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CASE STUDY

InnerView in a Full-Mouth Hygiene Recall for a 75-Year-Old Patient

Routine hygiene scan reveals hidden implant instability and structural defects missed by clinical exam.

perimetrics InnerView®

Welcome to the New Standard in Diagnostics

At Perimetrics, we believe that better diagnostics lead to better outcomes. From implants to natural teeth, the earlier you can detect subtle changes in stability, the more confidently you can treat—and the longer your work will last.

This case study collection was created to showcase real clinical examples where Quantitative Percussion Diagnostics (QPD) changed the course of treatment, revealed hidden risks, and helped clinicians take proactive steps before failure occurred.

Whether you're looking to improve patient care, reduce costly complications, or enhance your diagnostic confidence, InnerView delivers the insights traditional tools often miss—non-invasively and in just seconds.

Explore what's possible when you can see beneath the surface.

Patient Case: Identifying Structural Failures in a 75-Year-Old During Routine Hygiene Visit

**The information in this case study refers to future capabilities, currently under development and clinical evaluation. Not yet FDA cleared.*

Case Study Snapshot

PATIENT
75-year-old female

HISTORY:
20+ yr full-arch implant, anterior bridge, multiple crowns/implants; no complaints

VISIT TYPE:
Routine hygiene recall exam

TECHNOLOGY USED:
InnerView, radiographs, intraoral photos

FINDINGS:
Gingival inflammation, bone loss at #30, elevated NFE at #19, #20–21, #28–29, #30

OUTCOME:
Abutment retorquing reduced NFE (144→53 at #19); hidden decay confirmed; peri-implantitis treated; proactive plan established

*Note: NFE (Normalized Functional Energy) is a proprietary metric used by InnerView to quantify micromobility in teeth and implants — one of the earliest indicators of potential structural risk.

Patient Case: Identifying Structural Failures in a 75-Year-Old During Routine Hygiene Visit

Patient Complaint

A 75-year-old female presented for a routine hygiene recall appointment. She had a full-arch fixed implant restoration and multiple long-term restorations, including:

- Full-arch upper fixed implant restoration (20+ years old)
- Lower anterior fixed bridge (20+ years old)
- Posterior implants replacing lower first molars
- Remaining lower teeth restored with crowns and bridges

Despite a complex restorative history, the patient had no complaints at the time of the visit.

