

ANALYSIS AND COMMENTARY ● ● ● ● ●

This carefully performed epidemiologic case-control study by a group with considerable experience in this area is very convincing because the subjects, radiologic technologists, were very sophisticated with regard to radiation exposure. It is interesting that procedures—such as chest CT, which gives 15.5 mGy to the thyroid, and cervical spine x-rays, which give 4.0 mGy—were not associated with the risk of thyroid cancer. The explanation is probably that these procedures were not done repeatedly or were not done when the subjects were young. A case-control study in Kuwait with a much smaller control group also concluded that dental x-ray examinations increased the risk of thyroid cancer with an odds ratio of 2.1 (95% CI, 1.3 to 3.1) (1). A Swedish case-control series

of women with PTC also reported that more than 10 dental x-ray examinations increased the odds ratio to 3.5 (95% CI, 1.6 to 7.6) (2).

My dentist for over 20 years (the daughter of an endocrinologist) has used a lead apron with a thyroid shield when she takes my dental x-rays. The current recommendation by the American Dental Association stresses the need for shielding of the thyroid during dental x-ray examinations (3). Last year, the American Thyroid Association made a comprehensive recommendation about shielding during dental x-rays (<http://thyroid.org/american-thyroid-association-ata-issues-policy-statement-on-minimizing-radiation-exposure-from-medical-dental-diagnostics>). Take heed and advise your patients about this preventive measure.

References

1. Memon A, Godward S, Williams D, et al. Dental x-rays and the risk of thyroid cancer: a case-control study. *Acta Oncol* 2010;49:447-53.
2. Wingren G, Hallquist A, Hardell L. Diagnostic x-ray exposure and female papillary thyroid cancer: a pooled analysis of two Swedish studies. *Eur J Cancer Prev* 1997;6:550-6.
3. American Dental Association Council on Scientific Affairs. The use of dental radiographs: update and recommendations. *J Am Dent Assoc* 2006;137:1304-12.