A literature review was conducted to establish the likelihood and consequence of this. Few studies examine contamination and infection from inhalers. Levesque and Johnson (1984) cultured inhalers from children and found bacterial growth on all mouthpieces and portals. Taylor et al (1990), however, failed to identify any pathogens on the inhalers of children with cystic fibrosis, despite isolating *Haemophilus influenza*, *Staphylococcus aureus* and *Pseudomonas aeruginosa* from their upper and lower respiratory tracts. Harkins (1999) examined inhalers of people with COPD, and found that most patients had never cleaned their device. Despite this, 18 inhalers had no growth, while seven showed growth of upper respiratory tract flora – six with coagulase-negative staphylococci and one with *Staphylococcus aureus*. All but one had scanty growth, implying that hand-held inhalers do not act as a reservoir for common respiratory tract pathogens. Patients following a good cleaning and drying regimen are also shown to have minimal or no contamination of their respiratory equipment (Blau et al, 2006; Hutchinson et al, 1996).

Within our risk assessment, we examined the likelihood and consequence of a number of infections of concern. These were:

- Tuberculosis;
- *Burkholderia cepacia*;
- MRSA;
- Rhinoviruses;
- HIV/AIDS and opportunistic organisms – such as *Pneumocystis jiroveci*;
- Upper respiratory tract organisms – including *Streptococcus pneumoniae*, *Streptococcus pyogenes* (group A streptococci) and *Haemophilus influenzae* (Black, 2005; Kendrick et al, 2003).

While respiratory devices can potentially become colonised with pathogens, particularly if a strict cleaning regimen is not followed, the committee concluded that the risk and consequence of acquisition of common respiratory tract pathogens in immunocompetent individuals is not significant. A risk assessment and action plan were then formulated to reduce or eliminate risk.

The committee met clinicians to establish practical ways to reduce risk without compromising patient care. Patients at a high risk of carrying or acquiring respiratory pathogens automatically

**REFERENCES**


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