READING WOUNDS AND OTHER NONSTERILE BODY SITE CULTURES

PURPOSE This procedure is a standardized format for the reading, evaluating and reporting of wound and other nonsterile site cultures.

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

PROCEDURE

Refer to the Specimen Processing SOP for specific culture plating for each source.

1. No Growth

STEP	ACTION
1	Cultures are examined daily for growth; if there is no growth on plates, discard the plates after the appropriate incubation period as follows: MacConkey plate → 24 hours Blood Agar Plate → 48 hours Chocolate Agar Plate → 72 hours GCLECT Agar Plate → 72 hours Broth → 96 hours
2	At 24 hours, write the initial reading of the plates on the gram stain requisition. Check gram stain results against initial specimen to ensure that the culture and gram stain correlate. If they do not correlate, review smear and notify OIC or NCOIC.

2. Positive cultures (Refer to next section C for skin workup)

A. Growth on plates and in broth

STEP	ACTION
1	If there is growth of one or two organisms, quantitate and identify organism(s) according to the procedure for that colony's gram stain reaction and morphology. Perform antimicrobial susceptibility if indicated. Refer Wounds and Fluids ID Table in SOP. Final report: 2+ Organism Name Antimicrobial susceptibility (if indicated)
2	At 24 hours, if either culture or gram stain is positive, attach the gram stain to the work document. Check gram stain results performed on initial specimen to ensure that the culture and gram stain correlate. If they do not correlate, review smear. If a discrepancy exists, notify OIC or NCOIC and make amendment is necessary.
3	In the event that coagulase negative staph is isolated, it must be evaluated in terms of quantity and other organism(s) present. If present in 3+ or 4+ amounts and pure, antimicrobial susceptibility should be performed and reported. If present in 1+ or 2+ and pure (or from broth only), no antimicrobial susceptibility needs to be performed. In this case, hold the plate for 1 week designated can. Record date on the plate to be discarded.
4	Since coagulase negative staph and Corynebacterium sp. are often associated with skin flora, the presence of these along with other organisms may represent skin flora. No further workup is indicated in this case. Other organisms consistent with skin flora include alpha strep, non-hemolytic strep, and Micrococcus. When skin flora is present report as "mixed skin flora."
5	Particular attention must be placed on the site of the culture and on the organisms of the site versus those that may be non-pathogens or opportunists. a. Potential Pseudomonas sp. from eye or conjunctival sources are **ALWAYS** called to the physician immediately. Document the call on work document. b. Any Staphylococcus aureus **MUST** by tested for oxacillin resistance, unless referred to previous culture.
7	If there are three or more organisms isolated on the original culture plates, with none predominating, no further workup is required (unless beta strep or Staph. aureus is isolated) Date and hold broth and plates at room temperature in designated can and rack for 1 week. Report "Three or more

	organisms isolated, none predominating." Consult with OIC or NCOIC for further instructions.

B. No growth on plates/ Growth in broth

STEP	ACTION
1	If there is any evidence of growth in the broth (and no growth on the plates) during the 4 day incubations period, gram stain the broth.
2	Subculture the broth to the appropriate media based on gram reaction and morphology. If no organisms are seen on gram stain of broth, subculture to a CAP. If appropriate, identify organism(s) and perform antimicrobial susceptibility. If an anaerobe is suspected inform OIC and NCOIC (the kit does not have the capability to identify anaerobes). From Broth Only: Organism Name; Antimicrobial susceptibility (if indicated)
3	If three or more organisms are isolated, proceed as outlined in section A.6 above.

3. Skin Cultures

STEP	ACTION
1	Skin cultures are worked up in the same manner as wound cultures. Cultures with pure isolates are always worked up. If organism is consistent with skin flora (i.e. Coagulase Negative Staph, Corynebacterium sp., etc.) AND is in 1 to 2+ amounts, no extensive workup (i.e. antimicrobial susceptibility and/or speciation) is required.
2	Pure isolates in 3-4+ amounts need extensive workup even if they are consistent with skin flora.
3	Cultures with two isolates must be evaluated. If isolates are potential pathogens (e.g. E. coli, other GNR(s), Staph. aureus, etc.), they must be worked up. If isolates are consistent with skin flora (e.g. Coagulase Negative Staph., Corynebacterium sp., alpha hemolytic strep., etc.), the culture may be signed out as, "Mixed skin flora".
4	Cultures with 3 or more organisms must be evaluated. If the isolates are

	consistent with skin flora (e.g. Coagulase negative Staph., Corynebacterium sp., etc.), the culture may be signed out as “Mixed skin flora”. If the isolates or some of the isolates are potential pathogens a consult with OIC or NCOIC.
5	Staph. Aureus is always worked up on skin cultures. Antimicrobial susceptibility is performed.

4. Suspected Contamination

STEP	ACTION
1	Growth outside the streak area represents contamination and should be ignored.
2	If growth occurs on one and not on the other plates, it can usually be assumed that the growth is contamination.
3	Any growth that is not consistent with isolates usually associated with the specimen source should be suspect of contamination.
4	Growth on plates and no growth in the broth implies two possibilities. One is that the broth was not inoculated at the time of processing. The second is that the organisms that are growing on the plates represent contamination.
5	Sound professional judgment should be exercised in making these conclusions. If necessary, consult with OIC or NCOIC.

RESULTS

STEP	ACTION
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 incubation, discard broth. Enter "No growth at X days."
3	**For cultures with 3 or more organisms:** "Three or more organisms isolated. None predominating. No further workup as per consult."
4	**For skin cultures that contain only normal flora:** "Mixed skin flora isolated."

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