Doncaster and Bassetlaw Teaching Hospitals
NHS Foundation Trust

Chickenpox/Shingles Management Policy

This procedural document supersedes: PAT/IC 15 v.6 – Chickenpox/Shingles Management Policy

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Executive Sponsor(s):	Chief Nurse
Author/reviewer: (this version)	Dr Ken Agwuh – Consultant Microbiologist
Date written/revised:	April 2022
Approved by:	Infection Prevention and Control Committee
Date of approval:	16 June 2022
Date issued:	July 2022
Next review date:	June 2025
Target audience:	Trust-wide

Amendment Form

Please record brief details of the changes made alongside the next version number. If the procedural document has been reviewed **without change**, this information will still need to be recorded although the version number will remain the same.

Version	Date Issued	Brief Summary of Changes	Author
Version 7	10 May 2022	• Changes based on the new guidelines on post exposure (PEP) for varicella and shingles published April 2022. Please read in full.	Dr K Agwuh
Version 6	3 January 2019	• New Trust Logo added. • Added Executive Sponsor on front page. • Individual Responsibilities updated. • Patient Lacking Capacity Statement added. • Update of hyperlinks. • Adjustments of appendices/flowcharts. • Definitions updated. • Reference documents updated.	Dr K Agwuh
Version 5	8 January 2016	• Spelling Adjustments	Dr K Agwuh
Version 4	January 2013	• New style Trust format included. • New paragraph on antiviral management of Shingles. • Additional sections on management of patients with Chickenpox or Shingles. • Flow chart moved to Appendices.	Dr K Agwuh

Version 3	December 2009	• New sub title on mode of transmission added – page 5 • Addition of new paragraph to exposure to varicella zoster virus – page 5 • Layout of flow chart amended – page 6 • Layout of flow chart and amendment of is patient immunocompromised – page 7 • Layout of flow chart amended – page 9 • Review of references – page 10	Dr K Agwuh
Version 2	October 2006	• Updated to NHS foundation set. • Sentence added to aim of policy – page 2 • Layout of flow chart amended – page 3	Infection Prevention and Control Team

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1 INTRODUCTION

Chickenpox (varicella) and shingles (zoster) are caused by varicella zoster virus (VZV). Following an attack of chickenpox, an individual develops immunity to the virus, which however remains viable in a state of latency in nerve cells. When immunity wanes, as occurs in old age and states of immune suppression, reactivation of the virus may be triggered locally in the nerves and skin resulting in an attack of shingles. **Chickenpox is highly infectious** being mainly transmitted by respiratory route, while shingles is much less infectious but direct contact with the vesicle can cause chickenpox in non-immune individuals.

Most people including pregnant women have had chickenpox in childhood and have long-term immunity with demonstrable Varicella Zoster IgG (VZ IgG) antibody in their blood. Among non-immune individuals, immunosuppressed patients, neonates and pregnant women are at increased risk of developing severe life threatening varicella. Exposure to varicella zoster infection cannot always be prevented but steps can be taken to prevent severe illness from developing through Post-exposure prophylaxis (PEP) to attenuate disease and reduce the risk of complications such as pneumonitis.

Due to the national shortages of VZIG as a result of manufacturing issues an expert working group was convened, this led to an interim guidance in June 2019, in view of the resumption of VZIG supplies and available evidence of efficacy and safety of antivirals as PEP. In April 2022, this recommendation has been reviewed in light of further data, and consolidated into a single document with recommended PEP for different risk groups.

2 PURPOSE

This policy aims to identify individuals who are at risk of developing severe varicella within a time frame after exposure, when intervention measures are most effective in their prevention, and to prevent healthcare workers acquiring or transferring infection to patients.

3 DUTIES AND RESPONSIBILITIES

This policy covers infection prevention and control management issues for Trust staff this includes:-

- Employees
- Volunteers
- Agency/Locum/Bank Staff
- Contractors whilst working on the Trust premises

Each individual member of staff, volunteer or contracted worker within the Trust is responsible for complying with the standards set out in the Policy. They need to be aware

of their personal responsibilities in preventing the spread of infection. It is the responsibility of Directors and Managers to ensure compliance with this standard.

All healthcare workers are expected to be immune to chickenpox; therefore, those who have no history or are unsure of their chickenpox status should seek advice from the Health & Wellbeing Department. New employees will be screened at pre-employment health assessment, if there is no evidence of immunity, they will be offered vaccination and strongly advised to take this up.

All staff working on Trust premises, outreach clinics and community settings, including Trust employed staff, contractors, agency and locum staff are responsible for adhering to this policy, and for reporting breaches of this policy to the person in charge and to their line manager.