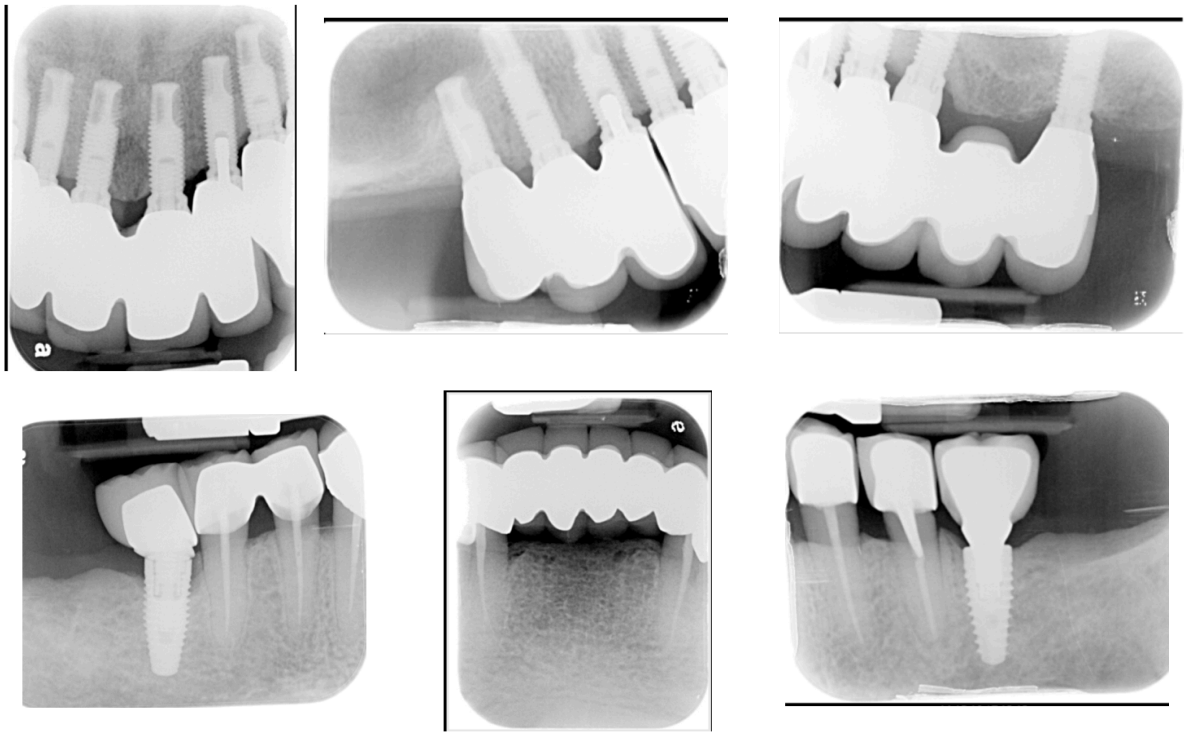
Initial Clinical Findings

During the hygiene exam, the following observations were made:

- Generalized gingival inflammation was more than usual, particularly around teeth #20-29. The tissue appeared slightly erythematous, though no suppuration or deep pocketing was noted.
- Generalized recession around the upper implants, but no significant inflammation was observed in these areas.
- Tooth #30 showed radiographic bone loss and peri-implantitis, prompting further evaluation. The bone loss pattern suggested possible biomechanical overload, though the patient had no reported discomfort.
- No mobility or major concerns were noted during the hygienist's manual exam, and the patient reported no functional issues with chewing.

Given the patient's extensive restorative history, the hygiene team decided to proceed with additional diagnostic imaging and InnerView assessment. While no overt symptoms were present, the subtle gingival inflammation and radiographic bone loss raised concerns about underlying structural integrity.

The decision was made to take a closer look at these restorations to identify any early-stage issues before they could lead to failure.



Radiograph of Tooth #30 revealing peri-implant bone loss, prompting further InnerView assessment.

How InnerView Changed the Diagnosis

Affter reviewing the radiographs, the clinician performed an InnerView scan to assess the stability of the implants and restorations.

Mobility Readings

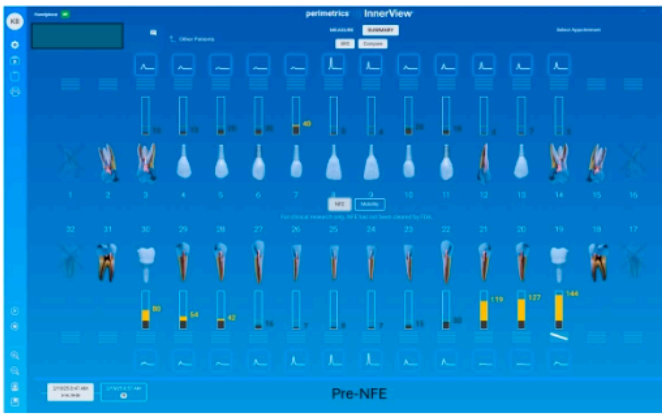
✓ Upper arch: Normal readings, confirming implant stability after 20+ years.

