



Unlocking Patient Trust: Your Guide to Leveraging **AI** in Case Presentations for Higher Acceptance Rates



Dental AI has never been easier.



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Over the last 10 years, the use of AI in medicine has taken off.

\$26B

invested in healthcare AI
between 2012-2022

With more than \$26 billion invested in AI for healthcare over the last decade, doctors and staff have become familiar with administrative and clinical AI solutions—and some patients have come face-to-face with AI-powered pulmonary and ocological diagnostic technologies.

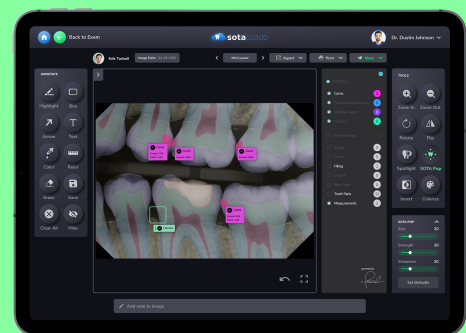
An all-in-one imaging platform with embedded AI is the biggest revolution in dental care since the advent of digital dentistry.



In dentistry, the AI revolution has come more slowly. But its late arrival belies the immediacy and scale of its influence. Why is dental AI having such a rapid and outsized impact?

- Increases radiologic accuracy in a field where radiography is a standard of care for healthy and unhealthy patients alike.
- Standardizes dental diagnosis and treatment planning in a field where inconsistency frequently spoils patient trust and practice performance.
- Unlocks the valuable potential hidden in the systems and tools introduced with digital dentistry.
- Eliminates key bottlenecks and inefficiencies in dental practice operations that impede optimal clinical and financial outcomes.
- Improves the patient experience in a manner that is easily comprehensible during case presentations.

Streamlines workflows in a field where technology is siloed.



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Quality dental care begins with accurate x-ray diagnosis.

Radiography plays a more fundamental role in dentistry than in any other medical field. Not only do dental patients receive x-rays annually to track their health, but x-rays are the point of origin for almost every dental treatment journey. So, when it comes to the dental care, a lot rides on the accuracy of radiologic evaluation.



1.4B

dental x-rays captured
annually

39%

of all medical x-rays captured
are dental x-rays

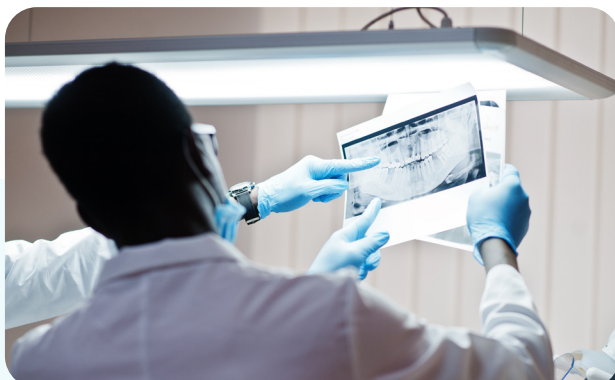
BY THE NUMBERS

Dental Radiology

Diagnosing disease in x-rays can be a challenge for any dentist.

Dentists strive to deliver top tier care to every patient, but radiologic evaluations can be a significant impediment to that goal. According to a UCLA study, dentists reading x-rays misdiagnosed the depth of carious lesions 40% of the time. Another 20% of the time they found lesions where there weren't any. On the whole, a review of published research suggests that dentists fail to detect 43% of all carious lesions visible in patient x-rays. The data on radiologic diagnosis of other conditions is only marginally better: On average, dentists miss between 24% and 39% of the calculus, margin discrepancies and periapical radiolucencies that show up in patient x-rays.

Add to those findings the fact that, according to the American Dental Association, dentists see an average of 2.5 patients an hour, or around 20 per day, amounting to 3,300 teeth examined every week—it's pretty clear that they could use some backup.



43%

of caries in dental x-rays
are undiagnosed

20%

of caries diagnosed in patients
are not actually caries

24%

of periapical radiolucencies in
x-rays are undiagnosed

SOTA Cloud and Pearl makes accurately reading x-rays easy.

When deployed in a dental practice, SOTA Cloud enables dentists and staff to seamlessly capture and utilize Pearl's AI to read radiographs more accurately and with greater sensitivity than ever before, all without the need to switch between windows.

AI algorithms learn to see, process and understand the world much the way the human brain does—repeated exposure to images, annotated to draw the algorithm's attention to all relevant features.

To create the most powerful clinical AI solution in dentistry, Pearl assembled the world's largest collection of expertly annotated bitewing, periapical and panoramic x-rays.

37%

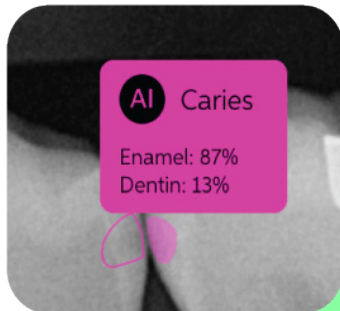
more disease accurately detected with Pearl's help

28%

less incorrectly detected disease with Pearl's help

36%

more confident x-ray diagnosis with Pearl's help

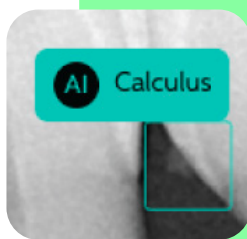


One of the things I love about Pearl is it helps me be a better diagnostician. It's a valuable second opinion. I use it every day.



Dr. Ross Nash

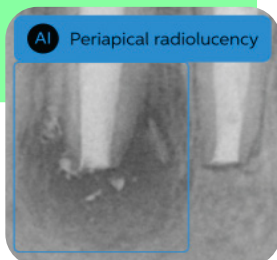
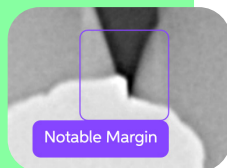
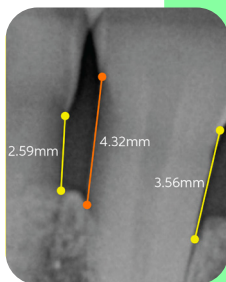
Cosmetic Dentistry of the Carolinas



Industry-leading capabilities afford comprehensive radiologic benefits.

Pearl's AI elevates dentists' radiologic accuracy across more types of dental imagery and for more dental conditions than any other AI system in the world—supporting comprehensive automatic detection of all the most prevalent conditions found in bitewing, periapical and panoramic x-rays, including:

- Caries
- Periodontal ligament
- Periapical radiolucency
- Existing restorations
- Calculus
- Decay depth
- Margin discrepancy
- Bone level
- Impaction
- Tooth parts



Diagnostic accuracy is vital to patient retention in dentistry.

While a misread x-ray doesn't always lead to misdiagnosis (x-rays aren't the only diagnostic tool in the dentist's chest, after all), when a dentist misdiagnoses a patient based on x-ray evidence, the patient may not stick around to see the course correction.

62%

of patients have refused treatment, sought a second opinion or switched dentists following an x-ray diagnosis

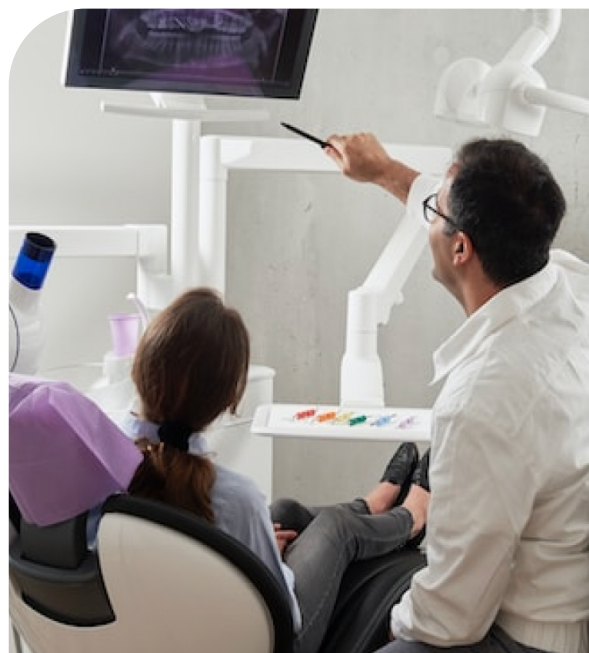
In a recent survey of 600 dental patients, a majority reported that they had on one or more occasions refused treatment (19%), sought a second opinion (25%) or switched dentists (32%) after receiving a radiologic diagnosis.

Patients aren't trained to read dental x-rays, so what makes them think their dentist is misdiagnosing their x-rays?

Given how challenging it is for dentists to accurately read x-rays, consider how the shadowy, indistinct gradations on x-ray images look to the untrained eyes of dental patients. Indeed, 65% of patients say they don't understand what their dentist is pointing out in their x-ray imagery.

Next, consider how patients feel when those indistinct gradations are presented as evidence of conditions that require hundreds or thousands in (often uncomfortable) treatment. It's not so hard to see why many patients distrust radiologic diagnosis.

The success of any dental practice hinges on overcoming that distrust. Why? Trust in diagnosis is the single most important factor influencing treatment acceptance and patient retention.



PATIENT PERSPECTIVES

Radiology & Diagnosis

65%

don't understand their x-rays

59%

don't trust their x-ray diagnosis

78%

say trust in diagnosis is key to accepting treatment

SOTA Cloud & Pearl builds patient trust.

SOTA Cloud's native integration with Pearl's AI-backed clinical support not only helps dentists achieve greater accuracy and consistency, it also brings more transparency to their diagnoses and case presentation, so dentists can maximize their time and patients can rest assured that they're getting the highest level of care.

People trust computers—and their own eyes. 77% of patients say they are more likely to choose a dentist who uses advanced technology, and 71% say that they would be more likely to trust their dentist's diagnosis if it were backed up by AI software.

That's no surprise, given the way Pearl's AI transforms the patient x-ray viewing experience. It brings technicolor clarity to the traditionally inscrutable grayscale imagery they're used to seeing in the dental chair. When patients see x-rays with crystal clear colorized tooth part mapping, precision automated measurement readings and boldly labeled pathology detections, their trust is assured.

71%

will trust dentist's diagnosis if backed up by AI

CASE ACCEPTANCE

IMPACT BY TREATMENT

RESTORATIVE

+28%

ENDO

+19%

PERIO

+35%



Dentists average 30% higher case acceptance when presenting treatment plans using SOTA Cloud and Pearl.



Second Opinion®

AI-powered instant pathology detection to ensure you catch even the hardest-to-spot conditions in your patient's x-rays.



Comprehensive
detection capabilities

37%

More disease
detected



Better patient
communication

SOTA Cloud®

All-in-one imaging hub to streamline workflows and centralize operations in your practice or organization.



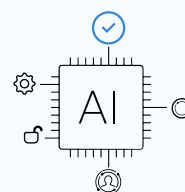
Easy integration with
virtually all sensors
& practice management
software



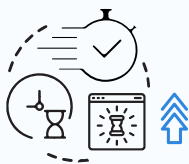
Secure record sharing
including images with
AI annotations



Powerful analytics



Embedded AI
user-experience



Up to 30X faster
load speeds



Access anywhere,
on any device



Encrypted automatic
back-ups



Request your demo today
at sotacloud.com/demo



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