

READING STERILE BODY SITE CULTURES

PURPOSE This procedure is a standardized format for reading, evaluating and reporting sterile body site cultures.

SCOPE This procedure is to be used with the M403 Microbiology Augmentation Set.

PROCEDURE Most sterile body site cultures are inoculated to a Blood Agar plate, Chocolate Agar plate, MacConkey plate and broth. Refer to Specimen processing SOP for specific plating information. All cultures are incubated at 35 C in CO2 overnight.

A. No Growth

STEP	ACTION												
1	<p>Cultures are examined daily for growth; if there is no growth on plates, discard the plates after the appropriate incubation period as follows:</p> <table style="margin-left: 20px; border: none;"> <tr> <td>MacConkey plate</td> <td style="padding: 0 10px;">→</td> <td>24 hours</td> </tr> <tr> <td>Blood Agar Plate</td> <td style="padding: 0 10px;">→</td> <td>48 hours</td> </tr> <tr> <td>Chocolate Agar Plate</td> <td style="padding: 0 10px;">→</td> <td>72 hours</td> </tr> <tr> <td>Broth</td> <td style="padding: 0 10px;">→</td> <td>96 hours</td> </tr> </table> <p>*NOTE: Any fluid remaining after inoculation of media is incubated in numerical order with the broth. These tubes should also be examined for evidence of growth. Make appropriate notations on the work document.</p>	MacConkey plate	→	24 hours	Blood Agar Plate	→	48 hours	Chocolate Agar Plate	→	72 hours	Broth	→	96 hours
MacConkey plate	→	24 hours											
Blood Agar Plate	→	48 hours											
Chocolate Agar Plate	→	72 hours											
Broth	→	96 hours											
2	If there is no growth on plates or broth after 4 days incubation, discard broth. Enter “No growth at 4 days.”												
3	Check gram stain results performed on the initial specimen to ensure that the culture result and gram stain result correlate. If they do not correlate, review the smear and consult with OIC or NCOIC.												

B. Positive Cultures

1. Growth on Plates and in broth

STEP	ACTION
1	<p><u>One or two organisms Isolated:</u></p> <p>Quantitate and identify organism(s) according to colony's gram stain reaction and colonial morphology. Perform antimicrobial susceptibility if indicated.</p> <p style="text-align: center;">Example: 2+ Organism identification Antimicrobial susceptibility (if indicated)</p>
2	<p><u>Three or more organisms isolated:</u></p> <p>Consult with the OIC or NCOIC to determine if further workup is warranted. If no further workup is required, hold plates and broth for 1 week at room temperature in designated rack. Hold the work document. Report "Three or more organisms isolated. None predominating. No further workup as per consult."</p>
3	<p>Positive CSF cultures are reported to the physician immediately.</p>
4	<p>If yeast or molds are isolated consult with OIC or NCOIC as the kit contains no materials for working up fungi.</p>
5	<p>Gram stain the broth at 48 hours. Record results of stain on work document. Growth on plates should correlate with organisms seen on gram stain. If smear of broth agrees with growth on plates, no further action is necessary.</p>
6	<p>Suspected Contamination</p> <p>Situations may arise in which contamination is suspected:</p> <ul style="list-style-type: none">a. Growth outside streak area most likely represents contamination and should be ignored.b. If growth occurs on one of the plates and not on the other plates or in the broth, AND if the original fluid does not have characteristics of growth, it can usually be assumed that the growth is contamination.c. Any growth that is not consistent with isolate usually associated with the specimen source should be suspect of contamination.

	d. Sound professional judgment should be exercised in making these conclusions. Consult with OIC or NCOIC.
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2. Growth in broth and no growth on plates

STEP	ACTION
1	Gram stain the broth and subculture to a BAP (NOTE: subculture the broth at the same time the smear is made for staining). If the gram stain shows organisms that require media for growth other than a BAP, subculture to the appropriate media.
2	Call the physician if the specimen is a CSF and not suspect of contamination. Record call on work document.
3	If the broth shows heavy growth at 24 hours of what appears to be Staph and the original fluid is clear, it is reasonable to consider possible contamination. Before subculturing the broth or reporting the culture as positive, reinoculate the original fluid to a new broth and plates and evaluate the following day. If there is no original specimen remaining, obtain a consult.

3. Growth on plates and no growth in broth

STEP	ACTION
1	This situation implies two possibilities: One is that the broth was not inoculated at the time of processing. The second is that the organisms growing on the plates are representative of contamination.
2	Use professional judgment in evaluating these cultures for workup. Obtain consult with OIC or NCOIC.

RESULTS

STEP	ACTION
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1	Positive reports All positive results are entered with organism isolated and the susceptibility report.
2	Negative Reports: If there is no growth on plates or broth after 4 days incubation, discard broth. Enter "No growth at 4 days."
3	For cultures with 3 or more organisms: "Three or more organisms isolated. None predominating. No further workup as per consult."

REFERENCES Howard, Barbara J Clinical and Pathogenic Microbiology,
Washington, D.C.; C.V. Mosby, Co. 1994, pp 223-242.
