

Background

Fever and suspected or confirmed neutropenia is a medical emergency.

Antibiotics must be administered **within 30 minutes** if there are signs of sepsis and within 60 minutes if there are no signs of sepsis.

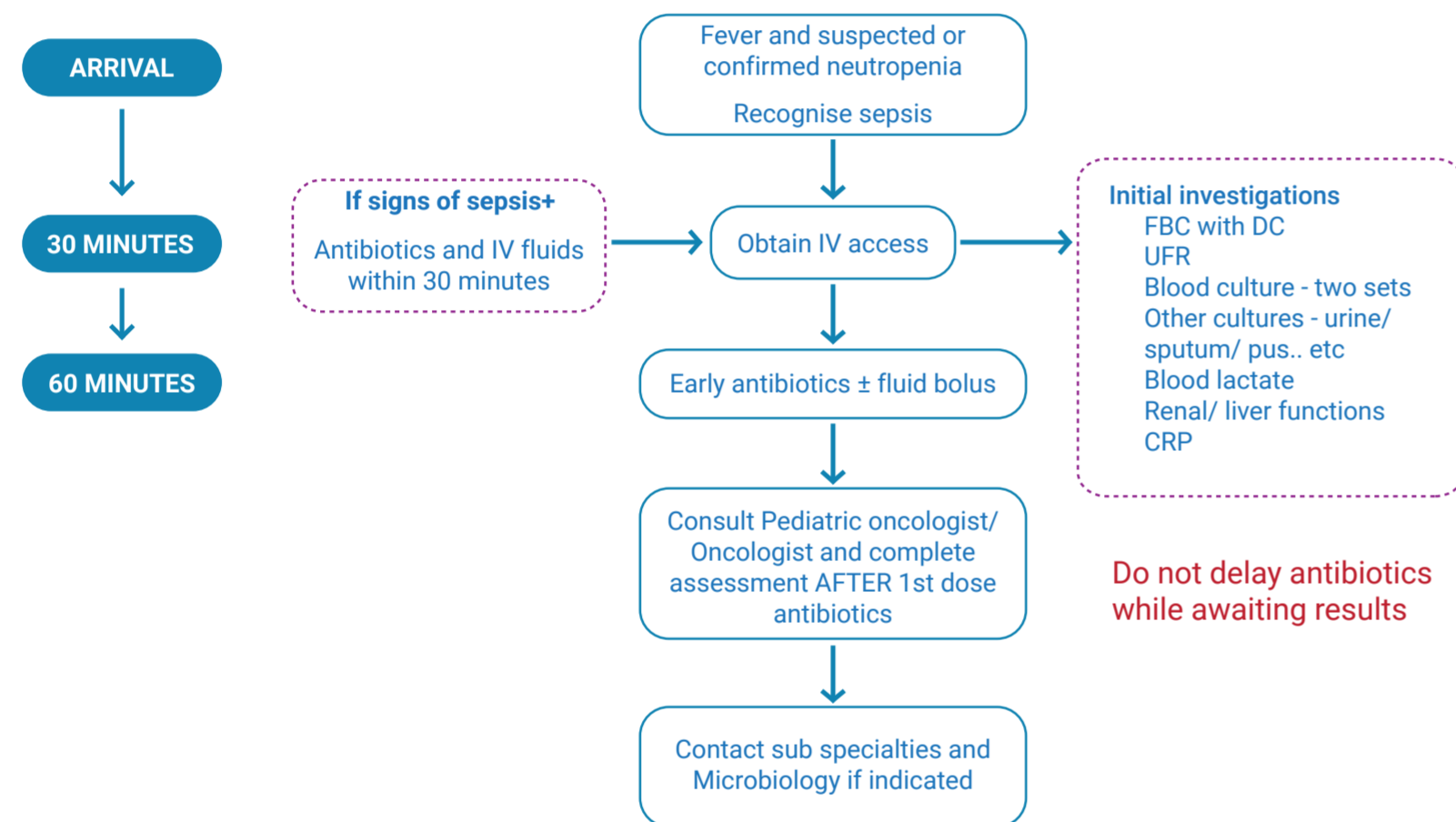
Definitions

Fever- A single temperature of $\geq 38.5^{\circ}\text{C}$ or a sustained temperature \geq of 38.0°C over 1 hour.

Neutropenia- An absolute neutrophil count of $<500/\text{mm}^3$ or $<1000/\text{mm}^3$ with predicted decline to $<500/\text{mm}^3$ over the next 48 hours.

Suspected neutropenia - Suspect neutropenia in any oncology patient who has received chemotherapy (oral or IV) within the last 14 days.

