

**RADIATION ABSORBED DOSE TO THE EYE LENS
RESULTING FROM MULTIDIRECTIONAL TOMOGRAPHY OF
THE TEMPOROMANDIBULAR JOINT**

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ABSTRACT:

Tomography has become widely available and is recognized as an important diagnostic tool in examination of the Temporomandibular Joint (TMJ). (Along with the increasing interest in radiography of the TMJ, there is an increasing awareness of the potential hazards of radiation to critical organs. This fact justifies the present assessment of the absorbed dose to the eye lens in order to estimate the potential risks associated with multidirectional tomography of the TMJ. A total of 57 exposures of the TMJ of a tissue equivalent phantom were taken in both lateral and coronal planes under large numbers of combinations of different settings and exposure factors using two different techniques. The absorbed doses to the eye lens were measured by using a total of 228 TLD dosimeters attached to the center of the phantom's eyes) near to or far away from focus. (The results of the present study showed that the recorded doses were far below the threshold of eye dose that could induce cataract however, it is important to consider that the effects of radiation are cumulative and even small doses might cause damage to the tissues. Also the recorded doses increase by 35.2 % to 177 % on using techniques utilizes large number of different slices depths therefore, practitioners should carefully consider the need and the potential benefits as well as the potential harm for every radiographic examination proposed.