Early Management of Suspected Bacterial Meningitis and Meningococcal Septicaemia in Immunocompetent Adults*

**Early Recognition**
- Petechial/purpuric non-blanching rash or signs of meningitis
- A rash may be absent or atypical at presentation
- Neck stiffness may be absent in up to 30% of cases of meningitis
- Prior antibiotics may mask the severity of the illness

**Assess Severity & Immediate Intervention**

**Airway**
- Breathing - Respiratory Rate & O₂ Saturation
- Circulation - Pulse; Capillary Refill Time (hypotension late); Urine output
- Mental status (deterioration may be a sign of shock or meningitis)
- Neurology – Focal neurological signs; Persistent seizures; Papilloedema

**Secure Airway**
- High Flow O₂
- Large bore IV Cannula ± fluid resuscitation

**Predominantly Meningococcal Septicaemia**
- Do not attempt LP
- IV 2g Cefotaxime or Ceftriaxone
- Call critical care team for review

**No Raised ICP**
- No Respiratory Failure

**Predominantly Meningitis**
- Assess patient carefully before performing LP
- Call critical care team if any features of raised intracranial pressure, shock or respiratory failure
- If uncertain ask for senior review
- Monitor and stabilise circulation

**Lumbar puncture**
- IV 2g Cefotaxime/Ceftriaxone immediately after LP
- Consider corticosteroids
- If LP will be delayed for more than 30 minutes give IV antibiotics first

**Priorities**
- Secure airway + High flow O₂
- Volume resuscitation
- Senior review
- Management in critical care unit

**Signs of Shock**
- Yes
- No

**Careful Monitoring**
- Repeated Review

**Public Health/Infection Control**
- Notify CCDC†
- If probable or confirmed meningococcal disease, contact CCDC† urgently regarding prophylaxis to contacts
- Notify microbiology
- Isolate patient for first 24 hours

*In the immunocompromised seek additional expert advice
†CPHM in Scotland

**Additional Information**

**Warning Signs**
- The following warn of impending/worsening shock, respiratory failure or raised intracranial pressure and require urgent senior review and intervention (see algorithm):
  - Rapidly progressive rash
  - Poor peripheral perfusion, CRT > 4 secs, oliguria and systolic BP < 90 (hypotension often a late sign)
  - RR < 8 or > 30
  - Pulse rate < 40 or > 140
  - Acidosis pH < 7.3 or BE worse than - 5
  - WBC < 4
  - Marked depressed conscious level (GCS < 12) or a fluctuating conscious level (fall in GCS > 2)
  - Focal neurology
  - Persistent seizures
  - Bradycardia and hypotension
  - Papilloedema

**CT scan and meningitis**
- This investigation should only be used when appropriate:
  - A normal CT scan does not exclude raised intracranial pressure
  - If there are no clinical contraindications to LP, a CT scan is not necessary beforehand
  - Subsequently a CT scan may be useful in identifying dural defects predisposing to meningitis

**Appropriate antibiotics for bacterial meningitis**
- Ampicillin IV 2g qds should be added for individuals > 55 years to cover Listeria
- Vancomycin ± rifampicin if pneumococcal penicillin resistance suspected
- Amend antibiotics on the basis of microbiology results

**Corticosteroids in adult meningitis**
- (see refs)
- Review with microbiology:
  - Ampicillin IV 2g qds should be added for individuals > 55 years to cover Listeria
  - Vancomycin ± rifampicin if pneumococcal penicillin resistance suspected
  - Amend antibiotics on the basis of microbiology results

References: