How Safe Are Dental X-Rays at the Dentist? | Core Dental

Canonical: https://www.coredental.com.au/safe-dental-x-rays/

Details:

Dental X-rays use a very low dose of radiation, and dentists take them only when they are clinically appropriate. They help us see what cannot be seen during a visual examination, such as decay between teeth, infections and the bone supporting your teeth. Safety precautions include a lead apron over your torso and an X-ray beam focused on the area being examined. Please tell us if you are or might be pregnant, so that your dentist can decide whether an X-ray should be delayed.

Are dental X-rays safe?

Dental X-rays involve a very low level of radiation exposure, and they are widely used because the information they give your dentist is valuable for diagnosis and treatment planning. No medical imaging is entirely free of any exposure, so we only recommend X-rays when the likely benefit outweighs the small risk. If you are pregnant, or think you might be, please tell your dentist or dental nurse before any X-ray is taken. In that situation we will usually discuss whether the X-ray can wait or whether it is needed urgently.

Why do dentists use X-rays?

Dental X-rays are an important tool that dentists use to examine the health of your teeth and gums more closely. They help us to:

diagnose cavities, including those between teeth or under existing fillings

check for infections related to teeth or gums

assess the health of the bone that supports your teeth

evaluate developing teeth in children

evaluate wisdom teeth in young adults, helping to prevent problems and plan any necessary treatment

Because these images show areas that are hidden from view, they can help us find problems early and plan treatment. Your dentist will explain why a particular X-ray is recommended for you.

What safety precautions are taken when you have a dental X-ray?

A lead apron is placed over your torso to protect you from stray radiation. The X-ray beam is focused on the area being examined, which limits exposure to the rest of the body. Your dentist or dental nurse will explain what is happening. If you feel uncomfortable at any point, please tell us.

Who should be cautious about having a dental X-ray?

Pregnant women are the group for whom particular care is taken. Because radiation exposure from a dental X-ray is very low, many dental X-rays can be postponed until after pregnancy when they are not urgent, but this is a decision for you and your dentist to make together. Please also tell us if you have

had a lot of recent imaging, as your dentist may then decide whether another X-ray is needed. Children can have X-rays when clinically appropriate, and the aim is to keep exposure low while still getting a useful image.

What technology do we use for X-rays?

At Core Dental we use digital radiographs in place of conventional film X-rays. Digital imaging captures the image electronically, so your dentist can view it straight away on a screen, enlarge it and talk through it with you. Digital X-rays and intraoral cameras are part of the fit-out across our practices. The type of X-ray depends on what your dentist needs to see, and may include small images of a few teeth or a wider view of the whole mouth.

How often will you need dental X-rays?

How often you need X-rays depends on your own oral health, your age, your history of decay and gum disease, and any symptoms. Routine review intervals should be tailored to your individual risk rather than assumed to be the same for every patient. At your visit we will explain whether images are recommended and why, and you are welcome to ask questions before we proceed.

What should you ask your dentist about X-rays?

A useful first step is to explain your concerns, symptoms, timing and treatment goals when you book. Bring relevant medical information and a current list of your medicines, and tell us about any pregnancy. It can help to ask why the X-ray is recommended, what it is expected to show, whether there are reasonable alternatives, and what limitations apply. Fees, treatment time and recovery vary with the diagnosis and the complexity of care, and a written treatment plan can help you compare stages and payment arrangements before you proceed.

What should you do in an emergency?

Call 000 immediately for uncontrollable bleeding, difficulty breathing or swallowing, serious facial injury or other life-threatening symptoms. Do not wait for a dental appointment in these situations. For severe tooth pain or swelling without these emergency signs, contact your nearest Core Dental practice promptly.

The published dose figures for dental x-rays

The most useful thing on this subject is a number, and Australia's radiation protection authority publishes one for dental x-rays alongside everything else you might be imaged with.

The Australian Radiation Protection and Nuclear Safety Agency's patient fact sheet on medical imaging gives a table of "Indicative radiation dose to adult patients from common medical imaging procedures". Its two dental entries, with the table's own column headings — typical adult dose in millisieverts, "Background Equivalent Radiation Time (BERT)", equivalent chest x-rays, and "Additional Lifetime Risk Level of Fatal Cancer":

A bitewing dental x-ray: 0.01 mSv. Background equivalent 2.4 days. Equivalent to 0.5 chest x-rays. Risk level: NEGLIGIBLE.

