Clinical Practice Guidelines:
Medical/Meningococcal meningitis and septicaemia

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Date	January, 2020
Purpose	To ensure consistent management of patients with Meningococcal meningitis and septicaemia.
Scope	Applies to Queensland Ambulance Service (QAS) clinical staff.
Health care setting	Pre-hospital assessment and treatment.
Population	Applies to all ages unless stated otherwise.
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Meningococcal meningitis and septicaemia

January, 2020

Meningococcal disease (MD) is a serious infection caused by Neisseria meningitidis bacteria. There are 13 serogroups, but it is currently most commonly caused by serogroups A, B, C, W, and Y. [1,2]

Meningococcal bacteria live harmlessly in the throat and nose of up to 20% of the population at any given time and only become a concern when dangerous strains become invasive, causing meningitis and/or septicaemia.[1,3]

Meningitis and septicaemia are two types of invasive meningococcal disease that can cause serious illness or death.

Meningococcal meningitis is a medical emergency that occurs when meningococcal bacteria infect the membranes covering the brain and spinal cord. The death rate from meningococcal meningitis is around 5%. Some patients may be left with permanent disabilities such as cerebral palsy and deafness.[4]

Meningococcal septicaemia occurs when meningococcal bacteria enter the bloodstream and rapidly multiply uncontrollably. This is the most serious and deadly type of meningococcal disease. Meningococcal septicaemia can lead to death within a few hours. The death rate from meningococcal septicaemia is around 10%, and around 20% will be left with permanent disabilities, including amputations of fingers, toes, arms or legs due to severely compromised perfusion of the extremities.

Clinical features

Meningitis/septicaemia symptoms: babies and young children

- Fever
- Food refusal
- Irritability
- Grunting/moaning
- Lethargy/floppiness
- ALOC/drowsiness
- Light sensitivity
- Vomiting
- Diarrhoea
- Convulsions/twitching
- Blotchy skin
- Petechial (pinpoint) or purpuric rash

Meningitis/septicaemia symptoms: older children and adults

- Fever
- Headache
- General malaise
- Loss of appetite
- Light sensitivity
- Neck stiffness & joint pains
- Aching/sore muscles
- Nausea/vomiting
- Diarrhoea
- Drowsiness/confusion
- Difficulty walking
- Moaning/unintelligible speech
- Collapse
- Petechial (pinpoint) rash or bruising

