

MC 6.019 *N. meningitidis* Susceptibility Reporting

Purpose This procedure provides instruction and guidance for routine testing and selective and cascade susceptibility reporting on *Neisseria meningitidis*.

Principal and Clinical Significance The decisions for the most appropriate antimicrobial agents to test and report are made with input from Pharmacy, Infectious Disease and the Clinical Laboratory. The goal is to provide clinically relevant information that will decrease the chance of developing antibiotic resistance, harmful effects of inappropriate antimicrobial use and avoid reporting results that could adversely affect patient care using selective and cascade reporting rules.

Policy Statements This procedure applies to Microbiologists who perform susceptibility testing.

Special Safety Precautions Microbiologists are subject to occupational risks associated with specimen handling.

- [Biohazard Containment](#)
- [Biohazardous Spills](#)
- [Safety in the Microbiology Laboratory](#)

Procedure

1. Antibiotics appropriate for routine testing and reporting for *N. meningitidis* include:
 - Penicillin
 - Ceftriaxone
 - Meropenem
 - Ciprofloxacin
 - Trimethoprim sulfamethoxazole
2. Perform susceptibilities using the Kirby Bauer method, using MHSB. Incubate in CO².
3. **Perform testing in Biohazard Safety Cabinet (BSC).**
4. Kirby Bauer results will be entered manually under the **KB** keyboards under the Susceptibility tab.

Selective Reporting

1. Antibiotics will be reported in a specific order indicating the first and subsequent preferences of the Antimicrobial Stewardship Committee and Infectious Disease physicians.
2. Antibiotics will be reported depending on the source, if the sample is blood or CSF.
3. For **blood** sources, these 3 antibiotics will be reported routinely, in this order.
 1. Penicillin*
 2. Ceftriaxone
 3. Ciprofloxacin

Figure 1 Blood isolate, only Penicillin, Ceftriaxone and Ciprofloxacin reported.

Organism #1 - (C)NEISSERIA MENINGITIDIS		
- MMIC -		
	SS	P(0.06)
- KB -		
	SS	CAX(34),CP(35)
	HIDE	TS(30-SS),MERO(30-SS)

4. *Penicillin will need to be sent to the U of M for MIC testing on blood isolates. Enter Penicillin MIC results manually under the MMIC keyboard.
5. For **CSF**, only 1 antibiotic will be reported.
 1. Ceftriaxone

Figure 2 CSF isolate, only Ceftriaxone reported

Organism #1 - (C)NEISSERIA MENINGITIDIS	
- KB - (ZZ00)	
SS	CAX(34)
HIDE	CP(32-R), TS(30-SS), MERO(30-SS)

Cascade Reporting-Kirby Bauer Method

If resistance is encountered, additional antibiotics will automatically be released.

1. For the Kirby Bauer method, hidden antibiotics will be released when File is clicked. Results will be visible in Results Summary.
2. Enter **all** listed antibiotics manually under the KB keyboard. Antibiotics will be released following the cascade rules.

Method: Kirby Bauer – blood and CSF

- If Ceftriaxone is R → report Meropenem

Figure 3 Example on blood isolate with resistant Ceftriaxone

Organism #1 - (C)NEISSERIA MENINGITIDIS	
- KB - (ZZ00)	
SS	CP(35), MERO(30)
R	CAX(33)
HIDE	TS(30-SS)

3. All other antibiotics on the panel that are not part of the cascade are hidden. Do not release and report.
 - Trimethoprim-Sulfa
4. Requested antibiotics may be released with a provider request.

Method Performance Specifications

1. Penicillin susceptibility testing on *Neisseria meningitidis* on blood isolates will need to be sent to U of M.
 - Enter results manually under the MMIC keyboard
 - Do not use in house ETEST Penicillin as it is not validated on *N. meningitidis*.