A dental cone beam CT (CBCT): 0.1 mSv. Background equivalent 3 weeks. Equivalent to 5 chest x-rays. Risk level: MINIMAL.

What those risk words mean. ARPANSA defines them in the same table. "Negligible" is an estimated additional risk of fatal cancer of "Less than 1 in 1,000,000". "Minimal" is "1 in 1,000,000 to 1 in 10,000".

And the context it gives for those numbers. "Note: These risk levels represent very small additions to the 1 in 5 chance we all have of dying from cancer." For comparison, the same document lists lifetime risks of death from a lightning strike as "1 in 100,000", a bicycle accident as "1 in 10,000", and drowning as "1 in 1,000".

Against everyday background radiation. "In Australia, background radiation is approximately 1.5 mSv per annum." A bitewing's 2.4 days of background equivalent is therefore a very short slice of what you receive anyway from living here.

One comparator people find easier to picture. ARPANSA, on a chest x-ray: "the radiation dose from a typical chest X-ray is approximately equivalent to the natural radiation received in an aircraft flight from Sydney to Cairns or five days of background radiation from normal living." A bitewing is about half a chest x-ray.

Being precise about the limits of this source. ARPANSA's table gives figures for exactly two dental procedures — a bitewing and a dental cone beam CT. It gives none for a panoramic (OPG) x-ray or a full-mouth series, and no advice on how often dental x-rays should be taken. We are not going to extrapolate from the bitewing figure to anything else, and any page that quotes a dose for an OPG is using a source we have not read.

Sources: Australian Radiation Protection and Nuclear Safety Agency, Having a scan? A guide for Medical Imaging, arpansa.gov.au . Accessed 6 November 2026.

Why an x-ray gets taken, and what to tell them first

Dose is only half the question. The other half is what the image is for, and on that the dental advice is specific about what cannot be seen without one.

The Victorian Department of Health, on decay: "X-rays are often needed to diagnose decay as it can occur in areas not visible to the naked eye." It makes the point concretely: "A tooth can appear intact from the outside" while decay is visible on the image.

At a check-up: "If a suspected dental problem is difficult to see (for example, possible decay between two touching teeth, or an infection), x-rays may be needed."

For a tooth whose nerve may be affected , the image is also the plan: x-rays "help the dentist to plan for the root canal treatment by showing the number, size, shape and depth of the roots, which shows how complicated the procedure may be." And pulp damage can be silent — "the problem is usually diagnosed by special tests or x-rays during a dental check-up or treatment for other dental concerns."

For orthodontics , the diagnostic list is "a visual examination and photographs", "x-rays of the teeth and jaws", and "impressions or scans of the teeth". For wisdom teeth: "X-rays will help to tell if wisdom teeth might cause problems."

Which is ARPANSA's own framing of the trade-off. "In considering any risk, you'll also need to consider the risk(s) associated with NOT having the medical imaging examination, which are likely to be greater." And: "The benefits of scans will almost always outweigh potential risks."

It also warns about the opposite error: "While it's useful to be aware of the risks associated with any medical procedure, the internet or media may provide misleading information and in some cases lead patients to being unnecessarily alarmed. Unfortunately some patients may then delay or decide not to have a procedure, potentially compromising care." At the same time, "inappropriate examinations displace necessary ones", and its blunt instruction is: "Don't get any study you don't need."

How the dose is kept down. "The type of examination involved determines each dose. So too do other factors such as the specific type of equipment used, the patient's age, gender, body size and anatomy. Highly trained medical staff consider all these factors. They only scan the part(s) of the body required,

and keep the dose as low as possible while still achieving effective results."

What to tell them before an image is taken.

If you are or might be pregnant. ARPANSA: "Before you have an X-ray or any other form of medical imaging it is important to advise your doctor if you are pregnant, or if it's possible you're pregnant. Unborn babies are more sensitive to radiation than an adult, so it is important to take precautionary steps, which may involve an alternative examination, such as ultrasound or MRI." On dental x-rays specifically during pregnancy, the Victorian Department of Health states: "Common concerns about dental treatment during pregnancy include local anaesthetics, or numbing agents, and dental x-rays. These are both safe during pregnancy. However, if you have concerns, speak to your dentist so they discuss your individual needs and options."

If it is for a child. "As one might expect, children are more sensitive to ionising radiation than adults and every proposal for diagnostic examination through medical imaging needs to be very carefully considered to assess the need." And on the figures: "Paediatric doses are generally lower, however the risks may be higher."

