

# Dental x-rays linked to brain tumours

By [Martin Johnston](#)

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Dental x-rays have been linked to an increased risk of developing a particular kind of brain tumour.

A retrospective study published yesterday in the United States journal *Cancer* indicates that having the standard "bite-wing" dental x-ray annually or more often may nearly double the risk of developing meningioma.

This is the most commonly diagnosed primary brain tumour in the US, where it is estimated nearly one in 1000 people are diagnosed with the disease. Mostly the tumour is benign, but in some people it is malignant and can be fatal. It is more common in women than men.

The Yale University study compared diagnosed patients with a control group of people without the tumour.

People who reported having yearly or more frequent bite-wing x-rays - in which the x-ray film or often now a digital sensor is in a holder clamped between the back teeth - were 1.4 to 1.9 times more likely than the comparison group to develop meningioma.

Some other kinds of dental x-rays were linked to an even greater increase in risk, including a 4.9 times increase for those who said they had had, before the age of 10, a panorex x-ray, which shows all the teeth on one film.

The lead researcher, Dr Elizabeth Claus, urged dental patients to gain a greater understanding of when it was appropriate to have a dental x-ray.

Dr Martin Lee, the dentist who led development of New Zealand guidelines on dental x-rays for children, said, "The approach is to keep all the doses as low as reasonably achievable."

"Baseline" images should be taken when a child was around age 6.

"Kids with ongoing dental problems should probably have a new set taken every year so we can monitor what's going on, and every two to three years if they're not having ongoing dental problems."

Dr Lee, the Canterbury District Health Board's clinical director of community oral health services, said the move to newer x-ray machines had reduced the amount of radiation, with a further reduction coming with the switch by many dental services to digital sensors instead of using film to produce the images.

Compared with the machines of the late 1990s, digital-sensor systems delivered about a quarter of the radiation, or less.

He added that the amount of radiation delivered in taking a pair of bite-wing x-rays was less

than the background radiation a person was exposed to each day from natural sources.

**HOW OFTEN**

- \* Recommended frequency of dental x-rays:
- \* Annually - For those who have had recent dental decay
- \* Every 2-3 years - For those at very low risk of decay

*Sources: two district health board dentists*