AUSTRALIAN VETERINARY PRESCRIBING GUIDELINES

EQUINE

SURGERY

CLEAN *SURGERY, NO MITIGATING FACTORS*
FIRST LINE NONE
MITIGATING FACTORS: penicillin and gentamicin

MITIGATING FACTORS:
- Surgical duration >90 mins
- Surgery involves implant
- Surgical site infection would be a major threat (i.e. CNS)

Duration of therapy: stop within 24 hours
(except implants [7 days])

CLEAN CONTAMINATED *SURGERY*
FIRST LINE penicillin and gentamicin
Duration of therapy: stop within 24 hours

CONTAMINATED *SURGERY (SIGNIFICANT BOWEL LEAKAGE)*
FIRST LINE penicillin, gentamicin and metronidazole
Duration of therapy: no evidence, 24-48 hours is common in human medicine

DIRTY *SURGERY:* use antimicrobial appropriate for infection and treat until cured

TIMING IV antimicrobials: 30-60 mins prior to surgery, repeat benzyl penicillin every 80 minutes
IM procaine penicillin: 3.5 hours prior to surgery

CLINIC POLICY
CLEAN:_____

CLEAN CONTAMINATED:_____

CONTAMINATED:_____

CELLULITIS

PRIMARY no obvious underlying cause. Often more severe than secondary cases.
SECONDARY: an underlying cause can be identified (surgery, joint injection, wound, blunt trauma).

DIAGNOSTICS
Fine-needle aspirate should be collected for culture and susceptibility testing. Care if needed for cellulitis occurring over synovial structures.

TREATMENT
IVRP: gentamicin 1/3 systemic dose
FIRST LINE systemic antimicrobials: Penicillin & gentamicin (adjust dose if IVRP performed) or oxytetracycline.
Topical therapy: Cold water hosing and pressure bandage.
Analgesia especially if non-weight bearing as risk laminitis in contralateral limb.

CLINIC POLICY
FIRST LINE:_____

SECOND LINE:_____

DOSE RATES

ANTIMICROBIAL AGENT	RECOMMENDED DOSE	ROUTE	INTER-DOSING INTERVAL
Procaine penicillin*	22,000 IU/kg	IM	12 hours
Gentamicin*	7.7-9.7 mg/kg	IV or IM	24 hours
Trimethoprim / sulphonamide	30 mg/kg	PO or IV	12 hours
Doxycycline*	10 mg/kg	PO	12 hours
Oxytetracycline*	6.6 mg/kg	Slow IV	12 hours
Metronidazole*	20mg/kg	PO	12 hours

*Many of the recommendation in this guide represent off-label use of antimicrobials. Compliance with the legal requirements of your jurisdiction is your responsibility.

WOUNDS

NO SYNOVIAL STRUCTURES INVOLVED: no antimicrobials therapy indicated, even if contamination of the wound is present.
Systemic antimicrobials only when:
- Systemically unwell
- Potential synovial involvement (see below)
- Immunosuppressed patient

SYNOVIAL STRUCTURE INVOLVED: Lavage is almost always required for successful outcome. Systemic antimicrobials always indicated. Therapy should be based of culture and susceptibility testing.
Empirical therapy with penicillin and gentamicin should be initiated pending culture results.
CLINIC POLICY
FIRST LINE:_____

SECOND LINE:_____

SINUSITIS

DIAGNOSTICS
A sample of fluid from the sinus should be obtained to confirm the diagnosis. Culture is not usually required.
Consider underlying disease (dental or equine Cushing's) especially if recurs.

TREATMENT
Sinus lavage alone may be sufficient and is almost always required for successful outcome (minimally invasive technique in the field can be used).
Systemic antimicrobials when:
- Recurrent disease
- Systemically unwell

FIRST LINE: penicillin or trimethoprim / sulphonamide
CLINIC POLICY
FIRST LINE:_____

SECOND LINE:_____

STRANGLES

DIAGNOSTICS
Notifiable disease, samples should be submitted for serology, culture or PCR to confirm diagnosis.

TREATMENT
No antimicrobial recommended. Most cases resolve quickly once drainage has been established. A small percentage continue to shed (carriers).
Systemic antimicrobials only when:
- Respiratory compromise
- Metastatic disease (Bastard strangles)

In these cases, penicillin is first line therapy.
CLINIC POLICY
FIRST LINE:_____

SECOND LINE:_____

FOAL PNEUMONIA

DIAGNOSTICS
Streptococcus zooepidemicus and *Rhodococcus equi* are equally common. Transtracheal wash is required for cytological examination and culture and susceptibility testing in all cases.

TREATMENT
Based on culture and susceptibility results. Empiric therapy can be initiated while results pending.
FIRST LINE: if *S. zooepidemicus* is suspected penicillin is appropriate. If *R. equi* is suspected clarithromycin and rifampin is recommended.

DURATION OF THERAPY
Varies by pathogen; 1 week generally adequate for *S. zooepidemicus,* 4-6 week generally recommended for *R. equi.*
CLINIC POLICY
FIRST LINE:_____

SECOND LINE:_____

OMPHALOPHLEBITIS (NAVEL ILL)

DIAGNOSTICS
Ultrasound evaluation should be performed to define the infected structure and to allow for monitoring with treatment.

TREATMENT
Penicillin & gentamicin is most effective but often not tolerated well. Trimethoprim / sulphonamide or doxycycline are suitable alternatives that can be given orally.

