

NCCU CLINICAL GUIDELINES
SECTION: 8

INFECTION, SEPTIC SCREENING AND MANAGEMENT

Section 8: Infection, septic screen and management
General management and treatment
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GENERAL MANAGEMENT AND TREATMENT

IN ALL CASES, CLOSE MONITORING AND SUPPORTIVE MANAGEMENT IS ESSENTIAL

VIRAL INFECTIONS

See [Infection Control Manual](#) for screening and isolation management.

EARLY-ONSET INFECTION

- Antibiotics should be administered to any neonate with clinical signs of sepsis.
- The presence of risk factors for sepsis **may** indicate investigation, but are not in themselves an indication for antibiotic administration if the neonate is born at term and is clinically well.
- Common pathogens include Group B streptococci (*S. agalactiae*) and Gram-negative organisms, esp. *E. coli* and *H. influenzae*.
- Parenteral therapy with Penicillin and Gentamicin should be started immediately after the septic screen. **If the infant is ill – i.e. shows signs of systemic involvement - speed is of the essence.**

LATE-ONSET INFECTION

- The microbiological colonisation (and sensitivity) of the nursery should be known, and previous colonisation of the infant should be taken into account.
- Common organisms include Coagulase-negative staphylococci (CoNS; *S. epidermidis* being by far the most common) and Gram-negatives, including *Pseudomonas* & *Klebsiella* species.
- Septic work-up includes blood culture, lumbar puncture and suprapubic urine collection. (*Note: if an intra-abdominal collection or necrotising enterocolitis is suspected, blood for aerobic and anaerobic pathogens should be sent in separate bottles.*)
- Antibiotic therapy must be targeted to the sensitivities of the likely causative organism. Empiric therapy is Vancomycin plus an aminoglycoside (Gentamicin or Tobramycin.) CoNS are almost uniformly Flucloxacillin and Cephalosporin resistant.
- If there is evidence of a GI cause (NEC with intramural gas, perforation, peritonitis or an intra-abdominal collection), a combination of Vancomycin AND Piperacilin/Tazobactam AND Gentamicin would be the first choice. Addition of further anti-anaerobe cover (i.e Metronidazole or Meropenem) should be considered individually, e.g. in cases of intra-abdominal collection and/or failure of CRP resolution. These cases should be discussed with the clinical microbiologist.
- In cases of CoNS sepsis where a central line is *in situ*, consideration should be given to removal of the line.

To reduce development of antibiotic resistance, third generation Cephalosporins and Meropenem are restricted to infections with proven sensitive organisms not responding to first-line antibiotics or to overwhelming infections or meningitis. Discuss with neonatologist and a clinical microbiologist.

[See Infection Control Manual 2.6 Multi-resistant organisms \(MRO\): Vancomycin Resistant Enterococci \(VRE\)](#)

Length of treatment is based on laboratory and clinical findings. If deep cultures are negative and 2 CRPs taken 24 hours apart are normal and the infant has improved, antibiotics may be discontinued.

The typical course of antibiotics would be 3 days for suspected but unproven sepsis, 5-7 days for a more definite diagnosis, such as pneumonia, 7-10 days for a positive blood culture, and 3 weeks for meningitis.

CONJUNCTIVITIS

A crusting or purulent eye discharge in the first few days of life. The most common organisms involved are *Staphylococcus aureus*, streptococci and Gram-negative organisms, such as *E. coli*. Recurrent conjunctivitis is more common if there is a blocked lacrimal duct.

Gonococcus can cause severe conjunctivitis (Ophthalmia neonatorum) as can *Chlamydia trachomatis*. Gonococcal infection usually presents within 24 hours of delivery with profuse purulent conjunctival discharge. Chlamydial infections usually present after day 5.

INVESTIGATION

- Eye swabs for microscopy and sensitivity. Special swabs are necessary for diagnosing Chlamydia.

TREATMENT

- In mild cases no treatment other than regular cleaning of the eyelids with sterile saline swabs is required.
- Topical antibiotic ophthalmic drops - Chloramphenicol, Neosporin, or Framycetin. The most convenient dose times are before feeds.
- Gonococcal infection requires parenteral antibiotic therapy, usually with a third generation Cephalosporin, such as Cefotaxime. Consultation with an ophthalmologist is warranted.
- Chlamydial conjunctivitis may require topical Tetracycline and oral Cotrimoxazole.
- Pseudomonal infections can cause severe ocular damage, including lens dislocation. Advice should be sought from an ophthalmologist. Therapy may include topical drops, such as Framycetin as well as systemic anti-pseudomonal drugs, such as Ceftazidime.

SKIN INFECTIONS

Skin infection may manifest as scattered pustules (usually increases), periumbilical cellulitis (omphalitis) and occasionally widespread desquamation (scalded skin syndrome). *Staphylococcus aureus* is the usual causative organism. Staphylococcal pustules must be distinguished from Erythema toxicum neonatorum.

Take swabs (to exclude MRSA). More extensive disease requires systemic treatment with Flucloxacillin. Staphylococcal scalded skin syndrome requires intravenous Flucloxacillin.