GUIDANCE ON INITIAL ANTIBIOTIC MANAGEMENT OF NEUTROPENIC SEPSIS/FEBRILE NEUTROPENIA IN ADULT CANCER PATIENTS (including HAEMATO-ONCOLOGY)

This guidance has been developed for local adaptation to reflect local resistance rates. In addition previous microbiology results should be reviewed for resistance on an individual patient basis.

| FEVER: Pyrexia OR Hypothermia (temperature > 38°C OR < 36°C) |
| SEPSIS: EVIDENCE OF INFECTION + ORGAN DYSFUNCTION i.e. ≥ 2 of hypotension, confusion or tachypnoea, (Resp Rate ≥22/minute) |
| SEPTIC SHOCK: Sepsis induced hypotension requiring inotropic support or hypotension that is unresponsive (within 1hr) to adequate fluid resuscitation i.e. systolic BP <90mmHg or a reduction of >40mmHg from baseline |

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Other patient groups included:
- Cancer patients who are clinically unwell with undifferentiated infection with normal Neutrophil count but known to be immunocompromised e.g. recent stem cell transplant, high dose corticosteroid therapy

In line with current standards for management of sepsis all patients with suspected neutropenic sepsis should be assessed within 15 minutes of presentation to hospital and resuscitation should be commenced following the ‘Sepsis 6’ care bundle. Sepsis severity should be assessed using an National Early Warning Score (NEWS) and patients assigned as STANDARD RISK or HIGH RISK based on the following criteria:

| STANDARD RISK PATIENTS: NEUTROPENIC SEPSIS OR FEBRILE NEUTROPENIA plus NEWS ≤ 6 |
| HIGH RISK PATIENTS: SEPTIC SHOCK or NEWS ≥ 7 plus ALL PATIENTS WITH ACUTE LEUKAEMIA OR ALLOGENEIC TRANSPLANT |

Initial version of guidance developed by the Scottish Antimicrobial Prescribing Group in collaboration with the regional cancer networks and the Scottish Microbiology and Virology Network.

**N.B. ALWAYS TAKE BLOOD CULTURES (BEFORE GIVING ANTIBIOTICS) AND OTHER CULTURES AS APPROPRIATE**

| ADMINISTRER FIRST ANTIBIOTIC DOSE WITHIN ONE HOUR + COVER SPECIFIC INFECTION RISKS* |
| PENICILLIN / beta-lactam ALLERGIC (Confirm type and severity of previous reaction e.g. rash, anaphylaxis) |

**REVIEW IV THERAPY DAILY - CONSIDER IVOST** (as per local guidelines) AND STOP IF INFECTION EXCLUDED - MAXIMUM GENTAMICIN DURATION WITHOUT REVIEW 3 DAYS

*Antimicrobial cover for specific additional infection risks:
1. IV vancomycin or teicoplanin (following local guidelines) if recent infection with MRSA, MRSA colonised (current or previous), suspected central line infection or signs of skin/soft tissue infection
2. IV clarithromycin 500mg 12 hourly if Community Acquired Pneumonia suspected and atypical cover required (check drug interactions)

Cautions:
1. Suggested antibiotic dosage is based on normal renal function
2. If using gentamicin / vancomycin combination - potential for additive adverse renal effects. Consider teicoplanin in place of vancomycin
3. Consider meropenem if previous or suspected ESBL
4. Consider meropenem if severe penicillin allergy: IV ceftazidime 2g every 8 hours plus IV gentamicin
5. Consider meropenem if previous or suspected ESBL

In Acute Leukaemia or Allogeneic stem cell transplant patients with sepsis requiring inotropic support or septic shock consider using IV meropenem 1 – 2 g every eight hours +/- an aminoglycoside (follow local guidelines)