Varicella–Zoster Infection for Health Care Workers

<table>
<thead>
<tr>
<th>Element to be monitored</th>
<th>Lead Responsible for monitoring</th>
<th>Monitoring Tool / Method of monitoring</th>
<th>Frequency of monitoring</th>
<th>Lead Responsible for developing action plan &amp; acting on recommendations</th>
<th>Reporting arrangements</th>
<th>Reporting arrangements (Committee or group where monitoring results and action plan progress are reported to)</th>
<th>Sharing and disseminating lessons learned &amp; recommended changes in practice as a result of monitoring compliance with this document</th>
</tr>
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<tbody>
<tr>
<td>To ensure all staff who have an uncertain history of VZV have serology testing</td>
<td>OH Nurse Manager</td>
<td>MoHaWK report</td>
<td>6 monthly</td>
<td>OH Nurse manager</td>
<td>Safety Clinical Executive Sub-Board</td>
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<td>OH Nurse Manager</td>
<td>Audit following MoHaWK report</td>
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