

LTHT Infection Control Policies

Policy No 24

Chickenpox- Shingles (Varicella-Zoster Virus Infections): Prevention and Control

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).

Scope of policy

This policy applies to:

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

Aim

- To prevent and control infection from Varicella-Zoster virus

Key Points

- 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 1) 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 with direct contact with at-risk patients (Appendix 2) 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 Control Team.

1. 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.

2. What to do if you have a case of chickenpox or shingles on the ward

- **Contact the Infection Control 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 control for advice.
- Cases of chickenpox should, if possible, be nursed on wards not containing at-risk patients (Appendix 2)
- In wards containing at-risk patients, all cases of shingles should be nursed in source isolation unless otherwise agreed with Infection Control.
- 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.

3. What to do if one or more patients are exposed to VZV

- Contact the Infection Control team
- The ICN will request a list to be drawn up of patients who have had a significant exposure to VZV (See Appendix 1 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 2) 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 then appropriate advice on the need to seek medical advice within 24 hours of developing a rash should be given.

4. What to do if a member of staff has chickenpox or shingles

- Personnel who are suspected to have chickenpox while at work should immediately cease patient contact and report both to Occupational Health and the Infection Control Team. This same action should be taken for staff with shingles in contact with at-risk patients.
- Personnel 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.
- Personnel 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.

5. What to do if a member of staff is in contact with chickenpox or shingles

- All new members of staff or existing personnel 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 3).
- 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.

References

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.

Acknowledgement

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

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Documentation control

Policy title	Chickenpox - Shingles (Varicella-Zoster Virus Infections): Prevention and Control
Policy number	24
Version number	2
Supersedes	Chickenpox- Shingles (Varicella-Zoster Virus Infections):

	Prevention and Control June 2004
Date approved	September 2006
Approving body	Infection Control Steering Group
Review date	September 2008
Supporting procedure(s)	None
Lead Director	Director of Infection Prevention and Control
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Original Policy Date: June 2004

Revised : September 2006

Review Date: September 2008

APPENDIX 1

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 2

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 3

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 4

**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.

Surname	Forename	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)

