

Galway: GAPP - Galway Antimicrobial Prescribing Policy / Guidelines (GAPP): Neutropenic Sepsis

Neutropenic Sepsis

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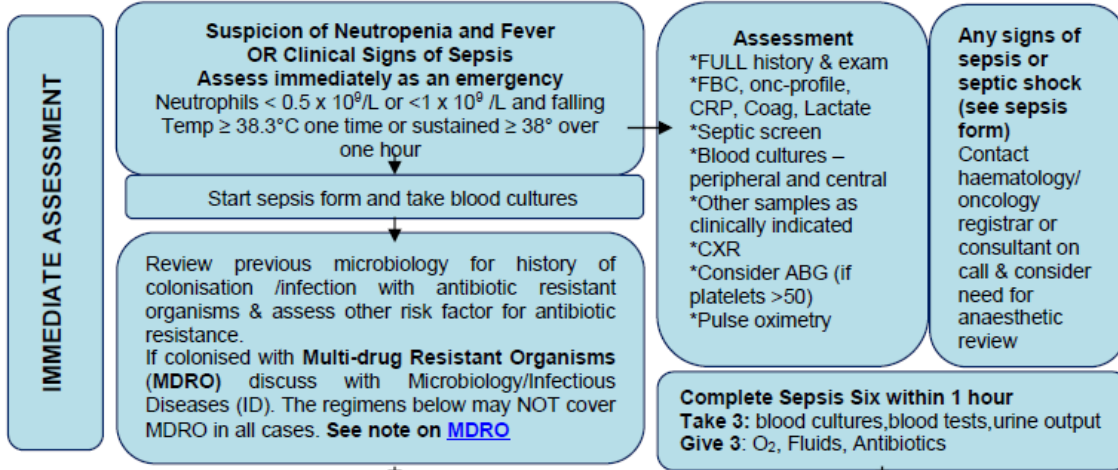
1. [Any suspicion of neutropenia and fever OR clinical signs of sepsis must be assessed immediately as an emergency](#)
2. **Fever** means temperature $\geq 38.3^{\circ}\text{C}$ on one occasion or sustained temperature greater than 38°C .
3. **Neutropenia** means an absolute neutrophil count of less than $0.5 \times 10^9 /\text{L}$.
4. Administer antimicrobials promptly once sepsis is suspected. HSE Sepsis Programme Documents & Resources are available at <https://www.hse.ie/eng/about/who/cspd/ncps/sepsis/resources/>
5. Note **frequent review** is essential. The time frames suggested for addition of additional empiric therapy may need to be shortened if the patient's condition is deteriorating.
6. Consider risk for **fungal** infection and **viral** infection.
7. If the infection is CVC associated - **remove the CVC** .
8. Review previous microbiology for history of colonisation or infection with antibiotic resistant organisms and assess other risk factors for antibiotic resistance. If colonised with Multi-drug Resistant Organisms ([MDRO](#)) including Carbapenemase Producing Enterobacteriaceae (CPE), discuss with Microbiology or Infectious Diseases.
9. Comprehensive Haematology Guidelines are available on QPulse.
10. Summary treatment algorithms:
 - [Initial management of neutropenic sepsis algorithm](#)
 - [Continuing management of neutropenic sepsis algorithm](#)

Refs:

1. IDSA Guidelines for the use of antimicrobial agents in neutropenic patients with cancer. [Clin Infect Dis 2011;52:e56-93](#)
2. GUH Haematology Guidelines for the management of febrile neutropenic patients (QPulse CLN-HAEM-020)
3. NICE Neutropenic Sepsis: prevention and management in people with cancer ([Clinical guideline 151](#)) 2012
4. Adult [Sepsis Form](#) 2021

Initial management of neutropenic sepsis - Algorithm

Neutropenic Sepsis Guidelines GUH – INITIAL Management



ANTIBIOTICS WITHIN ONE HOUR

Antibiotics must be given as soon as possible, then discuss with Microbiology or ID. Meropenem should be considered as first-line treatment in patients who are **critically ill** with sepsis **OR** have a history of a **Gram-negative MDRO**. Discuss use of Meropenem with Microbiology or ID. If meropenem is essential in a patient with a history of severe penicillin allergy e.g. anaphylaxis, close monitoring is required for cross sensitivity e.g. in ICU.