Initial assessment and management - Initial treatment algorithm-



Antibiotic recommendations

(No known allergies)

- » **Initial treatment for all patients-**
IV **Piperacillin tazobactam** (if not available consider IV **Ceftazidime** or IV **Cefepime**)
+/- IV Amikacin
- » **If severe sepsis or suspected resistant Gram positive infection-** (i.e. cellulitis, obviously infected vascular devices, proven Gram positive bacteremia, known MRSA colonization and extensive skin breaks)
Add IV **Vancomycin/ Teicoplanin**
- » **In critically ill or haemodynamically unstable - start**
IV **Meropenem/Imipenem + IV Amikacin + IV Vancomycin/ Teicoplanin**
- » **If suspect colitis - Add Oral or IV Metronidazole**

Antibiotic recommendations

(Penicillin/ Beta- lactam hypersensitivity)

- » **Initial treatment for all patients -**
 - Non life threatening hypersensitivity (eg-rash)
IV **Cefepime** or IV **Ceftazidime**
 - Life threatening (immediate) hypersensitivity-
IV **Ciprofloxacin AND IV Vancomycin +/- IV Amikacin**
- » **If severe sepsis or suspected resistant Gram positive infection -** (i.e. cellulitis, obviously infected vascular devices, proven gram positive bacteremia, known MRSA colonization and extensive skin breaks)
Add IV **Vancomycin / Teicoplanin**
- » **In critically ill or haemodynamically unstable - start**
IV **Meropenem/ Imipenem + IV Amikacin + IV vancomycin/ Teicoplanin**
- » **If suspect colitis - Add Oral or IV Metronidazole**

Dose and Frequency

Drug	Dose and frequency
Piperacillin tazobactam	90 mg/kg IV every 6 hourly (1 month to 11 yrs)
Amikacin	7.5 mg/kg IV 12 hourly 15- 22.5mg/day IV divided 8 hourly
Gentamicin	5- 7 mg/kg/day IV once daily Or 2.5 mg/kg 8 hly
Vancomycin	15 mg/kg IV 6 hourly (maximum 500 mg ;infusion over 100 minutes) 12- 17 years seriously ill loading dose of 25-30mg/kg
Teicoplanin	10mg/kg IV 12 hourly for 3 doses and then 10mg/kg IV daily
Metronidazole	7.5 mg/kg IV/oral 8 hourly
Cefepime	50 mg/kg (max 2g) IV 12hourly
Ceftazidime	50 mg/kg IV 8 hourly
Ciprofloxacin	10- 15 mg/kg (max 400mg) IV 12 hourly
Meropenem	60 mg/kg/day IV (Divided 8 hly) Meningitis-120 mg/kg/day(divided 8 hourly), Injection on infusion over 15 - 30 minutes
Levofloxacin	16-20 mg/kg/day oral or IV (Divided 12 hourly)
Clarithromycin	15mg/kg/day oral or IV divided 12 hourly Max 1g/day
Co-trimoxazole (Trimethoprim sulfamethoxazole)	120 mg/kg day oral(2-4 divided doses) for14-21 days

Dose and Frequency

Drug	Dose and frequency
Fluconazole	If age $> 1/12$ - 6-12 mg/kg/day oral or IV
Voriconazole	Oral- Age 2 - 12 years or 12-14 years and weighing <50 kg- 9/mg/kg (Max 350 mg) bd Age 12- 14 years and weighing >50 kg or age >15 years- Use adult dosing IV- Age 2 to 12 years or 12-14 years and weighing <50 kg- 9/mg/kg IV bd 2 doses then 4-8 mg/kg bd Age 12- 14 years and weighing >50 kg or age >15 years- Use adult dosing
Amphotericin B	After test dose - Conventional- 1 mg/kg/day IV Lyposomal- 3-5 mg/kg/day IV Infusion over 2-3 hours
Anidulafungin	1.5 -3 mg/kg IV loading dose , then 0.75 -1.5mg/kg/day IV Rate of infusion should not exceed 1.1 mg/min
Oseltamivir	Oral - Infant 2 weeks-11 months- 3 mg/kg bd for 5 days <15 kg- 30 mg bd for 5 days >15 kg to 23 kg- 45 mg bd for 5 days >23 kg to 40 kg- 60 mg bd for 5 days > 40 kg- 75 mg bd for 5 days

Following drugs should be given with Consultant Microbiologist opinion.

Drug	Dose and frequency
Colistin	IV Child (body-weight up to 41 kg): 75 000-150 000 units/kg daily in 3 divided doses Child (body-weight 41 kg and above): 9 million units daily in 2-3 divided doses
Tigecycline	IV Child 8-11 years (under expert supervision) 1.2 mg/kg every 12 hours (max. per dose 50 mg) for 5-14 days Child 12-17 years (under expert supervision): 50 mg every 12 hours for 5-14 days

Drug	Dose and frequency
Linezolid	Oral/IV Child 1 month-11 years: 10 mg/kg every 8 hours (max. per dose 600 mg) Child 12-17 years: 600 mg every 12 hours With intravenous use Infusion to be administered over 30-120 minutes.

Microbiology Department in collaboration with Paediatric Department in National Cancer Institute, Sri Lanka

As an activity of the WHO Global Initiative for Childhood Cancer – Sri Lanka Project