


STANTON TERRITORIAL HEALTH AUTHORITY

Yellowknife, Northwest Territories

TITLE: Disc Diffusion – Cefoxitin	Revision Date: 20-April-2018	Issue Date: 20-April-2016
Document Number: MIC50600	Status: Approved	
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Approved by: S. Asmussen, Manager of Diagnostic Services	Signed by: 	

PURPOSE:

Cefoxitin screening is used for phenotypic detection of *mecA*-mediated resistance to oxacillin and other penicillinase-stable penicillins. Cefoxitin has been shown to be more accurate for detection of this kind of resistance because it is a more powerful inducer of the system that regulates *mecA*. Isolates of *Staphylococcus aureus* that are resistant to a 30ug Cefoxitin disc are considered to be Methicillin Resistant *Staphylococcus aureus* (MRSA).

SAMPLE INFORMATION:

Type	Pure, well isolated colonies, Rapid Staph: pos, Catalase: pos
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REAGENTS and/or MEDIA:

- 30ug Cefoxitin Disc
- Mueller Hinton Agar Plate
- 0.85% Sterile NaCl

SUPPLIES:

- Wooden stick
- Plastic test tube
- DensicheckPlus

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EQUIPMENT CALIBRATION AND MAINTENANCE:

- Densichek requires daily zeroing, as well as monthly calibration
- See **Procedure MIC70100 DensichekPlusPRO**

SPECIAL SAFETY PRECAUTIONS:

Containment Level 2 facilities, equipment, and operational practices for work involving infectious or potentially infectious materials or cultures.

- Lab gown must be worn when performing activities with potential pathogens.
- Gloves must be worn when direct skin contact with infected materials is unavoidable.
- Eye protection must be used where there is a known or potential risk of exposure to splashes.
- All procedures that may produce aerosols, or involve high concentrations or large volumes should be conducted in a biological safety cabinet (BSC).
- The use of needles, syringes, and other sharp objects should be strictly limited.

QUALITY CONTROL:

Weekly AST is performed. See Procedure **MIC60300 – Weekly KB/ETEST QC**

PROCEDURE INSTRUCTIONS:



Step	Action
Performing a Cefoxitin Disc Diffusion Test	
1	Using a wooden stick, choose 2-3 well isolated colonies
2	Prepare a suspension in sterile saline equivalent to a 0.5 McFarland standard

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3	Moisten a sterile swab with the suspension and spread evenly over a Mueller Hinton Agar plate, as for Kirby Bauer testing.
4	Place the 30ug FOX disc on the plate and incubate for 16-18hrs at 35C
5	Measure and record in mm the diameter of the zone, if any

INTERPRETATION OF RESULTS:

IF	THEN
Greater than or equal to: 22mm	mecA negative, Methicillin Sensitive <i>S.aureus</i> (MSSA) 
Less than or equal to: 21mm	mecA positive, Methicillin Resistant <i>S.aureus</i> (MRSA) 

REFERENCES:

- Clinical and Laboratory Standards Institute. (2012). Screening Tests for B-lactamase production, Oxacillin Resistance, and mecA Oxacillin Resistance. *Performance Standards for AST; 22nd Informational Supplement* , 80-81.

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REVISION HISTORY:

REVISION	DATE	Description of Change	REQUESTED BY
1.0	31Dec13	Initial Release	Darrach (A)
2.0	31Mar16	Update of “Special Safety Precautions” to reflect risk assessment recommendations.	C. Russell