Check allergy status and give antibiotics immediately after taking blood cultures

No penicillin allergy	Penicillin allergy: delayed onset non-severe reaction	Penicillin allergy: immediate or severe delayed reaction
<p>Piperacillin/tazobactam IV 4.5g every 6 hours PLUS</p> <p>Either Gentamicin IV One dose per GAPP App calculator. OR If multiple myeloma* Ciprofloxacin IV 400mg every 8 hours</p> <p>Consider need for Vancomycin IV infusion dose per GAPP App calculator (see below)</p>	<p>Meropenem IV 1g every 8 hours</p> <p>Consider need for Vancomycin IV infusion dose per GAPP App calculator (see below)</p>	<p>Give first doses, THEN IMMEDIATELY discuss on-going therapy with Microbiology or ID</p> <p>Aztreonam IV 2g every 8 hours PLUS</p> <p>Vancomycin IV infusion dose per GAPP App calculator PLUS</p> <p>Either Gentamicin IV one dose per GAPP App calculator OR If multiple myeloma* Ciprofloxacin IV 400mg every 8 hours</p>
<p>*In a haemodynamically unstable patient with multiple myeloma, benefit of gentamicin might outweigh risk – discuss with haematology consultant</p>		
<p>Add Vancomycin (with loading dose) IF</p> <ul style="list-style-type: none"> <li style="width: 33%;">• Suspected line infection <li style="width: 33%;">• Septic shock/haemodynamically unstable <li style="width: 33%;">• Active mucositis <li style="width: 33%;">• Skin /Soft tissue infection <li style="width: 33%;">• MRSA colonization or infection <li style="width: 33%;">• Pneumonia 		

