

# Dental Distraction Goggles: An Innovation

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## INTRODUCTION

Patients who are undergoing dental procedures develop emotions which depend mostly on the nervous and endocrinal systems. These can be illustrated by physiological changes, behavioural, bodily movements and facial expressions of the patient. Source of consciousness augment the fight or flight response. Dental procedures cause quite an anxiety i.e., emotions similar to fear but arise with a source that are unrecognised. Therefore, it is a problematical occurrence for both patients and dentist [1]. The substantial fraction of first dental visit may obstinate the patient who are not aware of the instructions given by the dentist causing difficulty to grasp the oral hygiene practices and therefore, establish the poor oral hygiene [2]. The occurrence of anxiety takes place by means of seeing the dental chair set-up and the sounds caused by the equipment or the machinery. Usually, every patient prefers a comfortable, calm and soothing environment during dental treatment procedures on a dental chair. Hence, an innovation is made as an eyewear with a removable disc exhibiting pictures/images in it to circumvent anxiety and engross the patient from fear of the treatment procedure, thereby distracting the patient from anxiety during the dental procedure [3].

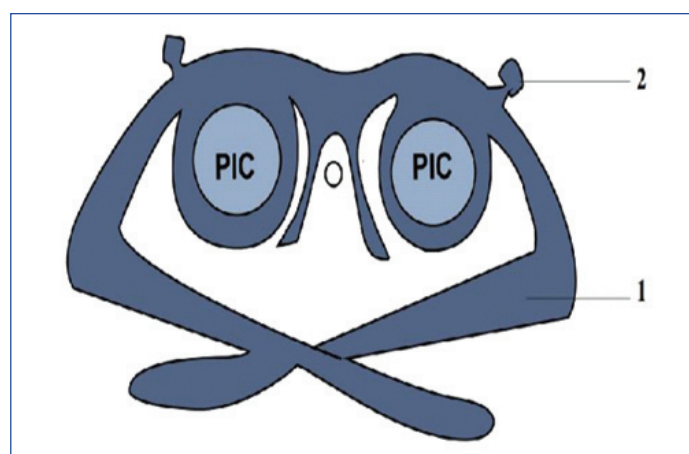
Distraction technique is most successful and effective technique among the patients for reduction in dental anxiety. It diverts the patient's attention from the treatment process [3]. It is not only a successful and effective technique, but recent dental studies have shown that distraction is most commonly used technique to create positive behaviour, thereby altering the perception of pain and responses to the dental procedures [4-6]. Distraction technique is in general classified into active distraction and passive distraction techniques [5,7]. In paediatric patients, active distraction technique promotes the child's interest during the dental treatment which includes singing, playing toys, squeezing balls and so on. Passive distraction technique requires the child to be quiet and calm during the dental procedure [5]. The difference between fear and anxiety is contentious and many times it is considered to be same. Nevertheless, it has been confirmed that, if stimulus is known then it is fear and when it is unknown, then it is known be anxiety [7]. The effectiveness and outcome of the treatment in paediatric patients is greatly dependent on the patient's behaviour and cooperation. Use of distraction methods during the treatment have gained popularity and proved effective. The present paper has reviewed one such patented distraction goggles number 202241017726A and its utility in anxiety management.

## Description of the Eyewear

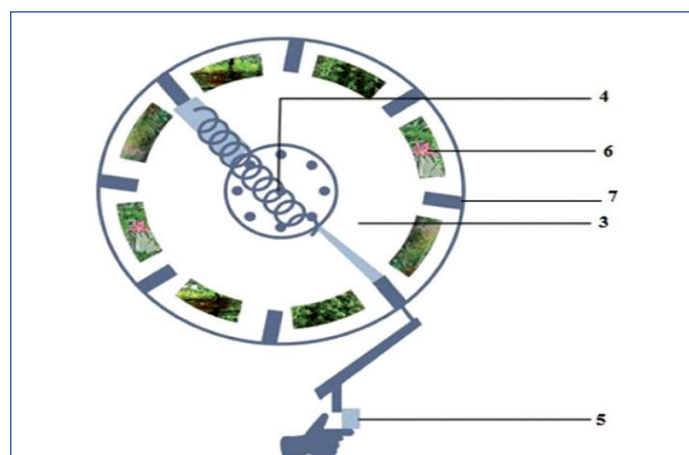
The enhanced advantage of protective eyewear is to prevent the patient from visualising both the operative procedures and instrumentations (i.e., syringes and needles) used by doctors/dentists at the clinic set-up and replace it with pleasant images. Dental distraction goggles is a patented device and first of its kind and have not been used, so far. The eyewear has a removable disc with pictures in it used to distract a patient from the dental treatment

procedure. There may be six or more pictures that depict a choice of visuals representing positivity. A lever is attached to the eyewear which can be clicked by the patient himself or the dental assistant to change to the next picture during the treatment procedure. The lever in the goggles simply acts with up and down mechanism on the disc, which has slots to hold the lever extension, when pictures are changed.

