

# Are Routine Dental X-Rays for Children Necessary?

**Question: Is it appropriate for a dentist to do routine panoramic x-rays on kids based only on their age or stage of dental development (that is, no specific questions or cause for concern)?**

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**Q: Is it appropriate for a dentist to do routine panoramic x-rays on kids based only on their age or stage of dental development (that is, no specific questions or cause for concern)? I just did a ton of Googling and I'm beginning to conclude the recommendation was out of line. While at the dentist yesterday I delayed, saying I wanted to learn more.**

**A:** When it comes to x-rays, I encourage you to think of the ALARA principle, which stands for “As Low As Reasonably Achievable.” Minimize your child’s exposure to x-rays as much as you can, but be aware there will likely be times where x-rays are necessary and beneficial. It’s all about weighing the cost of each.

## What Are the Concerns With Dental X-Rays for Children?

- Children are more sensitive to radiation exposure than adults, so the cancer risk per unit dose of x-radiation is higher for children than it is for adults.
- It’s not the radiation from one x-ray that leads to cancer – it’s a lifetime of accumulating radiation exposure. The younger a child is when s/he has an x-ray, the longer time that child has for the effects of radiation exposure to manifest as cancer.
- Equipment often has exposure settings designed for adults, not children, leading to excessive radiation for smaller children. Modern x-ray units should be used, as they have settings to allow the correct x-ray dosage for children.

## My Personal Story: Pros and Cons of X-Rays

When I broke my ribs snowboarding, the doctor wanted to take a chest x-ray. I asked the doctor why, and he responded that the x-ray was to confirm the diagnosis. The problem is, the cure for broken ribs is basically nothing—you have to rest and wait for the bones to heal. By discussing this with my doctor, we decided there was no real benefit to taking the x-ray to confirm the

diagnosis. I had all the symptoms of broken ribs and confirming the diagnosis wouldn't change how we were treating them, so I opted for no x-ray and rested and waited for them to heal.

But here's another story—a friend of mine, who is a cancer survivor, got a bad flu and ended up breaking her ribs from all the coughing. This was a perfect case for her to get an x-ray because broken ribs could have come from metastasis of the cancer. Thankfully, the x-ray confirmed that it was indeed the coughing and she is still in remission. But this is an example where the benefit of an x-ray outweighs the risk of not having the x-ray. If this friend had indeed had cracked ribs from metastasis of the cancer, she and her doctor needed to know immediately.

X-rays are a valuable tool for diagnosing dental diseases, but they should not be part of every exam, nor should they be given to children according to an office policy or a formula.

### **I don't take x-rays in my pediatric patients unless I see signs of:**

- Decay
- Poor health
- Crowding of the teeth
- Cavities

I don't take x-rays on kids unless I see signals that it's required, but it's a tough call to make, so a very thorough clinical exam is key.

## **How to Decide**

Make sure it's the dentist recommending it, not the staff going through the motions. A lot of offices have formulas for when to take x-rays, like every six months or every year, and this does not follow the guidelines of ALARA (as low as reasonably achievable).

Understand why the doctor is recommending it, and ask:

“Is there any other way we can diagnose this problem without taking an x-ray?” and “What happens if we don't take this x-ray?”

An example of a good reason to take an x-ray: your dentist suspects your child may have a cavity based on your child's symptoms. By taking the x-ray, you prevent the worse harm, which is failing to catch a cavity and then losing the tooth.

## **Safety Tips**

Make sure the x-ray is digital, which has less radiation than conventional x-rays and if you are taking conventional, make sure it's an E-film, not a D-film. E is more sensitive to light than D-film is, meaning there's less radiation needed to expose the film.

Ask your dentist if s/he has a cavity detector and if it's possible to use that first. A cavity detector uses different wavelengths of light to see the cavity, without the need for an x-ray. Although cavity detectors are susceptible to user error, they can be good alternatives to taking an x-ray on your child.

The main thing to remember is that there has to be a good reason to take the x-ray.

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