Trust Board
The Board, via the Chief Executive, is ultimately responsible for ensuring that systems are in place that effectively manage the risks associated with Infection Control. Their role is to support the implementation of a Board to Ward culture to support a Zero Tolerance approach to Health Care Associated Infections

Director of Infection Prevention and Control: Is responsible for the development of infection and prevention and control strategies throughout the Trust to ensure best practice.

The Director of Infection Prevention and Control will provide assurance to the board that effective systems are in place.

Infection Prevention and Control Team: is responsible for providing expert advice in accordance with this policy, for supporting staff in its implementation, and assisting with risk assessment where complex decisions are required.

Matrons: are responsible for ensuring implementation within their area by undertaking regular audits in ward rounds activities. Any deficits identified will be addressed to comply with policy.

Ward and Department Managers: are responsible for ensuring implementation within their area, and for ensuring all staff who work within the area adhere to the principles at all times.

Consultant Medical Staff: are responsible for ensuring their junior staff read and understand this policy, and adhere to the principles contained in it at all times.

On-call Managers: are responsible for providing senior and executive leadership to ensure implementation of this policy.

4 MODE OF TRANSMISSION

Varicella Zoster Virus can be transmitted person to person by the following routes:

- Direct contact with lesions.
- Droplet or airborne spread of vesicle fluid.
- Secretions of the respiratory tract of chickenpox cases.
- Vesicle fluid of patients with herpes zoster

Transmission within hospitals mainly occurs on the hands of health care workers which have been contaminated by contact with colonised or infected patients, contaminated surfaces or fomites.

5 EXPOSURE TO VARICELLA ZOSTER VIRUS

Any potential varicella zoster virus (VZV) within the hospital **must** be reported to the Infection Prevention and Control Team. Advice about management of contacts and staff can be obtained during normal working hours from an Infection Prevention and Control Practitioner, who will discuss with the Consultant Microbiologist. Outside normal working hours contact the local "on-call" manager who will report to the Consultant Microbiologist.

5.1 Post-exposure is recommended for individuals who fulfil all of the following 3 criteria

- Significant exposure to chickenpox (varicella) or shingles (zoster) during the infectious period.
- At increased risk of severe chickenpox such as immunosuppressed individuals, neonates and pregnant women.
- No antibodies to VZV (urgent VZV antibody testing can be performed within 24 hours).

5.2 What is defined as significant exposure to VZV during infectious period when considering PEP

- Disseminated shingles.
- Immunocompetent individuals with exposed shingles lesions (for eg. ophthalmic shingles).
- Immunosuppressed individuals with localised shingles on any part of the body in whom viral shedding may be greater.

(Acquisition of infection is considered lower risk from contact with an immunocompetent individual with non-exposed shingles on the thoraco-lumbar area and therefore is not an indication for PEP).

5.3 Timing of the exposure, PEP should be offered to contacts in specific risk group.

- Where there is continuous exposure to a case of chickenpox or shingles (eg. nursery, care worker or household member).
- Where there has been more than one exposure to a case of chickenpox or shingles (eg. family or friend who visited on more than one occasion during the infectious period).
- Where there has been a single exposure to a case of chickenpox during the infectious period from 24 hours before of rash until 5 days after rash appearance in immunocompetent individuals and until all lesions have crusted over for immunosuppressed individuals.
- Where there has been a single exposure to a case of shingles (as is defined in 6.2 above) during the infectious period from onset of rash until 5 days after rash appearance in immunocompetent individuals and until all lesions have crusted over for immunosuppressed individuals

5.4 Closeness and duration of contact. In addition to household contacts the following specific risk groups require PEP.

- Those in the same small room (e.g. in a 2-4 bed hospital bay, classroom or house).
- Face to face contact (e.g. while examining a patient, or while having a conservation).
- Immunosuppressed contacts on large open wards, where air-borne transmission at a distance has occasionally been reported, particularly in paediatric wards – where the degree if contact may be difficult to define.

6 CONFIRMATION OF CHICKENPOX OR SHINGLES IN INDEX CASE

Whenever exposure to VZV is suspected, the diagnosis of chickenpox or shingles must be confirmed either by the GP or a dermatologist, if index case is within the hospital (staff or in-patient). The diagnosis of these conditions is clinical and they should be differentiated from other types of rash.

7 MANAGEMENT OF PAITNETS WITH CHICKENPOX OR SHINGLES

7.1 Isolation

In acute settings, patients with suspected or confirmed chickenpox must be isolated immediately in a single room. If symptoms develop during an inpatient stay, transfer to a

single room should occur promptly. Isolation rooms used require en-suite facilities, and doors must be kept closed.

Patients with shingles should be nursed in a single room during their infectious period.

Staff contact is kept to a reasonable minimum without compromising patient care.

