



Margaret I. Scarlett, DMD
President
Scarlett Consulting International
Atlanta, Georgia

The Best Defense Against Superbugs

HANDWASHING:

pickettii. Additional organisms are emerging over time, with some yet to be identified.²

Because data from a sample of dental offices is not collected currently, it is not known how prevalent these superbugs are in the dental setting. However, since the early 1990s, the prevalence of superbugs has jumped in other healthcare facilities. In general, MRSA and VRE are most commonly found among patients who reside in long-term healthcare facilities, such as nursing homes.⁴ PRSP infections are more commonly found among patients seeking care in outpatient settings such as physicians' offices and clinics, especially children's clinics.⁴ By extrapolation, PRSP could reasonably be expected to be found in the dental office, especially offices that treat many children.

Management of superbug or multidrug resistant organisms (MDRO) can be complex and individualized in hospital settings. The Healthcare Infection Control Practices Advisory Committee of the Centers for Disease Control and Prevention (CDC) has produced a lengthy document that addresses the implementation of strategies and practices to prevent transmission of some superbugs.⁵ These include standard infection control practices, which should be implemented, evaluated, and monitored routinely. Special contact practices are also outlined in the document. In addition to standard precautions, these special precautions include:

- special patient placement, such as in single patient rooms.
- donning gloves before touching skin, surfaces, or articles in close proximity to the patient and upon entry into the examination room or cubicle.
- gowning upon entry into the examination room or cubicle. Removal of the gown and hand hygiene should occur before leaving the patient-care area. Take care to remove the gown so that other surfaces or clothing do not touch the gown as it is removed.
- patient transport to ensure that infected or colonized areas of the patient's body are contained and covered.
- patient-care equipment and instruments/devices should be disposable where possible. This includes disposable, non-critical patient-care equipment (eg, blood pressure cuffs) or implementation of patient-dedicated use of such equipment. If this is unavoidable, clean and disinfect such equipment before use on another patient.
- environmental measures, such as cleaning and disinfection of surfaces in the immediate vicinity of the patient.

The prevalence of superbugs varies by time, geography, and healthcare setting. For example, VRE emerged in

In today's world, new antibiotic-resistant bacteria are spreading not only in certain healthcare settings, but in the community as well. Every dental practice should become informed about "superbugs," especially methicillin-resistant *Staphylococcus aureus* (MRSA) and others. These resistant micro-organisms are now found in healthcare settings and, increasingly, in community settings. As with other transmissible infections, proper handwashing followed by donning protective gloves for patient care can reduce the risk of acquiring or transmitting superbugs in the dental practice. This article will discuss superbugs, realistic risks, and practice tips for handwashing to reduce the risks of transmission.

Many superbugs are present on the skin or environmental surfaces. However, if they get into the body, they can cause havoc. Superbugs are especially important to manage now that many patients who are immunocompromised or who have infectious or chronic diseases are living and working, leading normal lives, and coming into the dental practice for care. They are able to do this because of new treatment options and pharmaceutical advances. However, these immunocompromised patients are especially vulnerable to superbugs.

Although transmission of superbugs is most frequently documented in hospitals, all healthcare settings are affected by the emergence and transmission of antimicrobial-resistant microbes. A recent government report suggests awareness in ambulatory surgical centers about the risk for superbug transmission.¹ What is not yet known is the magnitude of risk for acquiring or transmitting superbugs in a dental office. Fortunately, standard infection control practices and good hand hygiene will protect dentists, staff, and patients from superbugs.^{2,3}

WHAT ARE SUPERBUGS?

"Superbugs" is the term used to describe multidrug-resistant organisms that have evolved and developed resistance to at least one type of antimicrobial drug or antibiotic. Common examples of superbugs include⁴:

- MRSA: methicillin/oxacillin-resistant *Staphylococcus aureus*
- VRE: vancomycin-resistant *enterococci*
- ESBLs: extended-spectrum *beta-lactamases* (which are resistant to cephalosporins and monobactams)
- PRSP: penicillin-resistant *Streptococcus pneumoniae*

Some resistant organisms have been identified, but others remain unidentified. Examples of identified organisms include *Escherichia coli* and *Klebsiella pneumoniae*, strains of *Acinetobacter baumannii* resistant to all antimicrobial agents, organisms such as *Stenotrophomonas maltophilia*, *Burkholderia cepacia*, and *Ralstonia*

