

Neutropenic Sepsis Guidance

NON haematology/oncology patients

IF NEUTROPHIL COUNT $>0.5 \times 10^9/L$ FOLLOW GUIDANCE ON [HOSPITAL ANTIBIOTIC MAN](#)

Haematology patients – [click here for guidance](#)

Oncology patients – [click here for guidance](#)

Initial Assessment and Management

- Neutropenic sepsis = neutrophil count $<0.5 \times 10^9/L$ + [sepsis](#)
- Assess patient within 15 minutes of presentation to hospital and commence resuscitation following 'Sepsis 6' care bundle
- Assess severity of [sepsis](#) and assign RISK category as detailed below
- All patients should have a full infection screen:
 - Blood cultures
 - Throat swabs – bacterial and viral
 - Chest X-ray
 - MSU
 - Stool culture
 - Sputum culture
 - Swab skin lesions and line exits
- Always take blood cultures before giving antibiotics but do not wait for full infection screen to be performed
- [Penicillin/beta-lactam Allergy](#) – confirm type and severity of previous reaction e.g. rash, anaphylaxis
- Review previous microbiology results for resistance

STANDARD RISK PATIENTS

Neutropenia + Sepsis + **NEWS Score ≤ 6**

START ANTIBIOTIC THERAPY WITHIN 1 HOUR

Piperacillin/Tazobactam
No routine gentamicin

Penicillin Allergy: Teicoplanin + Aztreonam

If previous anaphylaxis or angioedema to penicillin:
Teicoplanin + *Ciprofloxacin

HIGH RISK PATIENTS

Neutropenia + Septic Shock
or **NEWS ≥ 7**

START ANTIBIOTIC THERAPY WITHIN 1 HOUR

Piperacillin/Tazobactam + [Gentamicin](#)

Penicillin Allergy:

Teicoplanin + Aztreonam + [Gentamicin](#)

If previous anaphylaxis or angioedema to penicillin:
Teicoplanin + *Ciprofloxacin + [Gentamicin](#)

Add antimicrobial cover for specific additional infection risks if required:

- Previous or current MRSA infection/colonisation, suspected line or skin and soft tissue infection – Teicoplanin
 - Teicoplanin resistant organism isolated previously - Vancomycin
- Community acquired pneumonia suspected (consider bronchoscopy) – Clarithromycin*/Doxycycline
- Previous ESBL infection or known ESBL carrier, in place of piperacillin/tazobactam - Meropenem

MONITOR ALL PATIENTS HOURLY

Antibiotic Dosing

(assuming non pregnant adult with normal renal and hepatic function)

Piperacillin/tazobactam IV 4.5g qds

Aztreonam IV 2g qds

Ciprofloxacin* IV 400mg tds

Clarithromycin* IV 500mg bd

Doxycycline PO 100mg bd

Teicoplanin – 12mg/kg bd (max 800mg) for 4 doses then od (check pre dose level if expected duration >10 days)

Gentamicin – follow [guidance](#)

Vancomycin – follow [guidance](#)

*consider risk of prolonged QT interval and [interactions](#)

- Review IV daily and consider IVOST
- Reassess antibiotic therapy after 48 - 72 hours
- Check microbiology results and adjust antibiotic therapy as required

If persistent fever after 96 hours and no focus of infection request ID/Micro review regarding initiation of [antifungal therapy](#)

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Ref: [SAPG guidance 2019](#)

Local expert opinion

[BJCP 2012](#) ciprofloxacin dosing