DURATION OF THERAPY
Serial ultrasonographic examination should be performed and therapy continued until 1 week after resolution of disease.
CLINIC POLICY
FIRST LINE:_____

SECOND LINE:_____

SEPSIS IN FOALS

DIAGNOSTICS
Sepsis score can be used to assess risk (see website). Blood for culture and susceptibility should be collected but false negatives are common.

TREATMENT
Based on culture and susceptibility results if possible. Empiric therapy can be initiated while results pending.
FIRST LINE: penicillin & gentamicin is recommended.
Care with gentamicin if renal function is compromised. Intravenous trimethoprim / sulphonamide is alternate.

DURATION OF THERAPY
2 weeks is generally considered to be adequate, unless focal infection develops (i.e. septic arthritis).
CLINIC POLICY
FIRST LINE:_____

SECOND LINE:_____

HIGH-RISK FOALS

Premature foal and those with neonatal encephalopathy ('Dummy Foal Syndrome') are at increased risk of sepsis. Failure of passive transfer should be addressed with plasma transfusion. There is no evidence for any benefit from prophylactic antimicrobials in place of plasma transfusion.

DIAGNOSTICS
Serial haematologic evaluation and sepsis score may guide necessity for antimicrobial therapy.

TREATMENT
Prophylactic therapy is warranted when leukopaenia is present or sepsis score is high.
FIRST LINE: penicillin & gentamicin
Care should be taken in foals with impaired renal function. Trimethoprim / sulphonamide IV is an alternative.
CLINIC POLICY
FIRST LINE:_____

SECOND LINE:_____

SEPTIC ARTHRITIS

DIAGNOSTICS
Arthrocentesis should be performed to obtain fluid for cytological evaluation and for culture and susceptibility testing in all cases. Radiographs should be taken to investigate bone involvement.

TREATMENT
Based on culture and susceptibility results. Empiric therapy can be initiated while results pending.
FIRST LINE: penicillin & gentamicin is recommended.
Oxytetracycline is an alternative, especially if osteomyelitis is diagnosed.

DURATION OF THERAPY
Treat for 1 week past resolution of clinical signs, longer if osteomyelitis is present.
CLINIC POLICY
FIRST LINE:_____

SECOND LINE:_____

PATENT URACHUS

DIAGNOSTICS
Ultrasound evaluation should be performed to rule out omphalophlebitis. If no enlargement of the umbilical remnants is identified antimicrobial therapy is not indicated.

TREATMENT
No antimicrobial therapy indicated.
Frequent topical antibacterial therapy with chlorhexidine is recommended until patency resolves.
CLINIC POLICY
FIRST LINE:_____

SECOND LINE:_____

DIARRHOEA

ACUTE DIARRHOEA
DIAGNOSTICS
Culture should be performed for *Salmonella.*
Diagnosis of clostridial disease requires toxin test.

TREATMENT
No antimicrobials unless:
- Confirmed clostridial cause
- Severe leukopaenia and neutropaenia

If clostridial: metronidazole
If leukopaenic: penicillin & gentamicin

DURATION OF THERAPY
Clostridial: until diarrhoea resolves
Leukopaenic: until leukopaenia resolves

CHRONIC DIARRHOEA
Antimicrobial therapy rarely indicated.
CLINIC POLICY
FIRST LINE:_____

SECOND LINE:_____

PNEUMONIA IN ADULTS

DIAGNOSTICS
Transtracheal wash, or endoscopic tracheal wash with a triple guarded catheter, should be performed for cytological evaluation. Culture and susceptibility testing should be performed in all cases. Culture of bronchoalveolar lavage specimens is never appropriate as these samples are contaminated by the upper airway.

TREATMENT
Should be based on culture and susceptibility results.
FIRST LINE: penicillin & gentamicin should be initiated pending results. Metronidazole should be added if anaerobes are suspected (foul smell to tracheal fluid).
CLINIC POLICY
FIRST LINE:_____

SECOND LINE:_____

PERITONITIS

DIAGNOSTICS
Abdominocentesis should be performed to collect fluid for cytological evaluation and culture and susceptibility testing. Differentiation between primary and secondary origins is critical as secondary peritonitis is typically due to leakage from the gastrointestinal or reproductive tracts and surgery should be considered.

TREATMENT
Systemic antimicrobial therapy should be instituted immediately following sample collection.
FIRST LINE: penicillin & gentamicin & metronidazole

DURATION OF THERAPY
Serial abdominocentesis should guide therapy. Treat for 1-2 weeks past resolution of disease
CLINIC POLICY
FIRST LINE:_____

SECOND LINE:_____

LAWSONIA (PROLIFERATIVE ENTEROPATHY)

DIAGNOSTICS
Diagnosis can be made via serology (ELISA) or by faecal PCR.

TREATMENT
Mild to moderate disease: doxycycline PO
Severe disease: oxytetracycline IV

DURATION OF THERAPY
Mild to moderate disease: generally 3 weeks is recommended
Severe disease: 3-4 weeks
CLINIC POLICY
FIRST LINE:_____

SECOND LINE:_____

NCAS National Centre for Antimicrobial Stewardship
THE UNIVERSITY OF MELBOURNE
FACULTY OF VETERINARY & AGRICULTURAL SCIENCES
APCAH Asia-Pacific Centre for Animal Health

FOR MORE INFORMATION: www.fvas.unimelb.edu.au/vetantibiotics