



## The Science of Early Detection

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The incredible technological advancements in dentistry in recent years have enhanced our role as preventive therapists. One of the most significant changes has been the emergence of digital radiography. Digital radiography provides some very obvious benefits, yet can bring with it some costs. One of the most common mistakes I encounter when it comes to digital radiography, is a practice not having enough equipment to handle the demand for X-rays.

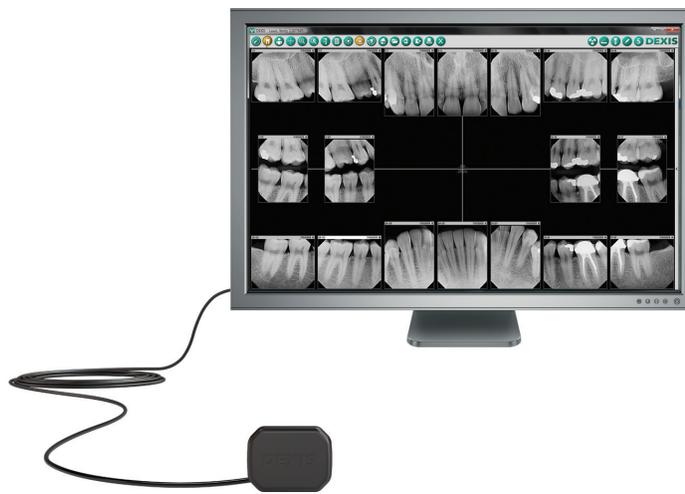
Radiograph recommendations were updated by the ADA as recently as 2005. Yet many of us haven't taken the time to step back and evaluate what we are doing and decide if our protocol should be different for high-risk patients.

In 2002, the American Dental Association, recognizing that there had been advancements in dental technology and science, recommended to the FDA that the guidelines be reviewed for possible updating. The FDA welcomed this interest in maintaining the guidelines, and the American Dental Association undertook this review. The ADA presented their recommendations to the FDA in 2004 and they were adopted later that year with recommendations on what that meant for use of digital radiographs.

The new changes present dental professionals with opportunities to better serve patients and increase productivity. How often should we take X-rays? With recent media stories, are patients declining this service? Do they really need X-rays?

X-ray recommendations should be personalized for each patient. Risk factors should be taken into consideration when deciding whether to prescribe X-rays. Here are the main risk factors highlighted by the ADA that indicate a need for X-rays:

1. High level of caries experience or demineralization
2. History of recurrent caries
3. High titers of cariogenic bacteria
4. Existing restoration(s) of poor quality
5. Poor oral hygiene
6. Inadequate fluoride exposure
7. Prolonged nursing (bottle or breast)
8. Frequent high sucrose content in diet
9. Poor family dental health
10. Developmental or acquired enamel defects
11. Developmental or acquired disability
12. Xerostomia
13. Genetic abnormality of teeth
14. Many multi-surface restorations
15. Chemo/radiation therapy in history
16. Eating disorders
17. Drug/alcohol abuse
18. Irregular dental care



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Here's what the ADA says:

“Professional judgment should be used to determine the optimum time for radiographic examination within the suggested interval.” The ADA does state that if a patient has more than one of these risk factors, they are considered to be at high risk for decay, and should have X-rays more frequently.

We help many of our members incorporate risk assessment into their patient care. Once the risk assessment is complete, it is common to have the overwhelming majority of patients in that high-risk category which requires X-rays to be done more frequently than what the practice had been doing in the past.

This presents a problem. Often, the practice doesn't have enough sensors to take X-rays as often as needed, so it just doesn't happen. We feel that every operatory would benefit from having its own sensor. How can we justify this investment? Let's do some simple calculations.



The ADA 2005 guidelines added a category of 'other circumstances' that justify radiographic examination. This category is: "Including, but not limited to, proposed or existing implants, pathology, restorative and endodontic needs, treated periodontal disease and caries remineralization." We often find that we are not up to the standard of care when it comes to periapicals.

If you are following the ADA's guidelines on high-risk patients, you may need to evaluate the need for anterior PAs, treatment-planned crowns, (often may be needed for insurance purposes) follow up post-endodontic treatment, and follow up post-implant procedures. If we have a system in place to take these PAs, we will have more demand than one or two sensors can support. Not to mention the demand for bitewings from the hygiene department.

On average, if we take 10 PAs per day, per operatory in 12 months, that equals \$40,000 in production. Most of that money comes from insurance companies. If you have five operatories, that is potentially \$200,000 a year. Consider what is lost though, if we don't have the needed technology. We have lost the increased productivity, but even worse, our patients have also lost. They have lost the opportunity to maximize technology that might provide the benefit of early detection. The investment made in additional sensors, combined with updated protocols, clearly will provide a quick return.

Fifty percent of all malpractice cases are due to missed diagnosis. We have to be very careful! With this in mind, it might be a good idea to review our policies about X-rays, and give our teams the resources they need to serve our patients at a level they deserve.

