

## **Use of the clinical microbiology laboratory for the diagnosis and management of infectious diseases related to the oral cavity**

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### **ABSTRACT**

Our knowledge regarding the pathogenesis of infections relative to the oral cavity is rapidly expanding, similar to our overall understanding of how infectious diseases impact our daily lives. The complexity of the flora within the oral cavity is quite unique and often makes diagnosis difficult; however, it is becoming more apparent that accurate diagnostic testing is important from the standpoint of focusing appropriate therapy on pathogens within this crucial body site, and avoiding overuse of antimicrobial agents in settings of infection where they have no demonstrated benefit. Infections of the oral mucosa, teeth (caries and root canal infections) and their supporting structures (periodontitis, dento-alveolar abscess) are polymicrobial, although usually associated with a characteristic microbiota linked to the site of infection. However, identification of the relevant oral pathogens is not commonly undertaken in diagnostic clinical microbiology laboratories due to lack of expertise in handling fastidious oral microbes and interpretation of the findings. When specimens from oral diseases are processed, they are frequently reported as 'mixed oral flora'. This type of reporting is unhelpful both to clinicians and to epidemiologists collating data for disease and anti-microbial susceptibility trends. This probably reflects the lack of input by experts in oral microbiology into general guidelines for processing and reporting samples from the oral cavity. Although there is a general consensus within the dental and maxillo-facial surgery community on the role of the major pathogens for many types of infection, there is controversy on the role of some species, first line anti-microbial agents and their associated breakpoints. Furthermore, there is poor uptake and understanding of microbiology diagnostic services by the dental profession, inappropriate specimens and misinterpretation of culture results.

**Keywords:** Diagnostics, Clinical microbiology, Oral cavity

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