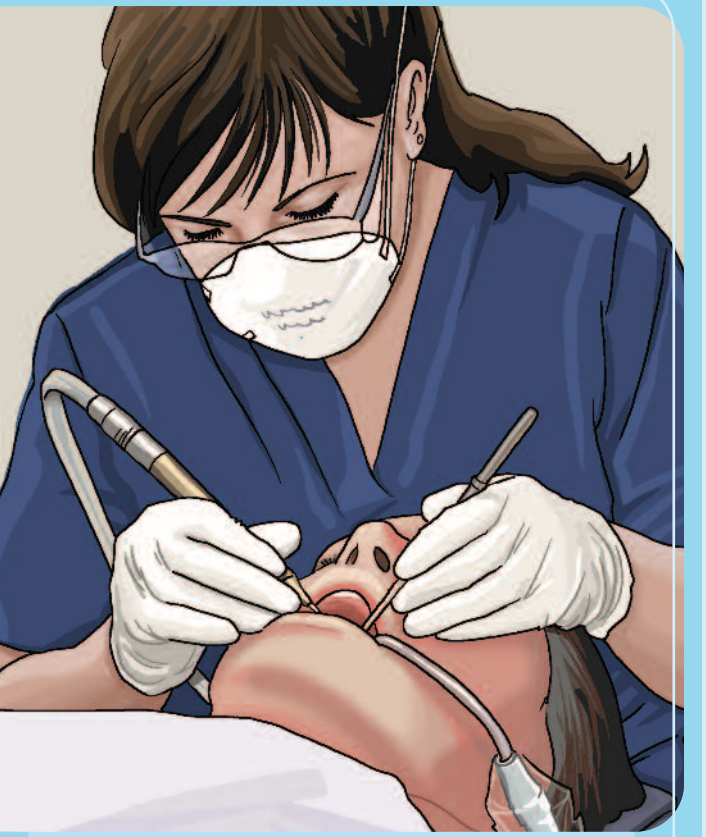
Bioaerosols in Dental Offices



CHOOSING THE RIGHT MASK

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Risk

The air in dental offices contains airborne micro-organisms or bioaerosols.

These bioaerosols, generated during dental procedures, originate from the patients' mouth and from the biofilms found in dental water units.

Air-water syringes, high-speed handpieces and ultrasonic scalers all create high concentrations of potentially infectious bioaerosols.

On average, these bioaerosols measure less than one micrometre in diameter.

These particles are so small, they can stay suspended in the air for hours.

This means the entire room could be filled with infectious bioaerosols, not just the area surrounding the patient.

This contamination can remain long after the procedure is over.

Partial protection

Surgical masks offer only partial protection against bioaerosols. This type of mask was originally designed to protect the patient undergoing surgery, not medical personnel.

Surgical mask

Due to its inadequate fit and filtering attributes, a surgical mask offers low-level protection and allows contaminated air to pass through the gaps near the cheeks and nose.

Appropriate protection

To ensure proper protection, your mask must form a tight seal around the face.

Certified mask

Certified masks by the American *National Institute of Occupational Safety and Health* (NIOSH) with an N95, N99 or N100 label are designed for that purpose.

A close-fitting, certified mask protects adequately against airborne particles.

Fitting your mask

Making sure your mask fits correctly is crucial. Always check the fit each time you use it by doing these two simple tests:

1) Place both hands over your mask and breathe in. If the fit is good, it will deflate slightly.

2) With both hands still over your mask, breathe out. Your mask should bulge slightly.

If there are leaks, readjust the fit and repeat the tests.

If you have a beard, the mask will not fit tightly on your face and will not offer appropriate protection. In this case, you should consider using a powered air-purifying respirator with visor.

Lifespan of your mask

Under the precautionary principle, it is recommended to use a new mask with every patient.

Also, since the filtering material may contain infectious bioaerosols, you should handle the used mask carefully and wash your hands after you have disposed of it.

Choosing your mask

A NIOSH-certified mask will offer adequate protection as long as it properly fits your face.

Many types of certified masks are available, each with its own attributes. Try on different types before choosing the mask that fits you best.

In accordance with regulations, it is the employer's responsibility to establish a respiratory protection program and implement fit-testing measures to ensure the selected masks provide appropriate protection.

These tests can be qualitative (using a mist of aroma-bearing particles) or quantitative (measuring the concentration of particles inside the mask).

Preventing infections depends on a series of protective measures being in place. Wearing a certified mask is the last barrier of protection against breathing contaminated air.

Caution

The advice contained in this brochure applies to infectious and non-infectious bioaerosols.

However, in case of an epidemic or a pandemic (avian flu, for instance), follow the advice of the public health authorities.

To learn more, visit **www.irsst.qc.ca** and download at no charge the following documents:

- Characterization of bioaerosols in dental offices, R-407 (in French)
- Guide on respiratory protection against bioaerosols, RG-501
- Practical respiratory protection guide, R-319 (in French)

Also visit:

- Regulation respecting occupational health and safety QRR, c. S-2.1, r.19.01 at www2.publicationsduquebec.gouv.qc.ca
- Selection, use and care of respirators—CSA standard Z94.4-93 at http://ohsviewaccess.csa.ca

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