If you have had imaging recently. "If you have recently undertaken an X-ray, CT scan or other medical imaging examination it is important to advise your doctor before undertaking further examinations. Similarly, any chronic conditions and/or history of multiple scans should be reported to your doctor."

And ARPANSA's advice on asking. "As with any medical procedure, there is a risk associated with medical imaging examinations. Asking your doctor whether a scan is appropriate for your particular circumstances is quite reasonable." Also: "Keep a history of your studies (reports and images) to avoid unnecessary repeat exams."

Sources: Australian Radiation Protection and Nuclear Safety Agency, Having a scan? A guide for Medical Imaging, arpansa.gov.au ; Better Health Channel (Victorian Department of Health), Tooth decay, betterhealth.vic.gov.au (reviewed 28 June 2025); Dental treatment, betterhealth.vic.gov.au (reviewed 3 June 2026); Root canal treatment, betterhealth.vic.gov.au (reviewed 14 July 2025); Orthodontic treatment, betterhealth.vic.gov.au (reviewed 15 December 2025); Wisdom teeth, betterhealth.vic.gov.au (the page states its review date as 3 June 2022); Pregnancy and teeth, betterhealth.vic.gov.au (reviewed 21 August 2025). All accessed 6 November 2026.

Frequently asked questions

Do dental X-rays hurt?

No. An X-ray itself is painless. You may be asked to hold a small sensor in your mouth, which can feel a little awkward for a moment. Tell your dentist if it is uncomfortable, and we can adjust the positioning.

Can I have a dental X-ray if I am pregnant?

Please tell your dentist if you are or might be pregnant. Because dental X-rays involve a very low dose and the beam is focused on the mouth, some may be needed in an emergency, but non-urgent X-rays can often wait. We will discuss this with you before proceeding.

Are dental X-rays safe for children?

Dental X-rays can be used for children when they are clinically appropriate, for example to check developing teeth. We use a focused beam and protective precautions, and your dentist will explain why an image is recommended for your child.

What is the difference between digital and conventional X-rays?

Conventional X-rays record the image on film, while digital radiographs capture it electronically so that it can be viewed on a screen straight away. Core Dental uses digital radiographs, which let your dentist show you the image and explain the findings.

Why does my dentist want an X-ray at my check-up?

An X-ray can show decay between teeth, infection and the condition of the supporting bone, none of which can always be seen by looking in the mouth. Your dentist will explain why an image is recommended for you.

How much radiation is in a dental x-ray?

The Australian Radiation Protection and Nuclear Safety Agency gives a bitewing dental x-ray a typical adult dose of 0.01 mSv, which it equates to 2.4 days of background radiation and 0.5 chest x-rays, and rates as a "NEGLIGIBLE" additional lifetime risk of fatal cancer.

What about a dental cone beam CT?

ARPANSA's figure is 0.1 mSv — 3 weeks of background equivalent, 5 chest x-rays — rated "MINIMAL".

What do those risk words mean?

ARPANSA defines them. "Negligible" is an estimated additional risk of fatal cancer of "Less than 1 in 1,000,000". "Minimal" is "1 in 1,000,000 to 1 in 10,000".

How does that compare with risks I already accept?

The same document lists lifetime risks of death from a lightning strike as "1 in 100,000", a bicycle accident as "1 in 10,000", and drowning as "1 in 1,000". It adds: "These risk levels represent very small additions to the 1 in 5 chance we all have of dying from cancer."

How much background radiation do I get anyway?

"In Australia, background radiation is approximately 1.5 mSv per annum."

Is there a figure for a panoramic OPG x-ray?

Not in any source we have read. ARPANSA's table covers exactly two dental procedures — a bitewing and a dental cone beam CT — so we are not going to extrapolate a figure for anything else.

Why is an x-ray needed if my dentist can see my teeth?

Because some problems are not visible. "X-rays are often needed to diagnose decay as it can occur in areas not visible to the naked eye", and "a tooth can appear intact from the outside". The Victorian Department of Health also lists "possible decay between two touching teeth, or an infection" as cases where "x-rays may be needed".

What else is an x-ray used for?

Planning. For root canal treatment, x-rays show "the number, size, shape and depth of the roots, which shows how complicated the procedure may be". For orthodontics they are part of the diagnostic set, and for wisdom teeth, "x-rays will help to tell if wisdom teeth might cause problems".