Relatives/Visitors Non immune visitors should be advised and excluded from visiting during the infective period.

7.2 Hand Hygiene

In addition to routine hand hygiene at the point of care, hands should be washed with soap and water after removing personal protective equipment prior to leaving the isolation room. See Hand Hygiene (PAT/IC 5).

Provision must be made for patients to perform hand hygiene after contact with respiratory secretions and contaminated items and should be encouraged to use them at appropriate opportunities.

7.3 Personal Protective Clothing

Health care staff should wear disposable plastic aprons and gloves whenever there is a possibility of direct contact with blood or body fluids, or contact with items in the environment that may be contaminated. In addition the use of gloves and aprons are also required for cleaning. See Standard Infection Prevention and Control Precautions Policy (PAT/IC 19).

7.4 Environmental Cleaning

The environment around a patient may become contaminated. Wards should be cleaned and decontaminated on a regular basis in accordance with Trust policy.

- Isolation rooms or wards, including all equipment and horizontal surfaces, should be cleaned thoroughly following discharge of patients with Herpes Zoster or Shingles
- Bedding and fabric curtains should be sent to the laundry following patient discharge.

7.5 Decontamination of Equipment

Where possible equipment should be disposable or be able to withstand disinfection. Advice relating to specific equipment can be sought from the Trust's Cleaning and

Disinfection of ward based equipment (PAT/IC 24). It is best practice to designate equipment to an isolated patient.

7.6 Waste

All waste must be disposed of directly into a foot operated bin, categorised as clinical hazardous waste, in accordance with national regulations and local policy (Waste Management Policy CORP/HSFS 17a & CORP/HSFS 17b). Once waste bags are 2/3 full, the neck should be secured with a tie and the bag removed to the disposal area.

7.7 Linen

All linen should be considered to be contaminated/infected, including bedding and adjacent fabric curtains, and should be managed in accordance with the Trust's Laundry Policy – Bagging Procedure for Linen (CORP/FAC 12). Bed linen, towels and clothing must be changed daily.

8 TREATMENT OF HERPES ZOSTER OR SHINGLES AND FOR PEP

Shingles or Herpes zoster is the reactivation of latent varicella-zoster virus (VZV) within the sensory ganglia. It presents as painful and unilateral vesicular eruption in a dermatomal distribution.

Treatment with antiviral therapy decreases viral shedding thus reducing risk of transmission, promotes rapid healing of the skin eruptions and prevent formation of new lesions. It also reduces the severity and pain associated with the acute neuritis.

Antiviral therapy for all patients greater than 50 years, presenting within 72 hours of clinical symptoms with uncomplicated Herpes zoster is recommended.

Post-exposure prophylaxis (PEP): Oral acyclovir (or valaciclovir) is now the first choice of PEP for all susceptible pregnant women, infants at high risk and susceptible immunosuppressed individuals for exposure to chickenpox or shingles. Following assessment of patients in these groups, oral acyclovir or valaciclovir should be given from day 7 to day 14 after exposure.

The exposure date should be defined as:

(i) Date of onset of the rash if the index is a household contact and
(ii) Date of first or only contact if the exposure is on multiple or single occasion(s) respectively.

	Oral Aciclovir	Oral Valaciclovir
Infants over 4 weeks to children under 2 years age	10mg/kg 4 times daily, days 7 to 14 after exposure	Not recommended
Children 2 to 17 years of age	10mg/kg (up to a maximum of 800mg), 4 times daily, from days 7 to 14 after exposure	20 mg/kg (up to a maximum 1,000mg) 3 times daily, from days 7 to 14 after exposure
Adults	800mg 4 times daily, from days 7 to 14 after exposure	1,000mg 3 times daily, from days 7 to 14 after exposure

PATIENTS LACKING CAPACITY

Sometimes it will be necessary to provide care and treatment to patients who lack the capacity to make decisions related to the content of this policy. In these instances staff must treat the patient in accordance with the Mental Capacity Act 2005 (MCA 2005).

- A person lacking capacity should not be treated in a manner that can be seen as discriminatory.
- Any act done for, or any decision made on behalf of a patient who lacks capacity must be done, or made, in the persons Best Interest
- Further information can be found in the Mental Capacity Act policy, and the Code of Practice, both available on the intranet.

9 TRAINING/SUPPORT

Infection Prevention and Control should be included in individual Annual Development Appraisal and any training needs for IPC addressed.

Please note: The training requirements of staff will be identified through a learning needs analysis (LNA). Role specific education will be co-ordinated/ delivered by the topic lead. Alternatively, training may be accessed via an approved e-learning platform where available.

