

CHICKENPOX- SHINGLES (VARICELLA-ZOSTER VIRUS INFECTIONS): PREVENTION AND CONTROL

Infection Prevention and Control Policy No 24

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| Name of responsible committee/individual: | Infection Prevention and Control Committee/Director of Infection Prevention and Control |
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EXECUTIVE SUMMARY

Scope of policy

This policy applies to:

- All patients at LTHT
- All staff employed at LTHT who have direct patient contact.
- All students whom have direct patient contact.

Aim

- To prevent and control the transmission of infection from Varicella-Zoster virus

Objective

- To ensure that staff are aware of procedures associated with minimising the risk of infection when a patient/ or member of staff is suspected or diagnosed with VZV.
- To ensure that patients/ or members of staff who are identified or suspected of VZV are appropriately placed within the clinical environment in order to prevent the transmission of infection.

Key Points

- Both chickenpox and shingles increase in severity with age. Chickenpox is more likely to cause complications in adults aged over 20 years than in children. Shingles is 20 times more likely to cause severe persistent pain in people over the age of 60 years than in those aged under 50 years.
- Chickenpox can be a severe, life-threatening illness in immunocompromised individuals. There is also a small risk of VZV affecting the foetus if maternal chickenpox occurs during the first 20 weeks of pregnancy.
- Hospital spread of chickenpox can be prevented by nursing patients with chickenpox, disseminated shingles or facial shingles using source isolation precautions (see LTHT Source Isolation Policy).
- VZV susceptible patients who have had a significant exposure to chickenpox or shingles (Appendix B) should be nursed in source isolation during the period when they may become infectious (usually 10-21 days following exposure).

- It is not possible to develop shingles from exposure to a person with chickenpox. It is possible, however to develop chickenpox from exposure to a person with shingles.
- Staff (this will include portering services, hotel service staff and other members of the multidisciplinary team) with direct contact with at-risk patients (Appendix C) who are unsure of their VZV status should be tested for VZV antibodies and if susceptible should consider vaccination. All new staff will be screened whatever their workplace (as long as they have direct patient contact). Where the policy relates to staff, also refer to LTHT Occupational Health Policy and Procedure.
- Susceptible, unvaccinated staff or patients, who are exposed to VZV, should avoid contact with high risk patients during the period when they may become infectious.
- Staff who suspect that they may have chickenpox or shingles should avoid patient contact until they have sought advice from the Occupational Health Service and the Infection Prevention Team.

1 INTRODUCTION

Varicella-Zoster virus (VZV) is a herpes virus and primary infection results in chickenpox (varicella), an acute generalised disease with sudden onset of fever and a vesicular rash. Infection usually confers life-long immunity, although the virus remains dormant in the sensory ganglia. Reactivation results in a localised rash known as shingles (zoster).

2 PURPOSE

The purpose of this policy is to outline the preventative measures that need to be in place when a case of chickenpox or shingles is identified within LTHT. Also the actions that must be taken when a member of staff has been in contact with VZV and are susceptible to the infection

Failure to follow this policy could result in the instigation of disciplinary procedures.

3 DEFINITIONS

'At risk' areas are defined as clinical 'in patient' wards/ treatment areas.

IgG is the most abundant and common of the immunoglobulin. IgG mainly functions against bacteria and some viruses. It is the only antibody that is capable of crossing the placenta.

Seronegative refers to the absence of the specific antibodies (or other substance) that are being tested for within the blood..

4 DUTIES

4.1 Duties within the Organisation

As a healthcare establishment LTHT has a duty of care that is covered by the Health and Safety Act (1974) (HSE 2003), COSHH (HSE 2005) and The Health Act (DH 2006). Chickenpox- Shingles (Varicella-Zoster Virus Infections: prevention and control are covered in core duties 1, 3, 5, 6, 8, 10 and 11.

4.2 Consultation and Communication with Stakeholders

The Infection Prevention and Control Committee, the Chief Nurse Team and the Infection Prevention Team have commented on and contributed to this policy. The policy will be approved by the Infection Prevention and Control Committee and the Senior Management Team.

5 WHAT'S THE PROBLEM?

- Chickenpox is endemic in the UK causing an epidemic every spring, although cases occur throughout the year.
- About 95% of adults have had previous chickenpox and cannot acquire chickenpox a second time. They are however at risk of developing shingles.
- Chickenpox is highly infectious with transmission by direct (person-to-person) contact, droplet or airborne spread.
- While shingles is much less infectious than chickenpox, it can be spread by direct contact with the rash - causing chickenpox in susceptible contacts. Shingles can become disseminated in the immunocompromised where it may be as infectious as chickenpox.

