



GUIDELINE

Eye Care: Eye Infections and Conjunctivitis

Scope (Staff):	Nursing and Medical Staff
Scope (Area):	NICU KEMH, NICU PCH, NETS WA

Child Safe Organisation Statement of Commitment

CAHS commits to being a child safe organisation by applying the National Principles for Child Safe Organisations. This is a commitment to a strong culture supported by robust policies and procedures to reduce the likelihood of harm to children and young people.

This document should be read in conjunction with this [disclaimer](#)

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Aim

To provide guidance on the management of suspected eye infection in the neonate including treatment.

Risk

Neonatal sepsis is severe and the neonate can be at risk of long term eye damage from infection.

Background

Neonatal Conjunctivitis (also known as Ophthalmia Neonatorum) is a common infection in the newborn. Neonatal conjunctivitis is a form of conjunctivitis (inflammation of the outer eye) which affects newborn babies following birth. If left untreated may cause blindness. It can present as white, water or purulent ocular discharge and drainage. Further symptoms can include redness, swelling, eyelid oedema and itchiness to the whole ocular region (pruritus).

There are three main causes of neonatal conjunctivitis – Bacterial, Viral and Chemical. Bacterial infection is the most likely cause, if symptoms occur within 2-5 days of birth.

Stages of Eye Irritation

1. **Moist Eyes** – Presence of some eyelid oedema and moisture to eyes, but there is no stickiness and no crusting. This is usually bilateral and simple sterile eye toilets should be given to these infants
2. **Sticky Eyes** – Mild eye infections are sometime referred to as ‘sticky eyes’. Usually presents with eyelid redness, oedema and crusting around the eyelid. Frequent eye toilets with sterile cotton wool moistened with normal saline
3. **Purulent eye infection** (conjunctivitis) – purulent discharge from eyes may be a result from a congenital or acquired infection. Perform eye toilet and inform the medical team. Eye swabs are required, complete eye swabs prior to treatment with appropriate eye drops.

Eye Irritation other than infective causes

- Naso-lacrimal duct obstruction may cause ongoing stickiness to eyes.
- Corneal abrasion due to trauma at delivery
- Foreign body
- Glaucoma which can present with corneal cloudiness, or proptosis (protrusion of the eyeball)

Causes of Neonatal Conjunctivitis

Infection can be contracted during the birthing process. Look at maternal history to ascertain risk of sexually transmitted diseases

Organism	Clinical Features
Staphylococcus aureus, Streptococcus pneumoniae, Haemophilus Influenza Enterococci	<ul style="list-style-type: none">• Onset 2-5 days post birth• Often unilateral crusted purulent discharge

Organism	Clinical Features
Neisseria gonorrhoeae Infants found to be positive should be checked for systemic infection with blood and CSF cultures	<ul style="list-style-type: none"> • Onset 3 days-3 weeks post birth • Bilateral copious white discharge • Redness and oedema
Pseudomonas aeruginosa	<ul style="list-style-type: none"> • Onset 5-18 days post birth • Lid oedema with purulent discharge • Can have severe outcomes if left untreated • Consider ophthalmology review
Chlamydia trachomatis	<ul style="list-style-type: none"> • Onset 5-14 days post birth • Unilateral or Bilateral, with copious purulent discharge • Common cause of bacterial conjunctivitis
Herpes Simplex	<ul style="list-style-type: none"> • Conjunctivitis with vesicles on other parts of body • Requires urgent Ophthalmology review

Eye Care

1. Explain the procedure to parent/carer if present
2. Perform hand hygiene and don non-sterile gloves.
3. Open sterile cotton wool balls and moisten with sterile saline.
4. Clean the least effected eye first.
5. Gently wipe across eyelids starting at the inner canthus (inner corner of eye) and moving laterally to the outer canthus. Discard the swab after one sweep. Continue until the eyelids appear clean. It may be necessary to gently separate eyelids to cleanse all discharge.
6. Discard equipment and gloves and perform hand hygiene.
7. Document in progress notes and Observation chart

Swab Collection

Microbiological examination can be completed using eye swabs in a neonate with persistent discharging eyes. Medical review and order is required.