10 MONITORING COMPLIANCE WITH THE PROCEDURAL DOCUMENT

It is the responsibility of all department heads/professional leads to ensure that the staff they manage adhere to this policy. The Infection Prevention and Control Team will review this policy in the following circumstances:-

- When new national or international guidance are received.
- When newly published evidence demonstrates need for change to current practice.
- Every three years routinely.

Incidents where non-compliance with this policy is noted and are considered an actual or potential risk should be documented on an Adverse Incident and near miss report form.

Monitoring	Who	Frequency	How Reviewed
Compliance with policy to negate cross-infection	The Infection Prevention and Control Practitioners	Weekly	"Alert organism review" to monitor adherence with the policy.
Audits in ward rounds activities	Matron	Weekly	Deficits identified will be addressed via agree action plan to comply with policy.
Training needs for infection prevention and control	Ward and Department Managers Training and Education Department	Annually	Staffs Professional Development Appraisal. Attendance will be captured by the via ESR system.

11 DEFINITIONS

VZV - varicella zoster virus

BEST INTEREST - There is no single definition of Best Interest. Best Interest is *determined on an individual basis. All factors relevant to the decision must be taken into account, family and friends should be consulted, and the decision should be in the Best interest of the individual.* See S5 of the MCA code of practice for further information.

12 EQUALITY IMPACT ASSESSMENT

The Trust aims to design and implement services, policies and measures that meet the diverse needs of our service, population and workforce, ensuring that none are disadvantaged over others. Our objectives and responsibilities relating to equality and diversity are outlined within our equality schemes. When considering the needs and assessing the impact of a procedural document any discriminatory factors must be identified.

An Equality Impact Assessment (EIA) has been conducted on this procedural document in line with the principles of the Equality Analysis Policy (CORP/EMP 27) and the Fair Treatment for All Policy (CORP/EMP 4).

The purpose of the EIA is to minimise and if possible remove any disproportionate impact on employees on the grounds of race, sex, disability, age, sexual orientation or religious belief. No detriment was identified. (See Appendix 5)

13 ASSOCIATED TRUST PROCEDURAL DOCUMENTS

This policy should be read in conjunction with other Trust Policies and protocols for the prevention and control of HCAI in line with the Health and Social Care Action 2008. In particularly:

Glove Use Policy - CORP/HSFS 13
Hand Hygiene - PAT/IC 5
Isolation Policy - PAT/IC 16
Privacy and Dignity Policy - PAT/PA 28
Standard Infection Prevention and Control Precautions Policy - PAT/IC 19
Waste Management Policy – CORP/HSFS 17
Fair Treatment for All Policy – CORP/EMP 4
Equality Analysis Policy – CORP/EMP 27
Mental Capacity Act 2005 – Policy and Guidance, including Deprivation of Liberty Safeguards (DoLS) - PAT/PA 19
Cleaning and Disinfection of ward based equipment PAT/IC 24

14 DATA PROTECTION

Any personal data processing associated with this policy will be carried out under 'Current data protection legislation' as in the Data Protection Act 2018 and the UK General Data Protection Regulation (GDPR) 2021.

For further information on data processing carried out by the trust, please refer to our Privacy Notices and other information which you can find on the trust website: https://www.dbth.nhs.uk/about-us/our-publications/information-governance/

15 REFERENCES

Department of Constitutional Affairs Mental Capacity Act (2005): Code of Practice, 2007

Enders, G. & Miller, E. (2001) Varicella and herpes zoster in pregnancy and the newborn. In: Arvin, A.M & Gershon, A.A (eds.) Varicella-Zoster Virus. Virology and Clinical Management. CAMBRIDGE: Cambridge University Press.

Kumagai, T. (1999) Varicella-Zoster virus-specific cellular immunity in subjects given acyclovir after household chickenpox exposure. *The Journal of Infectious Diseases* **180;** 834-7.

Morgan-Capner, P. & Crowcroft, N. (2000) Guidance on the Management of, and exposure to, rash illness in pregnancy. Report of the PHLS Working Group.