6 WHAT TO DO IF YOU HAVE A CASE OF CHICKENPOX OR SHINGLES ON THE WARD

Contact the Infection Prevention Team for advice.

- If patients are a significant infection risk (i.e. have chickenpox, disseminated shingles or facial shingles) they should be nursed in source isolation until crusting of all lesions has occurred.
- Good hand hygiene is essential (See Hand Hygiene LTHT Policy). Those in direct contact with patients with chickenpox or shingles should wear disposable gloves and aprons. Masks are not necessary.
- Patients with VZV infections should be cared for by staff who are immune to chickenpox (i.e. have a past history of infection or are VZV IgG positive or have been vaccinated against VZV)
- Only those visitors who give a past history of chickenpox or shingles should be allowed to visit. In exceptional circumstances, please contact infection prevention for advice.
- Cases of chickenpox should, if possible, be nursed on wards not containing at-risk patients (Appendix C)
- In wards containing at-risk patients, all cases of shingles should be nursed in source isolation unless otherwise agreed with Infection Prevention.
- Patients attending outpatients, hospital departments, day-care units, etc who have suspicious skin lesions should be asked to wait in an area separate from other patients until they can be assessed regarding a possible diagnosis of VZV infection.

7 WHAT TO DO IF ONE OR MORE PATIENTS ARE EXPOSED TO VZV

Contact the Infection Prevention Team

- The IPN will request a list to be drawn up of patients who have had a significant exposure to VZV (See Appendix B for significant contact information) together with their history of previous chickenpox/shingles.
- Patients with an uncertain history of VZV should be tested for VZV IgG (only about 30% of individuals without a history of chickenpox will be VZV susceptible)
- Immunocompromised individuals should be tested irrespective of past history of chickenpox unless this test has been performed previously.
- Susceptible 'at-risk' individuals (Listed in Appendix C) may require VZV immunoglobulin and /or acyclovir prophylaxis (please contact Consultant Virologist for advice)
- All susceptible patients should be nursed in source isolation during the period when they may become infectious (days 10-21 following exposure for immunocompetent patients or days 7-21 for immunocompromised patients).
- If transferred to another ward, or another hospital, the admitting ward should be informed of the situation and isolation should proceed as above. If discharged home, appropriate advice on the need to seek medical advice within 24 hours of developing a rash should be given.

8 WHAT TO DO IF A MEMBER OF STAFF HAS CHICKENPOX OR SHINGLES

- Staff who are suspected to have chickenpox while at work should immediately cease patient contact and inform **both** the Occupational Health Department and the Infection Prevention Team. The same action should be taken for staff with shingles in contact with at-risk patients (Appendix C).
- Staff with direct patient contact who suspect that they may have chickenpox or shingles while at home should remain there and contact Occupational Health and their line manager. They may need to be seen by their GP for diagnosis and treatment.
- Staff at work who are suspected to have shingles but are not working in at-risk areas and lesions are covered by clothing, can continue to work, but should seek advice from Occupational Health at the earliest opportunity.

9 WHAT TO DO IF A MEMBER OF STAFF IS IN CONTACT WITH CHICKENPOX OR SHINGLES

- All staff (this includes portering, hotel service and other members of the multidisciplinary team) who have contact with at-risk patients should have their immune status checked (ie have a history of past chickenpox/shingles or a VZV IgG blood test). Those VZV IgG negative will be offered VZV vaccination (Appendix D).
- Members of staff in contact with a case of chickenpox or shingles (be it in hospital or the community) who have not previously been screened and have an uncertain history of past VZV, should report this immediately to Occupational Health.
- If found to be seronegative to VZV they must avoid direct patient contact and contact with pregnant staff for 10-21 days after exposure. If necessary leave must be arranged in order to comply with this.

10 RESPONSIBILITY FOR DOCUMENT DEVELOPMENT

Lead Director: Ruth Holt, Director of Infection Prevention and Control

Membership of the Steering Group:

Martin Parkinson

Gillian Hodgson

Richard Hobson

Consultation with Infection Prevention and Control Committee

11 EQUALITY IMPACT ASSESSMENT

The Policy has been assessed for its impact upon equality, Appendix A. The Leeds Teaching Hospitals Trust is committed to ensuring that the way that we provide services, and the way we recruit and treat staff, reflect individual needs, promote equality and does not discriminate unfairly against any particular individual or group.

12 IDENTIFICATION OF STAKEHOLDERS

The key stakeholders in this policy are staff involved in caring for patients with known or suspected infections and managers responsible for the provision of facilities for this patient group.