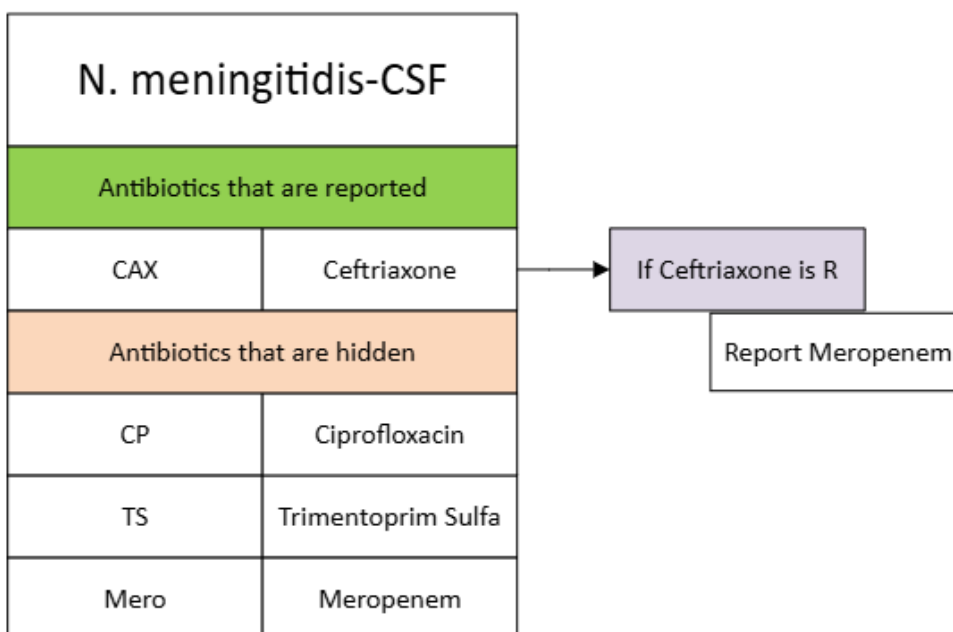
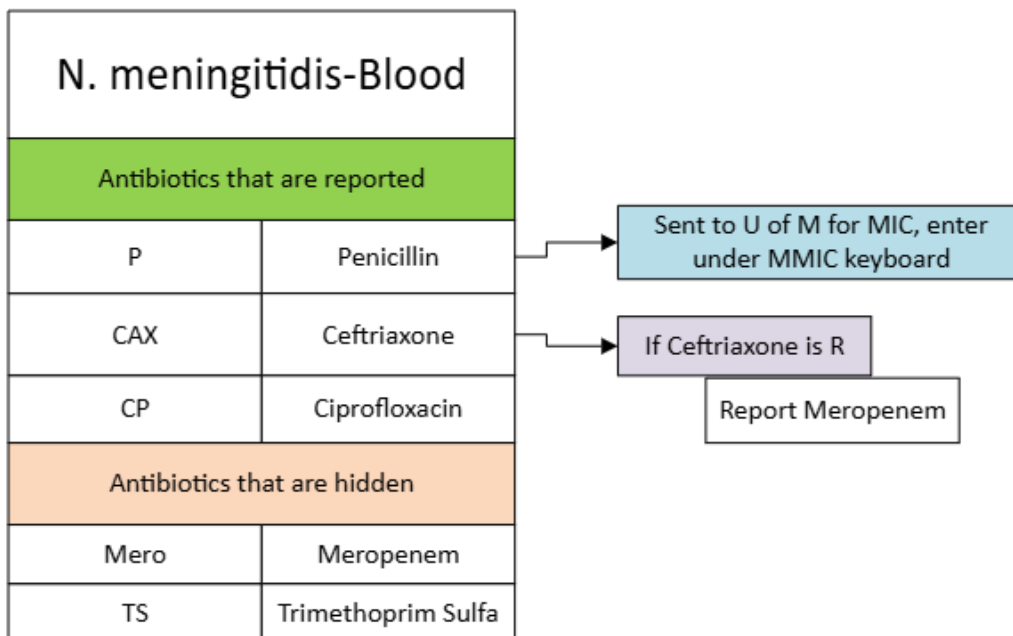
References

1. CLSI M100 edition 35 Performance Standards for Antimicrobial Susceptibility Testing 2025

Appendix

Additional Tables and Flowcharts

Kirby Bauer



**Training Plan/
Competency
Assessment**

Training Plan	Initial Competency Assessment
<ol style="list-style-type: none"> Employee must read the procedure. Employee will observe trainer performing the procedure. Employee will demonstrate the ability to perform procedure, record results and document corrective action after instruction by the trainer. 	<ol style="list-style-type: none"> Direct observation.

**Historical
Record**

Version	Written/Revised by:	Effective Date:	Summary of Revisions
1	Susan DeMeyere	4/8/2025	Initial version