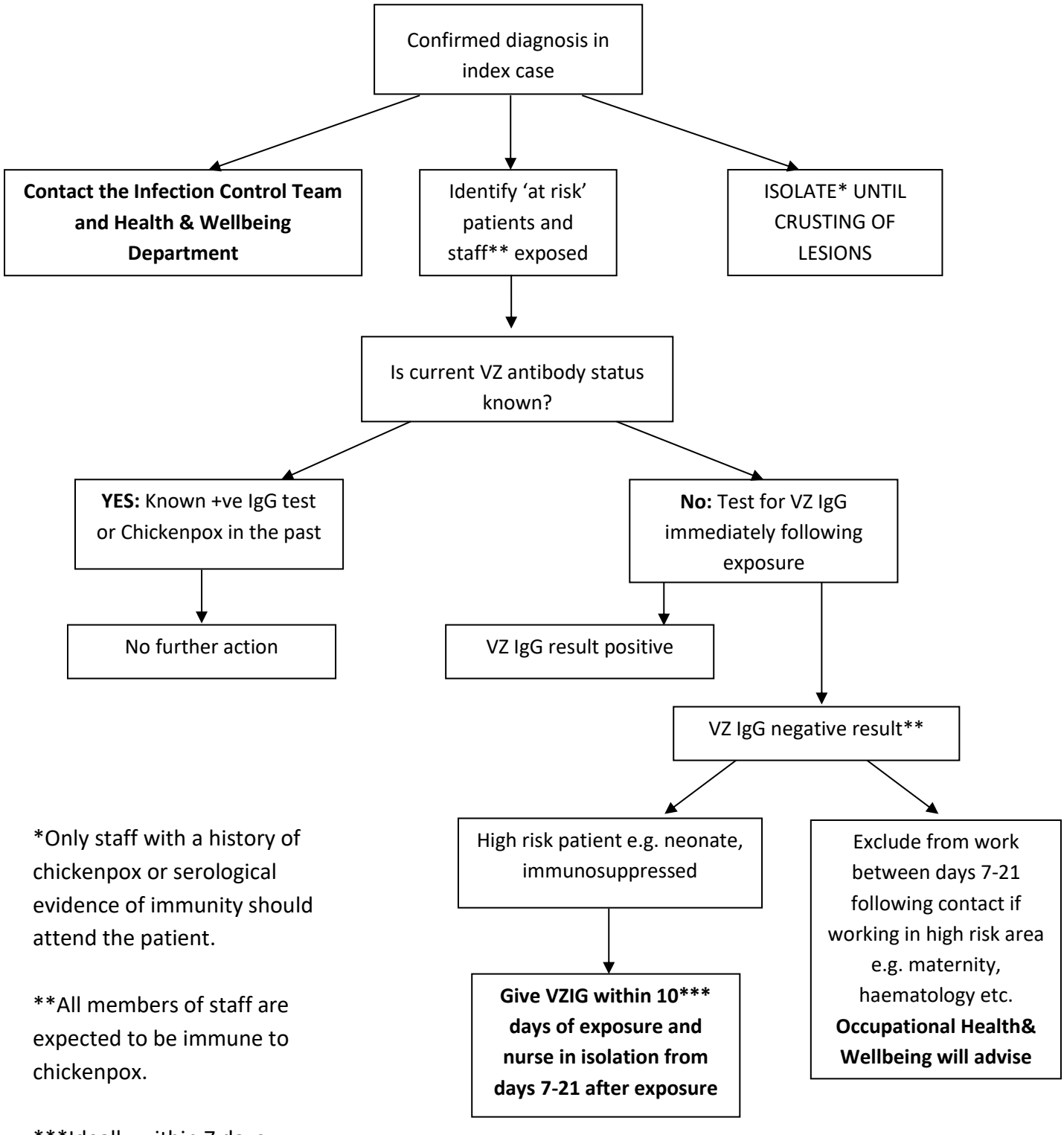
Salisbury, D, Ramsay M and Noakes K. (2013) Varicella in : Immunisation against infectious disease, Dept. of Health, 3rd ed. TSO (The Stationery Office) 421-42.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1056198/Green_Book_Chapter_34_v3_0.pdf

UK Health Security Agency: Guidelines on post exposure prophylaxis (PEP) for varicella/shingles (April 2022).
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1073013/UKHSA_guidelines_on_VZ_post_exposure_prophylaxis.pdf

Department of Constitutional Affairs Mental Capacity Act (2005): Code of Practice, 2007
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/497253/Mental-capacity-act-code-of-practice.pdf