13 CONSULTATION PROCESS

This policy will be consulted on by the Infection Prevention and Control Committee and its sub groups and the Chief Nurse Team.

14 APPROVAL AND RATIFICATION

This policy will be approved by the Senior Management Team.

15 PROCESS FOR REVIEW/REVISION OF THIS POLICY

This policy will be reviewed two years from the date of approval or following significant changes in the management of patients with known or suspected infection.

16 COMMUNICATION/DISSEMINATION OF THIS POLICY

Directors – communication directly by e-mail and discussion at TMB

Senior operational and corporate managers – communication directly by e-mail and to be notified by Directors through line management briefing

All staff – Trust communications channels including e-Bulletin

17 IMPLEMENTATION OF THIS POLICY

This policy will be implemented immediately following dissemination.

18 PROCESS FOR MONITORING COMPLIANCE/EFFECTIVENESS

A contact list must be completed by clinical staff of patients and staff members who have been in contact with index case and are susceptible to VZV infection.

Any time a patient cannot be isolated appropriately this must be recorded by clinical staff and communicated to the IPT

Records of non-availability of single rooms, non completion of contact lists and a record of hand hygiene compliance should be monitored by the Divisions and reported to the IPCC via the Divisional IPCC Group.

19 REFERENCES/ASSOCIATED DOCUMENTATION

Immunisation against infectious disease. ("The Green Book"). Eds Salisbury DM & Begg NT. HMSO, London, 1996,pp251-261 .

Gray AM, Fenn P, Weinberg J, Miller E, McGuire A. *An economic analysis of varicella vaccination for health care workers.* Epidemiology and Infection 1997 119 (2):209-220.

Chickenpox (varicella) immunisation for health care workers. PL/CMO/2003/8.

20 ACKNOWLEDGEMENT

This policy has been adapted from the policy written by the Leeds Cancer Centre Infection Control Team.

Policy Development Group

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Appendix A - EQUALITIES IMPACT ASSESSMENT

| Section 1 Screening | | | | |
|---|---|---|---|--|
| Does this policy or procedure impact on staff patients or public? S = Staff PA = Patients PU = Public (enter below) | How relevant is the policy to achieving the duties under race legislation? 0 = none 1 = a little 2 = some 3 = very (enter below) | How relevant is the policy to achieving the duties under disability legislation? 0 = none 1 = a little 2 = some 3 = very (enter below) | How relevant is the policy to achieving the duties under gender legislation? 0 = none 1 = a little 2 = some 3 = very (enter below) | Could this policy disadvantage any group due to Race, Disability or Gender? R = Race D = Disability G = Gender N = None (enter below) |
| S, PA, PU | 0 | 0 | 0 | N |
| Section 2 Assessing impact | | | | |
| Please specify in the relevant box any thing that you have included in the policy which helps to meet the Race Disability or Gender Equality Duties* Please put NA if this is not applicable | Race | Disability | Gender | |
| | The policy is inclusive and applies to all patients | The policy is inclusive and applies to all patients | The policy is inclusive and applies to all patients | |

*** The equality duty is to eliminate unlawful discrimination and promote equality of opportunity and good relations between different groups.**

APPENDIX B

Significant exposure depends upon:

a) Type of VZV infection in index case

- Risk of acquiring infection from individual with chickenpox, disseminated zoster, immunocompetent person with **exposed** herpes zoster (eg ophthalmic zoster).
- Contact with a case of zoster where lesions are covered by clothing (eg thoraco-lumbar) is not considered a significant exposure.

b) Timing of the exposure in relation to onset of rash in index case

- A person **with** Chickenpox or disseminated zoster is capable of transmitting the infection from 2 days **before** the appearance of the rash and, continuously, until complete crusting of **all** vesicles has occurred.
- Those with localised herpes zoster may transmit infection from the day of onset of rash until complete crusting of all lesions.

c) Closeness and duration of contact

- Household contact i.e. living in the same household as a case;
- Face-to-face contact for > 5 minutes;
- Contact for > 15 minutes in the same room, or hospital bay, with a case.

APPENDIX C

At-risk individuals include:

Immunocompromised individuals, neonates (during the first week of life or beyond if premature) and pregnant women (at any stage of pregnancy) are at-risk of severe chickenpox.

For the purposes of this policy at-risk areas include:

Liver transplant

Renal transplant

Oncology

Haematology

Rheumatology

OPD in these areas

Genito-urinary medicine

Infectious diseases

All paediatric areas

Maternity units

Obstetric and Neonatal Intensive Care Units

APPENDIX D

Immunisation

VZV immunisation offers greater than 70% protection against infection and comprises (for adults) two doses of a live vaccine given 4-8 weeks apart.

