Reviewer's report

Title: Thyroid Shields and Neck Exposures in Cephalometric Radiography.

Version: 1 Date: 3 May 2006

Reviewer: david manson

Reviewer's report:

General
This article raises significant concerns regarding the appropriate use of radiation protection in the practise of dental radiography. Current guidelines as outlined by the ALARA (as low as reasonably achievable) principle mandate that any area of the body that is not of clinical interest must be excluded from the examination or must be appropriately shielded. While there are those who continue to question this principle, there is little doubt that this is widely accepted as standard of care in any radiographic examination. This study brings to light the relatively widespread neglect of this principle practised by many in the dental profession. Various explanations are entertained by the authors, most of which are thinly coated excuses for lack of attention to appropriate care. The theory of hormesis has not gained general acceptance and does not justify inappropriate shielding. Establishing a skeletal age has limited applicability in this population, and can be performed using the left hand/wrist examination when needed, without exposing radiosensitive organs. The authors have performed an excellent piece of work, with clear, unambiguous and critical conclusions based on solid data regarding the current state of radiation protection in dental radiography in a major US urban setting. The data collection and statistical methodology is sound. My suggestions below are given to make the article more concise and readable. I leave them to the authors’ and editors’ discretion.

Major compulsory revisions
The discussion is too long, and can easily be shortened to keep the focus on the major points of the paper. The following portions can easily be excluded or shortened to a one sentence summary
a. pg 12 “paragraph starting with “Self-reported statistics...direct observations” can be replaced with “this survey is a self-reporting survey, open to overt selection and reporting biases”.
b. Pg 13 “paragraph “A limitation...that it does...” can be deleted “this is obvious”
c. Pg 13 paragraph “oversight...in print...” can be deleted “it is not the role of the authors to present potential excuses for not using shielding, especially “oversight”
d. Pg 14 paragraph “Moreover, the potential...determined...” can be shortened to a short comment that even those who understand hormesis do not support the exclusion of radiation shielding.
e. Pg 17 “in conclusion “The reasons for such practises...extra-oral radiography...” can be excluded “not pertinent to the authors findings.

Discretionary/minor revisions
Abstract please define “secular variability”
Background
Line 6 “to which thyroid shields are used”.
2nd paragraph line 1 “to determine prior to any...”.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

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Discretionary Revisions (which the author can choose to ignore)