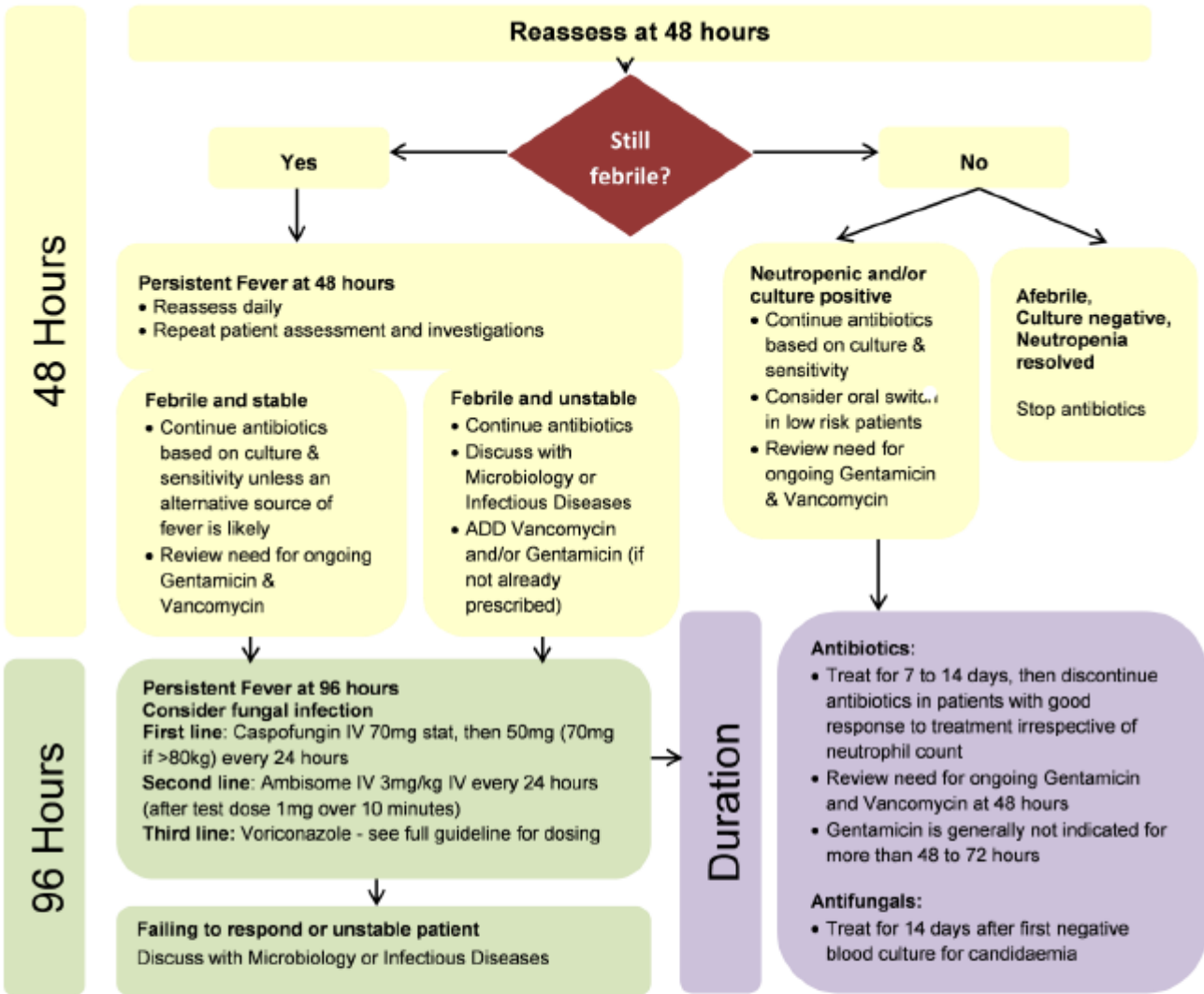
DAILY REVIEW

Review Gentamicin (or Ciprofloxacin) after 24 hours, then daily.
 Continue ONLY if consultant or registrar recommended.
 Review patient daily, or more often if indicated.
 Reassess treatment at 48 hours – see algorithm below for continuing management.

For information on further treatment, investigations and monitoring, please see **Haematology Guidelines for the Management of Adult Febrile Neutropenic Patients in Galway University Hospitals** on Qpulse

(click on image to enlarge)

Neutropenic Sepsis Guidelines – CONTINUING Management



Other Infections – doses are for normal renal function

Other Infections

Treatment of Viral Infections

Local Herpes Simplex:

Oral: Valaciclovir PO 1g every 12 hours OR

IV: Aciclovir IV 5mg/kg (IBW*) every 8 hours

Herpes Zoster:

Aciclovir IV 10mg/kg (IBW*) every 8 hours, then change to Valaciclovir PO 1g every 8 hours when lesions healing

Consider CMV serology & PCR

*IBW = Ideal Body Weight

Treatment of PJP

Co-Trimoxazole IV/PO

120mg/kg daily in 4 divided doses

OR 2nd Line: Pentamidine IV 4mg/kg once daily PLUS steroids for severe disease

Treat for 14 days

Prophylaxis – if indicated

See full guideline

Antiviral: ValACIclovir PO 500mg bd

PJP: Co-trimoxazole PO 960mg twice daily on Mon/Wed/Friday. See full guideline for alternatives.

Antifungal: Posaconazole PO using tablets 300mg bd for 2 doses, then 300mg once daily

OR Ambisome IV 1mg/kg (round to 50 or 100mg according to weight) once daily on Mon/Wed/Friday

OR Fluconazole PO 50 to 400mg once daily

(click on image to enlarge)