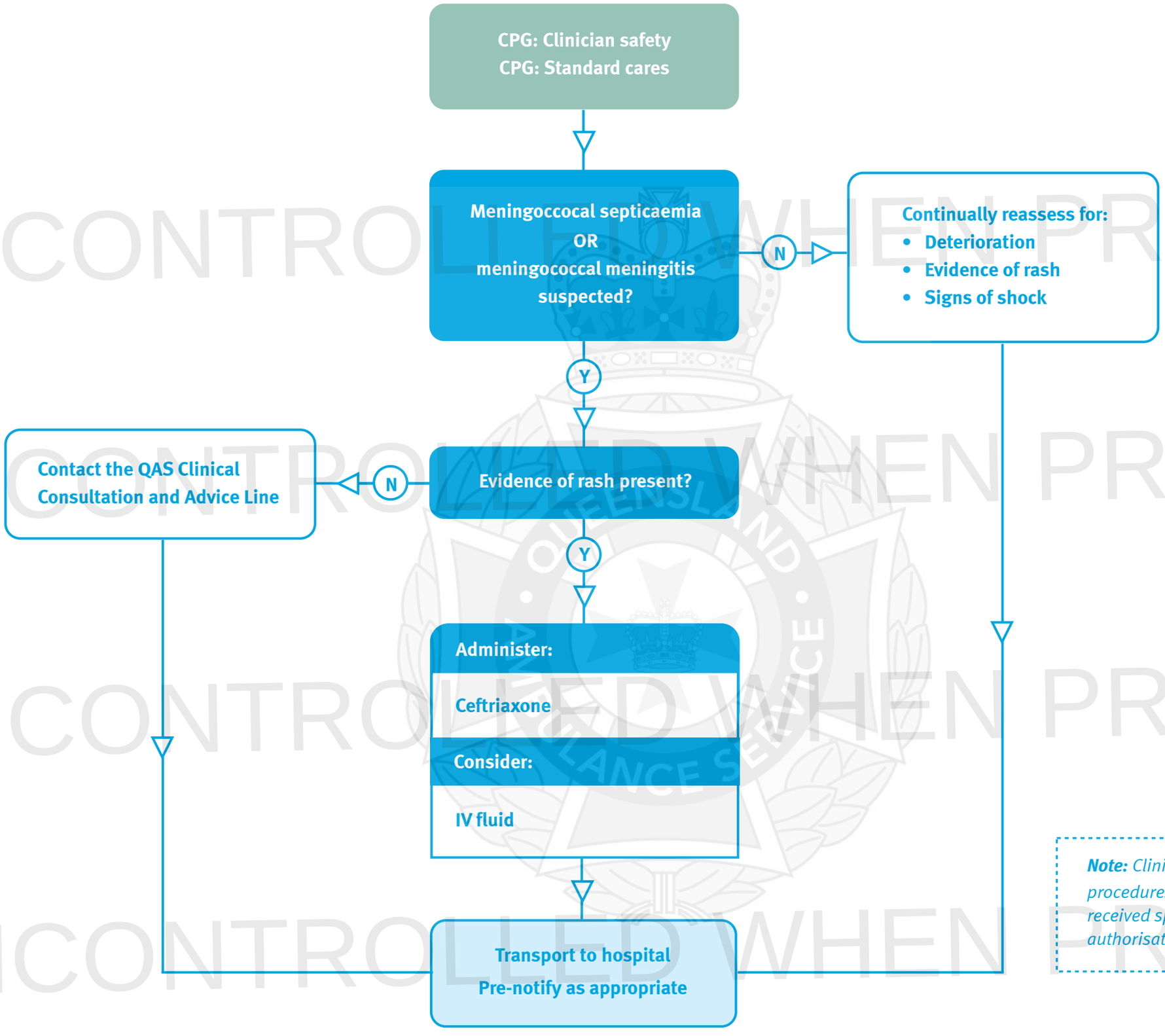
Risk Assessment

- Although it is relatively rare, people of any age can contract meningococcal disease.
- Those most at risk are babies and children up to 5 years of age (due to their immature immune system and high disease communicability at this age) and teenagers to young adults (primarily because of their socially interactive lifestyle).
- Meningococcal bacteria are not easily spread and do not survive well outside the human body. They can be passed between people through airway secretions but generally requires close and prolonged contact.
- The petecial or purpuric rash commonly associated with meningococcal illness is an advanced sign of the disease.
- Early hospital pre-notification MUST occur with any patient presenting with 2 or more altered vital signs, based on the following criteria:

Vital Sign	< 1 yr	1–4 yrs	5–11 yrs	12–15 yrs	≥ 16 yrs
Temperature	≤ 35.0º C or ≥ 38.5º C	≤ 35.0º C or ≥ 38.5º C	≤ 35.0º C or ≥ 38.5º C	≤ 35.0º C or ≥ 38.5º C	≤ 35.0º C or ≥ 38.5º C
Respiration Rate	< 20 or > 50	< 15 or > 40	> 40	> 30	> 25
Heart Rate	< 90 or > 170	< 80 or > 160	< 70 or > 150	< 45 or > 130	< 40 or > 110
Systolic BP	≤ 65	< 70	< 75	< 85	≤ 90
AVPU	Pain	Pain	New Confusion	New Confusion	New Confusion

Additional information

- The definitive non-blanching rash may be difficult to detect in pigmented skin.
- Meningococcal septicaemia is not specific to children or young people and can present in healthy people of any age.[1]
- The bacteria is shed in droplets from the nose or throat, and close or prolonged contact with a carrier is required to transmit the bacteria.
- PPE (gloves, face mask and eye protection) reduces transmission risk, especially during advanced airway management and suctioning.[3]
- Post exposure prophylaxis is only indicated in specific circumstances[5] and will be directed by the Queensland Health public health unit. (See *QAS Infection Control Framework*)
- Because the bacteria that cause meningococcal disease have several serogroups, each requiring a different vaccine, a history of vaccination does not negate the possibility of disease.
- If meningococcal disease (meningitis or septicaemia) is strongly suspected in the absence of a petechial rash, initiate early transport, call the *QAS Clinical Consultation and Advice Line* regarding possible administration of ceftriaxone.



Note: *Clinicians are only to perform procedures for which they have received specific training and authorisation by the QAS.*