



## DENTAL BOARD OF QUEENSLAND

# POLICY #18

## VITAL BLEACHING BY DENTAL THERAPISTS AND DENTAL HYGIENISTS

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## POLICY #18 - VITAL BLEACHING BY DENTAL THERAPISTS AND DENTAL HYGIENISTS

### POLICY:

1. Any bleaching procedure which causes an irreversible change in the teeth is the practice of dentistry.
2. Dental Therapists and Dental Hygienists who have formal training in office based vital bleaching of teeth may practise it in accordance with a written treatment plan prepared by a supervising registrant and the other requirements of Code of Practice #1.
3. Dental Hygienists and Dental Therapists must not use lasers for dental bleaching in the dental surgery.

### BACKGROUND:

#### Bleaching Agents

The use of bleaching agent to lighten the colour of vital teeth has become a common part of general dental practice. However, the procedures involved can be potentially hazardous to the patient, and the process of bleaching involves chemical changes which are essentially irreversible.

Hydrogen peroxide is the active bleaching agent in professionally applied dental bleaching products. The effective concentration of hydrogen peroxide varies greatly from concentrations as low as 3% for *whitening toothpastes* to 35% in some *office based* bleaching products. Many bleaching products available contain carbamide (urea) peroxide which is more stable than hydrogen peroxide but generates hydrogen peroxide as the active bleaching agent. The application of energy to the hydrogen peroxide in the form of heat, high intensity visible light, laser light or other energy forms accelerates the action of hydrogen peroxide.

While weak solutions of hydrogen peroxide have been used in the oral cavity for many years with few problems, when used in higher concentrations the potential for adverse effects on the oral tissues is high.

WorkSafe Australia's current guidelines designate hydrogen

peroxide at concentrations above 5% as a hazardous substance. Direct exposure of the skin, eyes and mucous membranes to hydrogen peroxide may cause severe irritation or burns, while ingestion may cause irritation to the oesophagus and stomach resulting in bleeding or sudden distension. Percolation of hydrogen peroxide into the pulpal tissues via exposed dentine and enamel fractures can lead to pulpal inflammation. For these reason it is necessary to take great care when handling and using hydrogen peroxide bleaching agents especially in the higher concentrations (above 20%).

#### Application of heat and energy

The application of heat and other forms of energy such as light from a plasma arc lamp or laser accelerates the action of hydrogen peroxide, but the incorrect application of these forms of energy may also cause pulpal damage to the tooth.

#### Radiation Safety

A number of high power (Class 4) lasers are used for the whitening of teeth. Under the *Radiation Safety Act 1999* only Dentists can use Class 4 lasers in patient care for "dental hard and soft tissue procedures" and the *Radiation Safety Regulation 1999* specifically excludes Dental Auxiliary registrants from undertaking dental procedures with a Class 4 laser.

#### Code of Practice #1

The practice of dentistry by Dental Therapists and Dental Hygienists is allowed by the *Dental Practitioners Registration Act 2001* provided it is in accordance with the Code of Practice #1, Practice of Dentistry by Dental Therapists and Dental Hygienists. In this Code of Practice, the General Functions of both Dental Therapists and Dental Hygienists include application of fissure sealants. For this procedure high intensity light sources are commonly used to set resin based materials and these light sources are not dissimilar to those used to activate bleaching agents. The general functions of Dental Hygienists but not Dental Therapists include the topical application of solutions prescribed by a supervising registrant.



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Code of Practice #1 also provides that the key features of supervision of a Dental Hygienist include that a supervising registrant should be available at all times for advice and consultation in relation to the practice by the Dental Hygienist of functions in accordance with a written treatment plan prepared by the supervising registrant based on the Dentist's initial examination of the patient. The Code of Practice does allow dental therapists working under the prescription and direct supervision of a dentist to perform application of fissure sealants on adults. The Code of Practice also requires Dental Therapists and Dental Hygienists to practise only those functions for which they have been formally trained.

### REFERENCES:

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*Dental Practitioners Registration Act 2001*

Code of Practice #1, Practice of Dentistry by Dental Therapists and Dental Hygienists

*Radiation Safety Act 1999*

*Radiation Safety Regulation 1999*

Walsh LJ. Safety Issues relating to the use of hydrogen peroxide in dentistry. *Aust Dent J* 2000; 45:257-269.

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