Some adults will develop mild symptoms (vesicles) following vaccination which typically occurs 1 – 2 weeks following administration of the first dose. If working with at-risk patients, staff will need to remain off work until all lesions have crusted over. If continuing to work staff should ensure that this area is covered.

There is a 2-3% annual breakthrough rate of chickenpox although the illness is usually milder than normal. If infection does occur then action should be taken as per a case of chickenpox. However, no action needs to be taken if an immunised person is in contact with VZV.

APPENDIX E

**VARICELLA ZOSTER VIRUS INFECTION PATIENT EXPOSURE FORM
(Ward/Dept/Site Use)**

To be completed by the person in charge following advice from Infection Control.

WARD/DEPT/SITE.....

TEL NOS.....

**RESPONSIBLE PERSON.....
NOS.....**

TEL

**Index case (Patient/Staff Contact)
NAME.....**

**Site and type of VZV
SYMPTOMS.....DATE.....**

**Please list all Patients who have had direct contact with index case (patient/staff).
(5 minutes face to face contact or 15 minutes in the same room)**

**Following a VZV exposure no longer than 10 days should be taken to
identify susceptible individuals.**

| Name | DOB | Unit Number | HISTORY OF CHICKEN POX OR SHINGLES (YES/NO) (Patients with uncertain history of VZV should be tested for VZV IgG) | Patient Immuno-compromised (YES/NO) (immunocompromised individuals should be tested irrespective of past history of chicken pox unless previously tested) | Blood Sent for VZV antibodies test(VZV IgG) (YES/NO) |
|------|-----|-------------|---|---|--|
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APPENDIX G - Checklist for the Review and Approval of Policy

To be completed and attached to the policy when submitted to the appropriate committee for consideration and approval.

| | Title of document being reviewed: | Yes/No/Unsure | Comments |
|-----------|--|---------------|----------|
| 1. | Title | | |
| | Is the title clear and unambiguous? Is it positively named in respect of the behaviour, actions, established position it seeks to achieve? | Y | |
| | Is it clear whether the document is a policy, guideline, protocol or standard? | Y | |
| 2. | Rationale | | |
| | Are reasons for development of the document stated? | Y | |
| 3. | Development Process | | |
| | Is the method described in brief? | N | |
| | Are people involved in the development identified? | Y | |
| | Do you feel a reasonable attempt has been made to ensure relevant expertise has been used? | Y | |
| | Is there evidence of consultation with stakeholders and users? | Y | |
| 4. | Content | | |
| | Is the objective of the document clear? | Y | |
| | Is the target population clear and unambiguous? | Y | |
| | Are the intended outcomes described? | Y | |
| | Are the statements clear and unambiguous? | Y | |
| 5. | Evidence Base | | |
| | Is the type of evidence to support the document identified explicitly? | Y | |
| | Are key references cited? | Y | |
| | Are the references cited in full? | Y | |
| | Are supporting documents referenced? | Y | |

| | Title of document being reviewed: | Yes/No/Unsure | Comments |
|-----------|--|----------------------|-----------------|
| 6. | Approval | | |
| | Does the document identify which committee/group will approve it? | Y | |
| | If appropriate have the joint Human Resources/staff side committee (or equivalent) approved the document? | N/A | |
| 7. | Dissemination and Implementation | | |
| | Is there a communications plan to identify how this will be done? | N | |
| | Does the implementation plan include the necessary training/support to ensure compliance? | N | |
| 8. | Document Control | | |
| | Does the document identify where it will be held? | Y | |
| | Have archiving arrangements for superseded documents been addressed? | N/A | |
| 9. | Process to Monitor Compliance and Effectiveness | | |
| | Are there measurable standards or KPIs to support the monitoring of compliance with and effectiveness of the document? | Y | |
| | Is there a plan to review or audit compliance with the document? | Y | |
| 10 | Review Date | | |
| . | Is the review date identified? | Y | |
| | Is the frequency of review identified? If so is it acceptable? | Y | |
| 11 | Overall Responsibility for the Document | | |
| . | Is it clear who will be responsible for co-ordinating the dissemination, implementation and review of the document? | Y | |

Individual Approval

If you are happy to approve this document, please sign and date it and forward to the chair of the committee/group where it will receive final approval.

| | | | |
|-----------|--|------|--|
| Name | | Date | |
| Signature | | | |

Committee Approval

If the committee is happy to approve this document, please sign and date it and forward copies to the person with responsibility for disseminating and implementing the document and the person who is responsible for maintaining the organisation's database of approved documents.

| | | | |
|-----------|--|------|--|
| Name | | Date | |
| Signature | | | |