Identifying Bacteria Causing Vaccine-Preventable Meningitis

**CSF Specimen**
- If only one tube, microbiology is a priority
- Chemical analysis: protein and glucose tests
- Microbiological tests
- Record overall appearance; perform cell count: WBCs

**PCR**
- Freeze 250µl-500µl of CSF for PCR (if < 500µl CSF available, freeze remaining CSF volume for PCR)

**Immunochromatographic Test**
- 100-200µl CSF volume is needed
- When using kits refer to manufacturers standard operating procedures (SOPs) in package insert

**Centrifuge**
- Do not centrifuge if <1ml
- Pellet
- Supernatant

**Latex Agglutination Test**
- When using kits refer to manufacturers standard operating procedures (SOPs) in package insert

**Gram Stain**
- Decolorize with 95% ethanol; do not decolorize longer than 10 sec.
- Notify clinician of Gram stain results within 1 hour!
- For any other Gram stain results, interpret zones for resistance (R) and susceptibility (S)

**Optochin**
- Using optochin (P discs, 5µg, 6mm diameter)
- Not S. pneumoniae
- If cells do not lyse (dissolve) and turbidity disappears, report as S. pneumoniae

**Catalase**
- An absence of bubbling indicates a negative test
- Streptococcus agar are catalase negative

**Growth Factor**
- Does not require both human (X factor) and NAD (V factor) for growth
- Not H. influenzae
- If growth only occurs with BOD X factor and V factor indicates H. influenzae

**Bile Solubility**
- If cells do not lyse (insoluble), not S. pneumoniae
- If cells lyse (dissolve) and turbidity disappears, report as S. pneumoniae

**Kovac’s Oxidase**
- No color change indicates negative test
- If filter paper turns blue/purple within a few seconds, indicates presence of either H. influenzae or N. meningitidis

**Kovac’s Oxidase**
- Perform additional Gram stain on colonies to distinguish organism
- If stain indicates N. meningitidis, to confirm, TEST FOR:
- H. influenzae
- Organism is confirmed

**CTA Sugars**
- LOOK FOR: visible turbidity or color change to yellow

**Contacts**
- Hospital surveillance coordinator:
- Hospital laboratory coordinator:
- Hospital data manager:

**Storage**
- Freeze bacterial isolates and any remaining CSF for molecular testing at a Reference lab
- Include label and date on frozen isolates and CSF specimens

**Additional Tests**
- Antimicrobial susceptibility tests to be performed according to internationally recognized clinical guidelines
- If acid occurs in sucrose or lactose, or any other pattern of colors appears, not N. meningitidis
- If acid production occurs in glucose and maltose, but not in sucrose or lactose, report as N. meningitidis

*If specimen cannot be processed in <1 hour, inoculate into T1 medium. For details consult Lab Manual or Standard Operating Procedures*