- Bacterial eye swabs should be the first line of action. If the eye fails to respond to prescribed treatment, then chlamydial and viral swabs should be sent. Chlamydia has a longer incubation period, from 4 days and up to 2 weeks of

age; therefore, a sticky eye in the first 4 days of life is unlikely to be indicative of chlamydial infection.

- If the infant is delivered vaginally through active genital herpes lesions, an eye swab in viral medium should be sent on admission as part of the septic screen.
- Viral transport medium (VTM) contains antibiotics to keep the virus stable on transport to the laboratory; therefore, it is important not to use VTM for chlamydial or bacterial examination.

Equipment Required

Bacterial	Chlamydial	Viral
<ul style="list-style-type: none"> • Normal Saline • Charcoal Swab • Sterile Swab • Glass slide and slide carrier • Sterile cotton balls 	<ul style="list-style-type: none"> • Normal Saline • Aluminium wire shafted swab • Teflon coated slide and slide carrier • Sterile scissors • Sterile cotton balls 	<ul style="list-style-type: none"> • Normal Saline • Sterile Swab • Viral transport medium • Sterile scissors • Sterile cotton balls

Swab Collection Procedure

1. Perform eye toilet as above, to remove exudate from eye. If both eyes have discharge present, a swab from each eye should be sent. Ensure the swabs they are correctly labelled (Right eye, Left eye).
2. Moisten swab stick with normal saline to provide optimum medium for bacterial / viral / chlamydial growth.
3. Gently fold down lower eyelid and run swab stick across the inner surface, rotating swab to ensure specimen collection.
 - If requiring chlamydial swabs continue on to the inner canthus and rotate the swab across the inner canthus.
 - Note: cells need to be collected not just exudate.
4. Avoid causing trauma to eye mucosa.
5. Smear swab along glass slide if applicable and place into transport medium.
6. The chlamydial swab and viral swab will need to be cut with sterile scissors.

Treatment of eye infections

Treatment depends on the diagnosis, and it can range from regular eye care to antibiotic eye drops, eye ointment and in some cases particularly with pseudomonas IV antibiotics may be required. Consider consultation with microbiologist. As prescribed by the medical team.

[Chloramphenicol Ophthalmic Preparations Neonatal](#)

NOTE: if eyelid swelling accompanied by redness around the eye is present, suspect orbital cellulitis. Urgently seek a review by a fellow or consultant. Imaging and consultation with ENT and Ophthalmology specialists is required depending on the severity of cellulitis

Administration of Eye Drops

1. Explain the procedure to the parents/carer.
2. Perform hand hygiene.
3. Open the sterile cotton wool balls.
4. Perform hand hygiene and don non-sterile gloves.
5. Administer eye drop to affected eye.
6. Wipe away excess drops with sterile cotton balls
7. Perform Hand Hygiene

TIP: You may need a second person to assist with opening the baby's eyes. Offering the baby a dummy may also assist with any resistance during the procedure

Related CAHS internal policies, procedures and guidelines

Neonatology guideline

[Sepsis: Neonatal](#)


[Chloramphenicol Ophthalmic Preparations Neonatal](#)

[Herpes Simplex](#)

References and related external legislation, policies, and guidelines

1. Red Book 2012 Report of the Committee on Infectious Diseases, American Academy of Paeds.
2. Remington and Klein. Infectious diseases of the fetus and newborn. 4th Ed. 1995.
3. Starship Children's Health Guidelines, Infections in and around the eye.
4. <https://www.msdmanuals.com/en-au/professional/pediatrics/infections-in-neonates/neonatal-conjunctivitis>

This document can be made available in alternative formats on request.

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