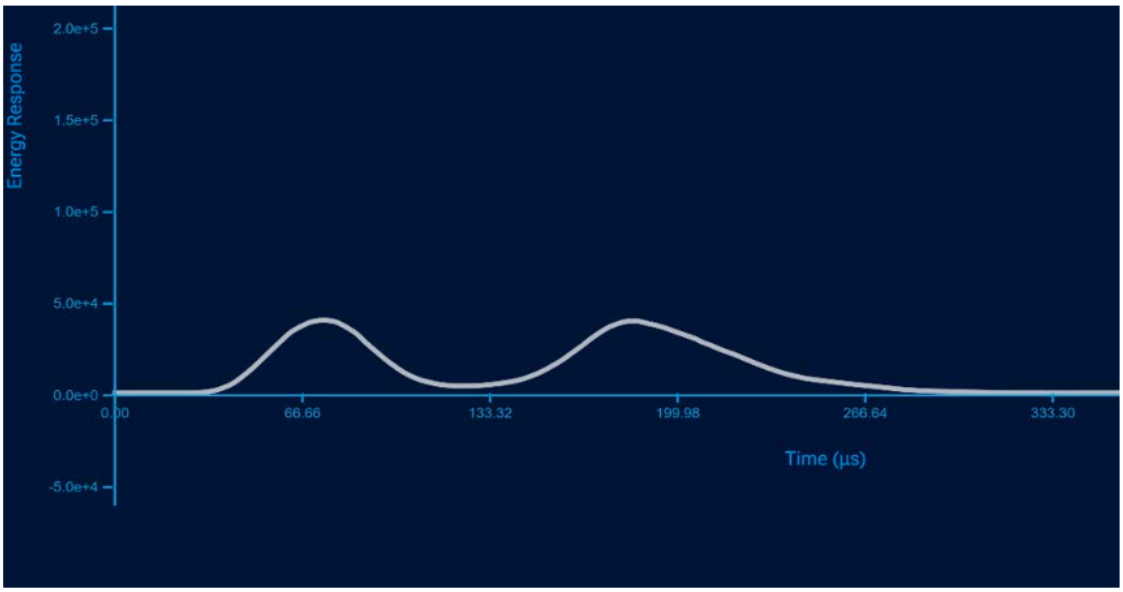
✓ Lower arch: Normal readings for both implants and natural teeth.

NFE Readings & Structural Defects Detected

- Implant #19i – High Structural Instability
- NFE Score: 144, indicating significant implant instability.
- ERG scan revealed two large peaks, suggesting a hidden mechanical defect at the implant-abutment interface.

