



PAEDIATRIC ACUTE CARE GUIDELINE

Varicella

Scope (Staff):	All Emergency Department Clinicians
Scope (Area):	Emergency Department

This document should be read in conjunction with this DISCLAIMER
<http://kidshealthwa.com/about/disclaimer/>

Varicella

- Varicella zoster is a highly infectious DNA virus from the herpes family which causes chickenpox in primary infections.
- It can also establish latency in dorsal nerve root ganglia and be reactivated as shingles (Herpes zoster).
- There is only one serotype, and humans are the only reservoir.
- Do not use ibuprofen in chicken pox due to the risk of necrotising fasciitis

Background

- In children, chickenpox is generally a benign and self-limiting illness.
- Hospitalisation is rarely required in uncomplicated chickenpox.
- If hospitalisation is needed, strict isolation is critical due to its high infectivity.
- Children who have been vaccinated can get a milder disease.
- Immunocompromised children have a high risk of serious varicella infection and disseminated disease.

General

- Varicella is spread by droplet infection or direct contact with respiratory secretions.
- 95% of household contacts will become infected if not immune.
- The **incubation period** is usually 13 – 17 days (range 8 to 21 days).
- Incubation is shorter in immunocompromised patients and in neonates infected perinatally.
- Incubation may be prolonged up to 28 days in patients who received Zoster Immunoglobulin (ZIG).

- Infectivity lasts from 2 days before the appearance of the rash until the last crop of vesicles have all crusted.
- In immunocompromised patients the illness (and period of infectivity) is prolonged, and the patient should be considered infectious as long as new vesicles continue to appear.
- Shingles is relatively uncommon in children, but is more common if the original infection occurred in the first year of life.
- Unlike adults, multiple dermatomes may be involved and post herpetic neuralgia is rare. Intrauterine exposure (especially between 25-36 weeks) may lead to shingles in infancy.

Risk factors

Patients at risk of severe primary disease:

- Adults over 15 years of age
- Pregnant women
- Neonates
- Immunocompromised children

Assessment

- Chicken pox may be asymptomatic
- Symptomatic children have mild fever, anorexia and lethargy, followed by an itchy vesicular skin rash for 3-5 days
- Crops of lesions appear, more concentrated over the trunk than the limbs

Management

- Most cases require symptomatic treatment only
- Zoster Immunoglobulin (ZIG) should be given to high risk patients

Initial management

- Treatment of chickenpox is symptomatic only.
- The most common complication is secondary staphylococcal or streptococcal infection of lesions resulting from the child scratching the itchy rash. This can be treated with oral flucloxacillin.

Complications

Complications are rare in immunocompetent children, but include:

- pneumonia (particularly neonates / adults)
- hepatitis
- arthritis
- thrombocytopenia

- transverse myelitis
- encephalitis (1.8 per 10 000)
- cerebellar ataxia (1 in 4000)

The administration of aspirin as an antipyretic during chickenpox may result in Reye's syndrome.

Immunocompromised children have a high risk of serious varicella infection and disseminated disease.

Varicella Exposure

- Vaccination may be effective in preventing infection if given within 3 days of exposure in immunocompetent hosts older than 12 months.
- Infants less than 12 months are not given varicella vaccination – they may be protected by maternal antibodies up to 6 months age. A watch and wait approach is adopted.
- See below for patients younger than 4 weeks and pregnant women.

Approach to management of neonates:

Maternal Infection	Fetal/Neonatal Infection/Exposure	Recommendations
1st trimester	Risk of congenital varicella syndrome	Maternal vZIG within 72 hours of infection
2nd – 3rd trimester	Much lower risk of fetal complications	Maternal vZIG
Maternal infection 1 week before delivery	Severe / fatal varicella infection	vZIG for the baby
Maternal infection up to 28 days after delivery	Severe / fatal varicella infection	vZIG for the baby
Mother seronegative	Exposure from another source in 1st 28 days	vZIG for the baby
Mother seropositive	Exposure from another source e.g. sibling from day 7-28	Monitor infant and admit for treatment if signs of infection

Approach to management of immunocompromised and high risk children:

Zoster Immunoglobulin (ZIG)

- ZIG is available for the prevention of varicella in high risk patients (e.g. infants < 1 month of age, immunosuppressed patients)
- Its use must be discussed with the on-call microbiologist
- It is administered by slow deep intramuscular injection
- It must be administered within 96 hours of exposure. There may be some efficacy if

administered up to 10 days post exposure.

- Zoster Immunoglobulin (200 IU / 2mL) is available from the Blood Bank. On request they will send a form to complete. Once the ZIG is available, fill in the green form and send it to Blood Bank.

ZIG Immunoglobulin - VF (ZIG) dose based on weight	
Weight	Dose (IU)
0 - 10kg	200
11 - 30 kg	400
> 30kg	600

Shingles:

- Shingles in children does not usually need treatment.
- The dose of 20mg/kg (up to 800mg) of aciclovir 5 times a day is poorly tolerated and compliance is unlikely due to abdominal side effects.
- The relative infrequency of complications from shingles in children also makes treatment less important.

Prevention

- Vaccination with live attenuated Varicella-Zoster vaccine (Varilrix® or Varivax Refrigerated®) has few side effects and is recommended for children over 12 months and seronegative adults.
- A single dose is sufficient for children up to their 14th birthday.
- Older children and seronegative adults require 2 doses at least 1-2 months apart.
- A quadrivalent measles-mumps-rubella-varicella (MMRV) vaccine is also available.
- Varicella vaccination is currently given at 18 months on the Australian Immunisation Schedule.
- It is strongly recommended that non-immune household contacts of an immunosuppressed person be vaccinated against varicella.


Nursing

- Isolate to negative pressure room from triage
- Implement airborne isolation precautions
- Refer to [PMH Emergency Department Rash Management Guideline](#)
- Analgesia as required

Observations

- Baseline observations include heart rate, respiratory rate and temperature. Blood pressure, saturations and neurological observations if clinically indicated (if unsure consult with clinical nurse or doctor).
- Minimum of 1-2 hourly observations should be recorded whilst in the emergency department.
- Any significant changes should be reported immediately to the medical team.

This document can be made available in alternative formats on request for a person with a disability.

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