

Change to Microbiology Comment for Respiratory Cultures

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Situation: We have higher than desired utilization of empiric anti-MRSA and antipseudomonal treatment for patients admitted with respiratory syndromes. Often a specific organism is not isolated, but empiric treatment with vancomycin + either cefepime or pip/tazo is longer than it should be due to concern for possible MRSA or Pseudomonas. Additionally, though less common, patients are being treated for growth of Candida species in respiratory specimens, when pneumonia with this organism is exceedingly rare.

Background: One institution modified the "usual flora" comment on respiratory specimens to add "No *S. aureus* or Pseudomonas isolated", and this change resulted in significant decrease in empiric anti-MRSA and antipseudomonal treatment, with concurrent reduction in subsequent AKI development: <https://academic.oup.com/ofid/article/5/7/ofy162/5051298>. Another institution limited Candida identification (in this case from full Candida species ID to just yeast, not Cryptococcus) in respiratory specimens did not increase mortality, and people in the limited ID group received less antifungals, had shorter length of stay and hospital cost: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC308956/>.

Assessment: Inappropriate empiric treatment with any of these antimicrobials can increase length of hospital stay, adverse drug events, contribute to *C. difficile* infections and antimicrobial resistance. Ongoing antimicrobial stewardship interventions should target these opportunities to reduce overuse for inappropriate empiricism. Other institutions have done this successfully, providing a precedent for us to make decisions.

Recommendation:

1. Add the comment "No significant *Staphylococcus aureus* or *Pseudomonas aeruginosa* present" to the current statement of "Normal oral flora".
2. If individuals call the microbiology lab wishing for further workup of any possible *S. aureus* or *P. aeruginosa* after the revised statement is posted, direct them to call Antimicrobial Stewardship
3. Categorize Candida spp. as "usual flora" and stop reporting it separately, even when there are no bacteria isolated
4. Apply recommendations 1 & 2 above to cultures from all respiratory specimens, including sputum, bronchial washings, and tracheal cultures