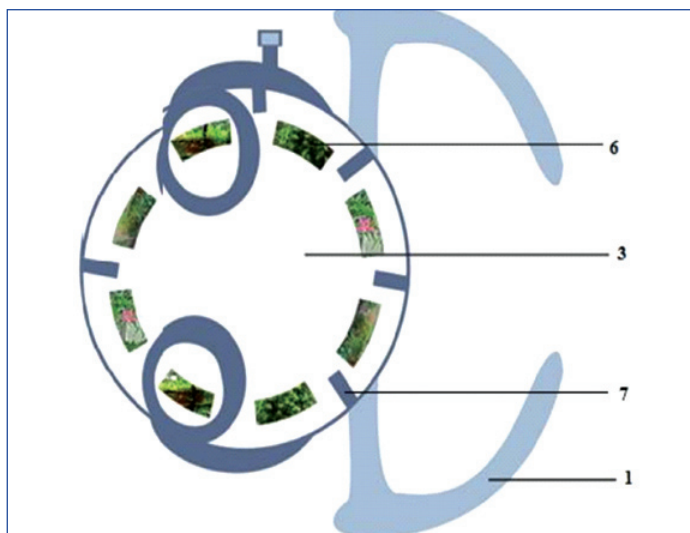
The dental distraction goggles of the present invention comprises of goggles frame to extend around two eyes and between the wearer's temples to fit against wearer's face, characterised with provision of disc insertion slots on both lens rims of the goggles frame [Table/Fig-1]. The disc insertion slot is configured at the rim of the goggles to receive a removable disc and coupled with a spring and a lever. The disc comprises of alternative slots and photo sheets exhibiting pictures circumferentially [Table/Fig-2]. The lever is configured to work by up and down mechanism accordingly actuating the spring to rotate the disc with slots for changing pictures upon clicking [Table/Fig-3].



**[Table/Fig-1]:** Goggles with disc Insertion Slots (goggles frame (1), Disc insertion slots (2)).



**[Table/Fig-2]:** Inside view with mechanism of detachable disc (removable disc (3), spring (4), lever (5), photo sheets exhibiting pictures (6), alternative slots (7)).



**[Table/Fig-3]:** Goggles with disc (goggles frame (1), removable disc (3), photo sheets exhibiting pictures (6), alternative slots (7)).

The cardboard disc has four or more pair of pictures that can be advanced by rotation using a lever or button. The reclining position of the patient enables the dental unit light to disperse on the pictures allowing the patient to visualise. The slots in the disc rotate permitting the advancement as the lever/button is clicked. A spring attached on the other side of the disc to hold, as well enable rotation of the disc intermittently. This eyewear would be highly helpful visual distractor for the patient who may either be a child or an adult. Various studies have proved the patient cooperation gets better when they are distracted from actual procedures [5,7-9].

The dental unit uses either halogen light or light emitting diode, either of which is a demanding light source for accurate visualisation, but unfortunately this is a main anxiety producing element for paediatric, as well as, adult patients. These distraction goggles can eliminate the exposure to these light by acting as a visual distractor and there by decrease the patient's anxiety and enhance their level of cooperation. This technique is easily acceptable, owing to its simple design. However, it can hamper eye communication between dentist and the patient, which can be critical. Nonetheless, it can be managed by verbally communicating. For any dentist, the main desire is to treat their patient anxiety free, at the same time providing the best quality dental care [8]. Thus, distraction goggles may serve

as an effective and economical visual distractor, owing to its simple design and accessibility.

## CONCLUSION(S)

Unpleasant previous dental experience such as oral prophylaxis, restorations, administration of local anaesthesia, extraction, pulpectomy, pulpotomy procedures was to be associated with uncooperative behaviour, fear, anxiety during dental treatment. This innovative eyewear that exhibits pictures, can be utilised to battle the fear and anxiety in a patient by means of visual distraction. However, the applicability to combat the fear and anxiety through simple distraction goggles, is yet to be evaluated.

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