Is there a risk in not having one?

ARPANSA raises it directly: "In considering any risk, you'll also need to consider the risk(s) associated with NOT having the medical imaging examination, which are likely to be greater." And: "The benefits of scans will almost always outweigh potential risks."

Should I have one if I am not sure it is needed?

ARPANSA's own instruction is "Don't get any study you don't need", and it says that "asking your doctor whether a scan is appropriate for your particular circumstances is quite reasonable".

Are dental x-rays safe during pregnancy?

The Victorian Department of Health addresses this directly: "Common concerns about dental treatment during pregnancy include local anaesthetics, or numbing agents, and dental x-rays. These are both safe during pregnancy. However, if you have concerns, speak to your dentist so they discuss your individual needs and options." ARPANSA asks you to tell them either way: "it is important to advise your doctor if you are pregnant, or if it's possible you're pregnant".

What about children?

"Children are more sensitive to ionising radiation than adults and every proposal for diagnostic examination through medical imaging needs to be very carefully considered to assess the need." On figures: "Paediatric doses are generally lower, however the risks may be higher."

Should I mention imaging I have had elsewhere?

Yes. "If you have recently undertaken an X-ray, CT scan or other medical imaging examination it is important to advise your doctor before undertaking further examinations." ARPANSA also advises you to "keep a history of your studies (reports and images) to avoid unnecessary repeat exams".

Related services and further reading

General dentistry

Dental check-ups

Wisdom tooth extraction

Children's dentistry

Is charcoal whitening safe?

Teeth whitening: what colour should my teeth be and is it safe to whiten them?

4 things to avoid if you have sensitive teeth

What to expect at your first Core Dental appointment

How can we help?

If you have questions about X-rays or would like a check-up, our team can help at any of our nine Core Dental practices. Call 13 13 16 or book online. You can also read about our dentists and registered specialists .

Core Dental at a glance

Nine Core Dental clinics across Melbourne: Southbank, South Melbourne, Caroline Springs, Carrum Downs, Epping, Wyndham, Berwick, Bayside and Glenferrie.

Open six days a week: Monday to Friday 8.00am to 6.00pm and Saturday mornings.

Interest-free payment plans, HICAPS on-site claiming, bulk billing for eligible children under the Child Dental Benefits Schedule.

Call 13 13 16 or book online.

Contact Core Dental

Phone	13 13 16
Booking	Online via coredental.com.au, or call 13 13 16
Hours	Monday to Friday 8.00am to 6.00pm, Saturday 8.00am to 1.30pm, Sunday closed

Results, recovery times and potential risks vary for each individual. This information is general in nature and is intended for people over 18. Seek advice from a qualified, AHPRA-registered practitioner before proceeding.

How much radiation is used in a dental X-ray?

Dental X-rays involve a very low level of radiation exposure. Core Dental dentists only recommend X-rays when they are clinically appropriate, and we explain why an image is needed before it is taken.

What can a dental X-ray show that a visual check cannot?

Dental X-rays can show cavities, infections related to teeth or gums, and the health of the bone supporting the teeth. They also help Core Dental dentists evaluate developing teeth in children and wisdom teeth in young adults.

What protection is used during an X-ray at Core Dental?

A lead apron is placed over your torso to protect you from stray radiation, and the beam is focused on the area being examined. Tell our team if you feel uncomfortable at any point.

Who should tell the dentist before an X-ray is taken?

Anyone who is pregnant or might be pregnant should tell their Core Dental dentist or dental nurse before an X-ray. Non-urgent X-rays can often wait, and we will discuss the timing with you.

Does Core Dental use digital or film X-rays?

Core Dental uses digital radiographs instead of conventional film X-rays. Images appear on a screen straight away, so your dentist can show you the findings and explain them.

How often are dental X-rays needed?

It depends on your oral health, age, history of decay or gum disease and any symptoms. Our dentists tailor review intervals to your individual risk and explain why any image is recommended.

Are dental X-rays used for children at Core Dental?

Yes, when clinically appropriate. For example, an X-ray can help evaluate developing teeth. Our dentists use a focused beam and protective precautions, and they explain the reason for the image to parents.

How do I book a check-up with X-rays at Core Dental?

Call 13 13 16 or book online through coredental.com.au. We are open Monday to Friday 8.00am to 6.00pm and Saturday mornings. Mention any pregnancy or medical conditions when you book.