

Occupational Hazard in Dentistry

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Dental workers may be exposed to a variety of workplace hazards in the course of performing their functions. The type and degree of exposure is dependent upon the type of services, the type of patients, and the specific tasks performed.

Sources of occupational hazards to dentist:

1. Working for a long time in improper positions
2. Contact with patient
3. Contact with certain chemical materials and equipment.
4. Contact with X-ray.

Working for long periods of time in physiologically improper positions

*Dentist working in this situation will create problem of having inert contractions which may affect the musculoskeletal system and peripheral nervous system.

*Weakness of the postural muscles may lead to a progressive of the operator's posture, which may lead to pain and can affect the dentists' legs, spines, shoulders pain, flat foot, drooping, curvature, and varicosity

How to restrain the risk of musculoskeletal pains:

- * Maintain a straight posture.
- * Adjust your seating to minimize bending forward, position:
- * Do not work with your arms elevated and tensed.
- * Try to bring your patient close to you so that your elbows and arms stay close to your body.
- * Ensure that your hands and wrists do not remain contorted for an extended period of time
- *Change posture as frequently as you can: frequent switching between sitting and standing helps to reduce fatigue.
- * Use dental equipment and tools that are easy on your hands.

*Breaks should be taken between treatment: These breaks will enable you to do some stretching exercises. This will reduce muscular tension and give you time to recompose.

* If standing position is mandatory in working, it should be in a straight posture so both the back and the neck are asymmetric and at extremes flexion

Ear

Dentists are at risk for noise-induced hearing loss. Although hearing loss may not be symptomatic, the first complication and the reason for seeking a hearing evaluation may be tinnitus.

The sources of dental sounds inducing hearing loss that can be diminished are:

* High-speed turbine hand pieces, low-speed hand pieces, high-velocity suction, ultrasonic instruments and cleaners, vibrators and other mixing devices, and model trimmers. At last, it should be worth mentioning that air conditioners and office music played too loud.

Contact with patients Infection

Harmful effects Eye injury and/ or inflammation .Infection Aerosolization is a process whereby mechanically generated particles remain suspended in the air for long time periods and may be capable of spreading an airborne infection via inhalation. Aerosols are airborne particles that may travel for long distances. They may occur in liquid or solid forms.

*Splash and spatter are large droplets that remain airborne but contribute to infection of indirect contact. Infection can be transmitted to dentist from infected patients who have infectious potential.

Infection transmission:

A- Airborne: influenza, common cold, T.B. (Aerosols)

B- Blood borne: Syphilis, Hepatitis B and C, and AIDS. Infected blood should contact dentist's blood (needle prick after patient injection, wound in dentist's hands)

C- Direct contact of hands with oral mucosal lesions and saliva or microorganism can pass through a cut on the skin happened accidentally during dental procedure

Precautions should be taken to minimizing the risk of infections.

1. Dental surgeon should wear a face mask, rubber or vinyl gloves.

2. The dentist should not scrub his hands with a brush before or after working on patient with AIDS, TB or hepatitis, since scrubbing may produce minute abrasions which serve as a portal of entry for microorganisms .
3. Clinical examination, mucosal lesions should never be touched without gloves
4. Careful handling of sharp instruments.
5. Eye glasses should always be used while treating the patients.
6. Slow speed turbine should be used to minimize aerosols.

Golden Rule

“All patients should be treated as if they are infectious and routine cross-infection control is necessary when dealing with every patient”.

Worldwide cross Infection Control routines: Sterilization; Barriers; Chemical Disinfectants.

*Barriers mean gloves; masks; goggles; protective clothing. These serve as protective barriers against the transmission of diseases. Gloves are disposed of after each patient.

Contact with certain chemicals

*Direct contact with materials for example eugenol, phenol, iodine, formalin, some impression materials, topical anaesthesia and others could cause allergic contact dermatitis.

*Mercury exposure may lead to Hg poisoning. So proper handling and care should be taken to avoid exposure to mercury by wearing gloves, good ventilation, the use of enclosed amalgamator, proper disposal of capsules after used.

Contact with Some dental equipment

***Gloves**

Medical gloves made from different polymer materials like latex, nitrile, rubber, and vinyl they come either powdered or unpowered with corn starch to make it easy to wear.

The clinical symptoms of latex allergies related to cutaneous, respiratory and conjunctival exposure which include:

Urticarial, conjunctivitis with lacrimation, and swelling of eyelids mucous rhinitis, bronchial asthma, anaphylactic shock.

***Masks:**

Materials used to fabricate masks can also cause hypersensitive .Latex substance and adhesive containing latex may be present.

***Light cure devise:**

Blue light have enough energy to damage the retina for complete protection black sunglass lenses must be used.

How to protect contact dermatitis:

- * Wear non-latex gloves where possible,
- * Do not use abrasive skin cleaners and keep the use of disinfectants to a minimum.
- *Dry your hands thoroughly with a soft, disposable paper towel Protect your hands by moisturizing them regularly with soothing and softening skin product).
- * Use a product that is free from fragrances and additives.
- * Avoid sensitizers that you are allergic to (investigation by your dermatologist will help identify these).

Contact with X-ray:

X-ray is an ionizing radiation that is capable of initiating and producing damage to body cells, as well as carcinogenic and genetic changes. Careless dentists used to hold the dental X-ray films inside the patient's mouth (for obtaining better quality of image) are at risk for developing radiation dermatitis on hands, or on a long run squamous cell carcinoma of the figures

Protection from radiation hazards principles:

- *Dentist should not hold the film in patient's mouth.
- * Dentist should avoid direct exposure to X-ray beam.
- * Proper position of the dentist in relation to either the X-ray machine or the patients should be strictly applied.
- * Regular checking of leakage from X-ray machine should always be performed (Radiation monitoring).

Psychological hazards

Stress:

Handling with difficult or uncooperative patients over workload. Continuous drive for technical perfection underuse of skills. low self-esteem and challenging environment are important factors contributing to stress among dentist.

Psychological hazards-Stress management:

Deep breathing exercises; progressive effective relaxation of areas of the body; time management, communication.-Physical exercise, such as regular walking or working out.