**Early recognition is crucial**

Consider meningitis or meningococcal sepsis if ANY of the following are present:

- Headache
- Fever
- Altered Consciousness
- Neck Stiffness
- Rash
- Seizures
- Shock

**Immediate Action**

**Suspected Meningitis** (meningitis without signs of shock, severe sepsis or signs suggesting brain shift)

- Blood cultures
- Lumbar puncture
- Dexamethasone 10mg IV
- Ceftriaxone OR Cefotaxime 2g IV immediately following LP

(see also alternative initial antibiotics)

- CT scan normally not indicated
- Careful fluid resuscitation (avoid fluid overload)

"If LP cannot be done in the first hour, antibiotics must be given immediately after blood cultures have been taken

**Suspected meningitis with signs suggestive of shift of brain compartments secondary to raised intracranial pressure**

- Get Critical Care input
- Secure airway, high flow oxygen
- Take bloods including Blood Cultures
- Give Dexamethasone 10mg IV
- Give Ceftriaxone OR Cefotaxime 2g IV immediately after blood cultures taken
- Delay LP
- Arrange neurological imaging (once patient is stabilised)

**Signs of severe sepsis or a rapidly evolving rash** (with or without symptoms and signs of meningitis)

- Get Critical Care input
- Secure airway and give high flow oxygen
- Fluid resuscitation
- Blood Cultures
- Ceftriaxone OR Cefotaxime 2g IV immediately after blood cultures taken
- Delay LP
- Follow Surviving Sepsis Guidelines at: http://www.survivingsepsis.org/guidelines

**Delay LP**

If any of the following are present:

- Signs of severe sepsis or rapidly evolving rash
- SEVERE respiratory/ cardiac compromise
- Significant bleeding risk
- Signs suggesting shift of brain compartments (CT scan before LP is warranted, as long as patient is stable)

- Focal neurological signs
- Presence of papilloedema
- Continuous or uncontrolled seizures
- GCS ≤2

**Alternative initial antibiotics**

**Penicillin/Cephalosporin**

- Chloramphenicol 25mg/kg IV

≥60 years old (not allergic)

- OR immunocompromised (including alcohol dependency and diabetes).
- Ceftriaxone OR Cefotaxime 2g IV
- PLUS Amoxicillin 2g IV

**Penicillin/Cephalosporin**

- AND Co-trimoxazole

≥60 years old OR immunocompromised (including alcohol dependency and diabetes).
- Chloramphenicol 25mg/kg AND Co-trimoxazole
- 10-20mg/kg (of the trimethoprim component) in four divided doses

**Recent travel/risk of penicillin resistant pneumococci**

- Ceftriaxone/Cefotaxime 2g IV
- PLUS Vancomycin 15-20mg/kg IV OR Rifampicin 600mg PO/IV

**Careful Monitoring and Repeated Review is essential**

**Additional Investigations**

- Blood
  - FBC, renal function, glucose, lactate, clotting profile**
  - Meningococcal and Pneumococcal PCR (EDTA)
  - Blood gases

"unless a clotting defect is suspected, do LP without waiting for results

- CSF (if LP performed)
  - Glucose (with concurrent blood glucose), protein, microscopy and culture
  - Lactate
  - Meningococcal and Pneumococcal PCR
  - Enteroviral, Herpes Simplex and Varicella Zoster PCR
  - Consider investigations for TB meningitis

**Infection Control**

- Source isolate all patients until Meningococcal Disease is excluded or Ceftriaxone has been given for 24 hours (or a single dose of Ciprofloxacin)
- Notify microbiology

**Public Health**

- Notify all cases to the relevant public health authority for contact tracing, giving antimicrobial prophylaxis and vaccination where necessary

The UK Joint Specialist Societies Guidelines on the Diagnosis and Management of Acute Meningitis and Meningococcal Sepsis in Immunocompetent Adults.

Further copies from www.meningitis.org or Meningitis Research Foundation 0333 4056262. A charity registered in England and Wales no 1091105, in Scotland no SC037586 and in Ireland 20034368.

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**Warning Signs**

The following signs require urgent senior review +/- Critical Care input:

- Rapidly progressive rash
- Poor peripheral perfusion
  - Capillary refill time > 4 secs, oliguria or systolic BP < 90mmHg
- Respiratory rate < 8 or > 30 / min
- Pulse rate < 40 or > 140 / min
- Acidosis pH < 7.3 or Base excess worse than -5
- White blood cell count < 4 x 10^9/L
- Lactate > 4 mmol/L
- Glasgow coma scale < 12 or a drop of 2 points
- Poor response to critical fluid resuscitation

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**Signs suggesting shift of brain compartments (CT scan before LP is warranted, as long as patient is stable)**

- Focal neurological signs
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- GCS ≤2

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