APPENDIX 1 – MANAGEMENT OF VZV OCCURING ON A WARD



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

**All members of staff are expected to be immune to chickenpox.

***Ideally within 7 days
But may attenuate up to 10 days for immunocompromised patients

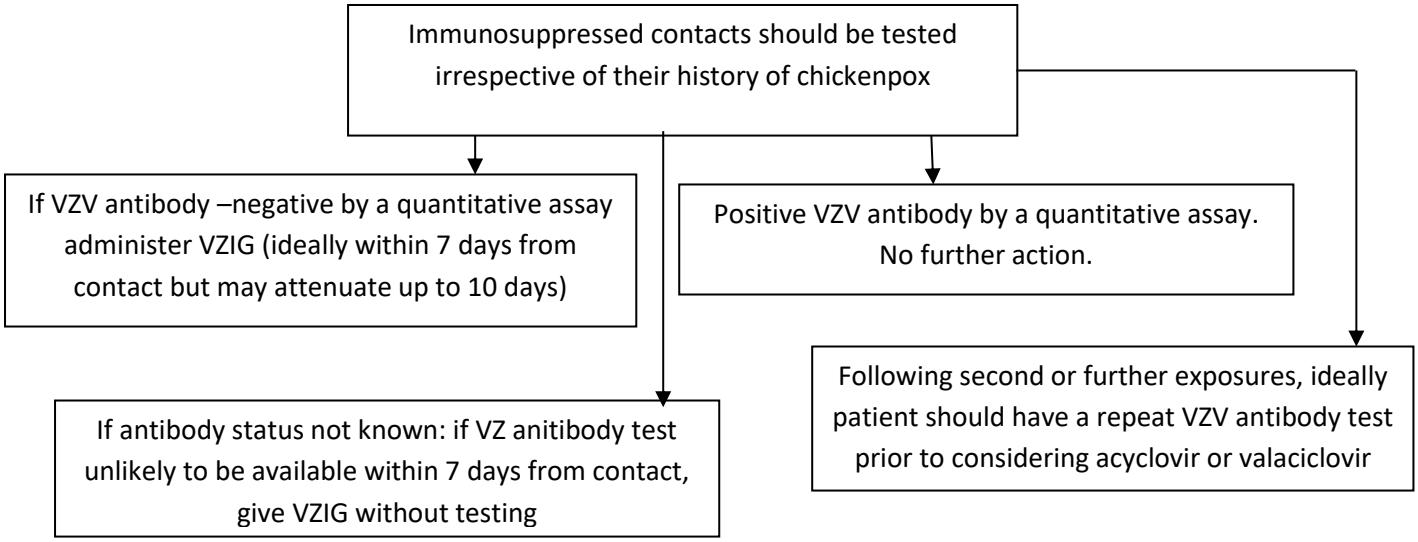
APPENDIX 2 - MANAGEMENT OF VZV EXPOSURE IN IMMUNOSUPPRESSED PATIENTS

All categories of staff must be immune to chickenpox.

Is patient immunocompromised?

e.g.

- Immunosuppression due to acute and chronic leukaemias and lymphoma (including Hodgkin's lymphoma)
- Severe Immunosuppression due to HIV/AIDS
- Cellular immune deficiencies (e.g. Severe combined immunodeficiency, Wiskott-Aldrich syndrome, 22q11 deficiency/DiGeorge syndrome**)
- Being under follow up for a chronic lymphoproliferative disorder including haematological malignancies such as indolent lymphoma, chronic lymphoid leukaemia, myeloma and other plasma cell dyscrasias (list not exhaustive)
- All patients having received an allogenic (cells from a donor) stem cell transplant in the past 24 months and only then if they are demonstrated not to have on-going immunosuppression or graft versus host disease (GVHD).
- All patients having received an autologous (using their own stem cells) haematopoietic stem cell transplant in the past 24 months and only then if they are in remission
- All patients currently being treated for malignant disease with immunosuppressive chemotherapy or radiotherapy, and for at least six months after terminating such treatment
- All patients who have received a solid organ transplant and are currently on immunosuppressive treatment
- All patients receiving systemic high-dose steroids until at least three months after treatment has stopped
- Patients receiving other types of immunosuppressive drugs (e.g. azathioprine, ciclosporin, methotrexate, cyclophosphamide, leflunomide and the newer cytokine inhibitors)



Note:

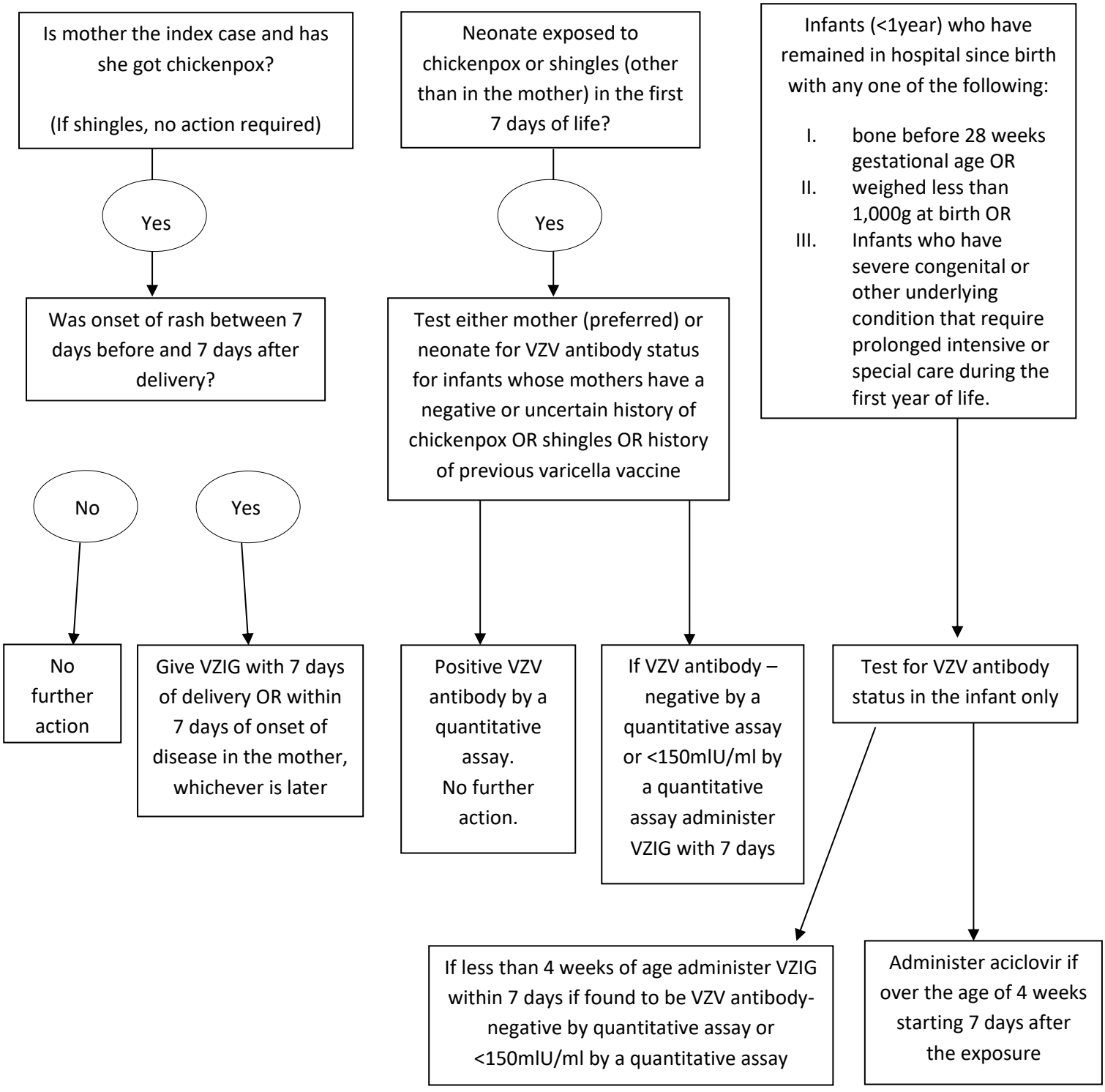
I. **Patients with gammaglobulin deficiencies who are receiving replacement therapy with intravenous normal immunoglobulin do not require VZIG**

II. **VZIG is not indicated in immunosuppressed contacts with detectable antibody as the amount of antibody provided by VZIG will not significantly increase VZ antibody titres in those who are already positive**

III. **Second attacks of chickenpox can occasionally occur in immunosuppressed VZ antibody positive patients, but these are likely to be related to defects in cell-mediated immunity.**

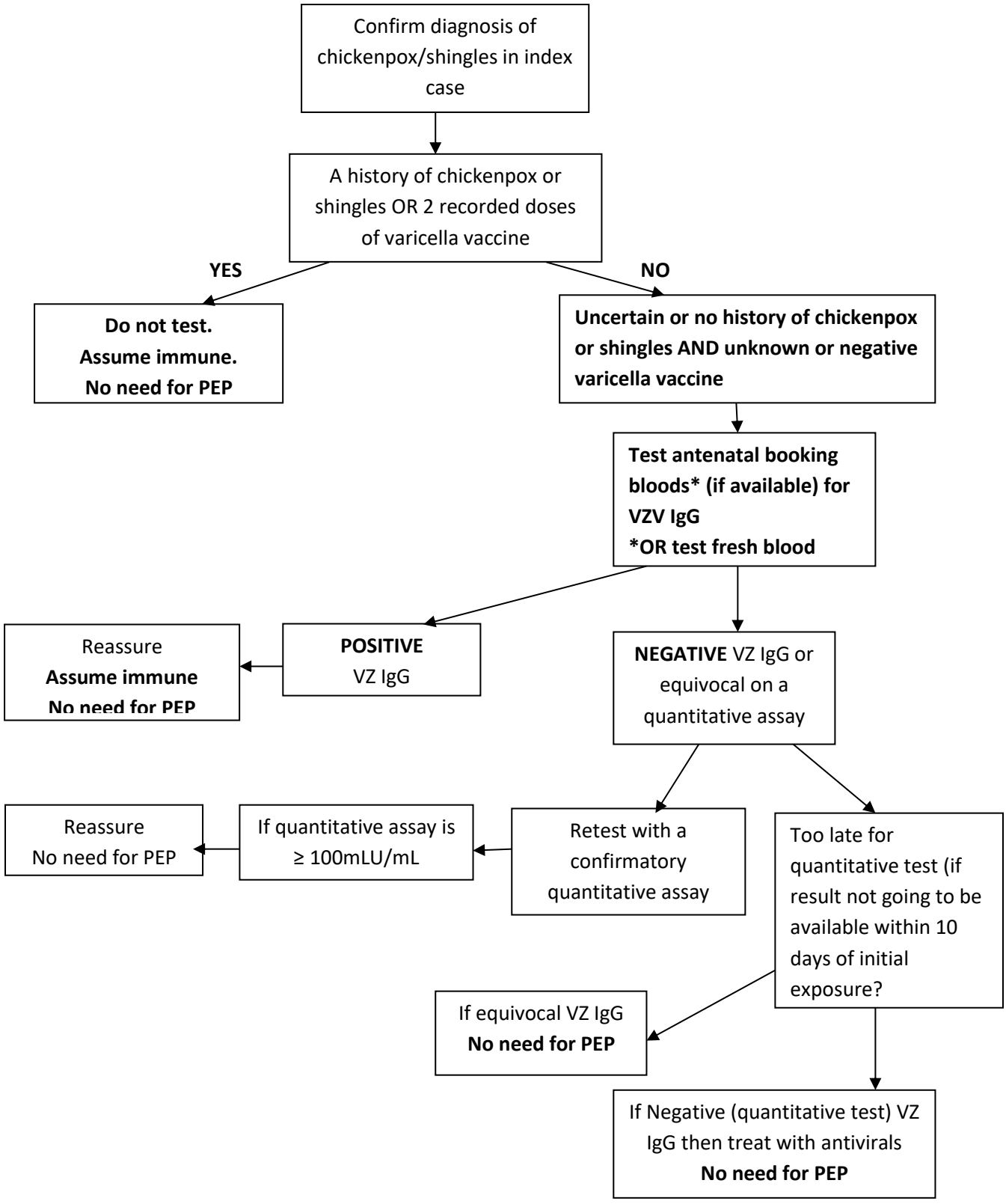
APPENDIX 3 – MANAGEMENT OF VZV EXPOSURE IN NEONATES

All categories of staff attending to neonates must be immune to chickenpox.



APPENDIX 4 – MANAGEMENT OF VZV EXPOSURE DURING PREGNANCY

All categories of staff must be immune to chickenpox.



APPENDIX 5 - EQUALITY IMPACT ASSESSMENT PART 1 INITIAL SCREENING

Service/Function/Policy/Project/ Strategy	Division	Assessor (s)	New or Existing Service or Policy?	Date of Assessment
Chickenpox /Shingles Management	Corporate Nursing	Dr Ken Agwuh	Existing Policy	June 2022

1) Who is responsible for this policy? Name of Division/Directorate: **Occupational Health and Infection Prevention and Control**

2) Describe the purpose of the service / function / policy / project/ strategy? To identify at risk individuals likely to be infected with severe varicella after exposure, thereby preventing spread to at risk HealthCare workers and patients.

3) Are there any associated objectives? Legislation, targets national expectation, standards:

4) What factors contribute or detract from achieving intended outcomes? – None

5) Does the policy have an impact in terms of age, race, disability, gender, gender reassignment, sexual orientation, marriage/civil partnership, maternity/pregnancy and religion/belief? Details: [see Equality Impact Assessment Guidance] - No

- **If yes, please describe current or planned activities to address the impact** [e.g. Monitoring, consultation] –

6) Is there any scope for new measures which would promote equality? [any actions to be taken] N/A

7) Are any of the following groups adversely affected by the policy?

Protected Characteristics	Affected?	Impact
a) Age	No	
b) Disability	No	
c) Gender	No	
d) Gender Reassignment	No	
e) Marriage/Civil Partnership	No	
f) Maternity/Pregnancy	No	
g) Race	No	
h) Religion/Belief	No	
i) Sexual Orientation	No	

8) Provide the Equality Rating of the service / function /policy / project / strategy – tick (✓) outcome box

Outcome 1 ✓	Outcome 2	Outcome 3	Outcome 4

If you have rated the policy as having an outcome of 2, 3 or 4, it is necessary to carry out a detailed assessment and complete a* **Detailed Equality Analysis form – see CORP/EMP 27.

Date for next review: **June 2025**

Checked by: **Carol Scholey** **Date:** **16 June 2022**