Initial NFE Test Result

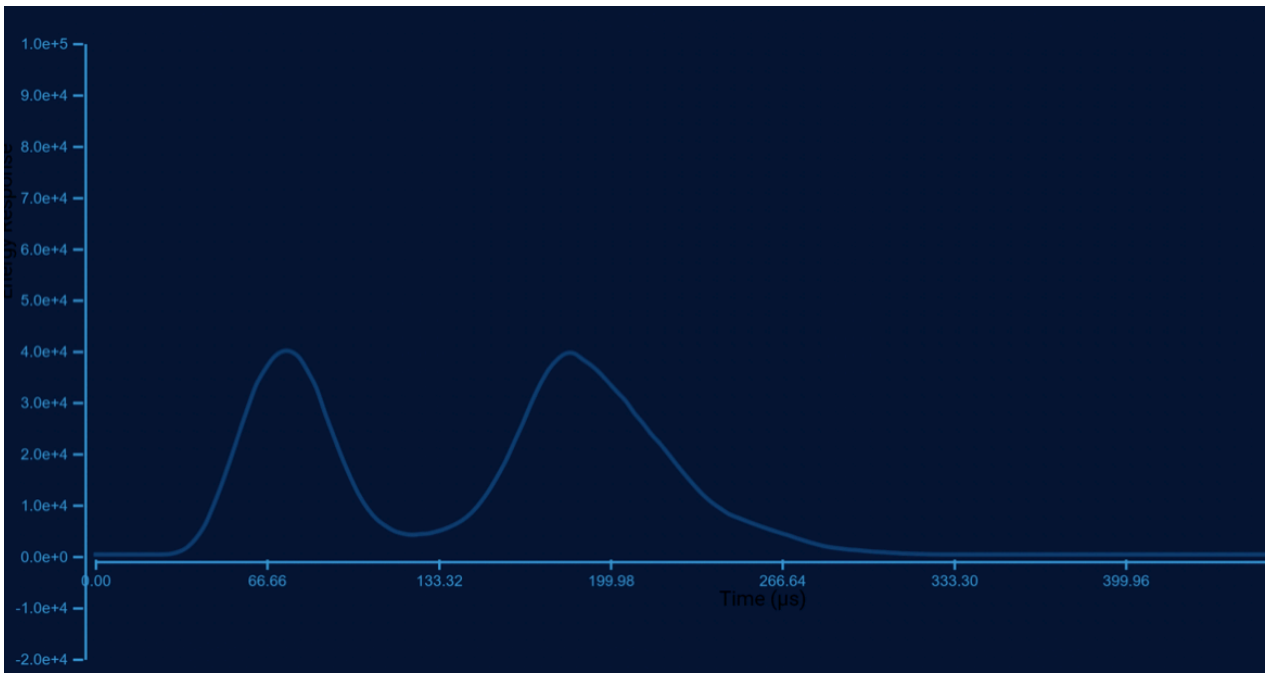


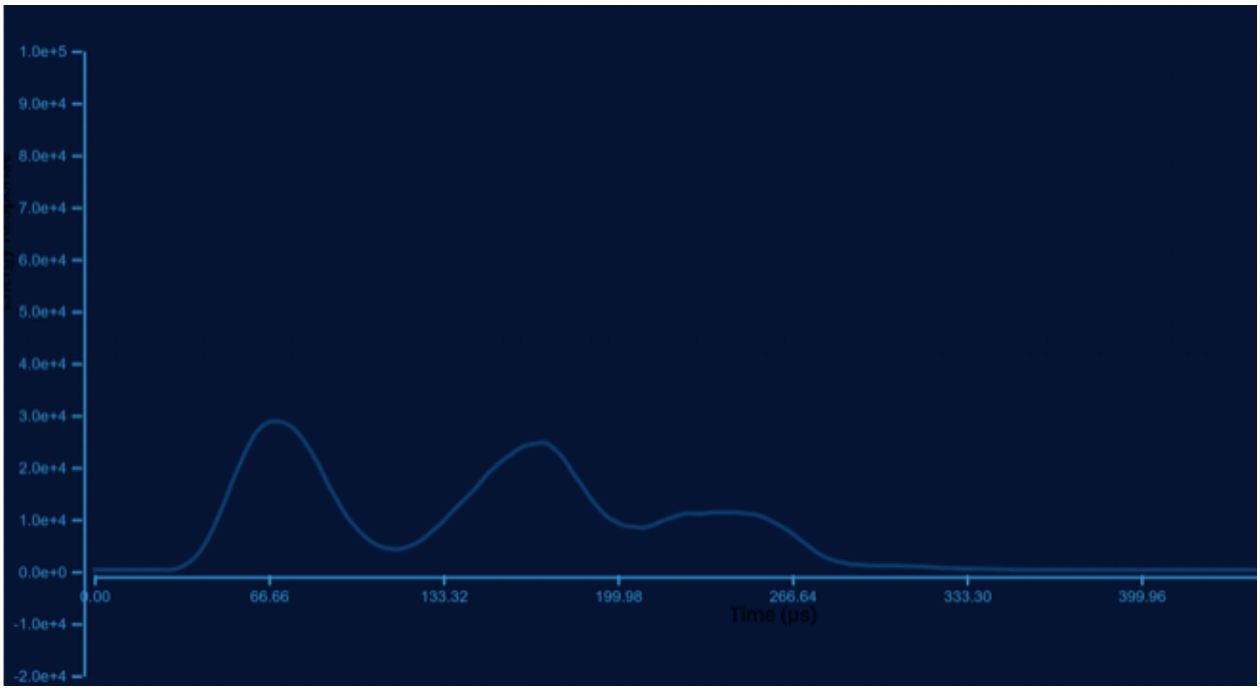


InnerView NFE reading and ERG for Tooth #19 reveal high structural instability (NFE 144), undetectable through clinical exam. Early intervention was recommended to prevent further mechanical failure.

Teeth #20 & #21 – Elevated NFE Scores

- ERG graphs showed multiple short peaks, indicating structural inconsistencies within the restorations.
- No visible clinical issues, but InnerView detected possible early-stage mobility or failing posts.





Irregular Energy Return Graphs indicate structural weakness in both teeth.

Teeth #28 & #29 – High NFE Scores & Recurrent Decay

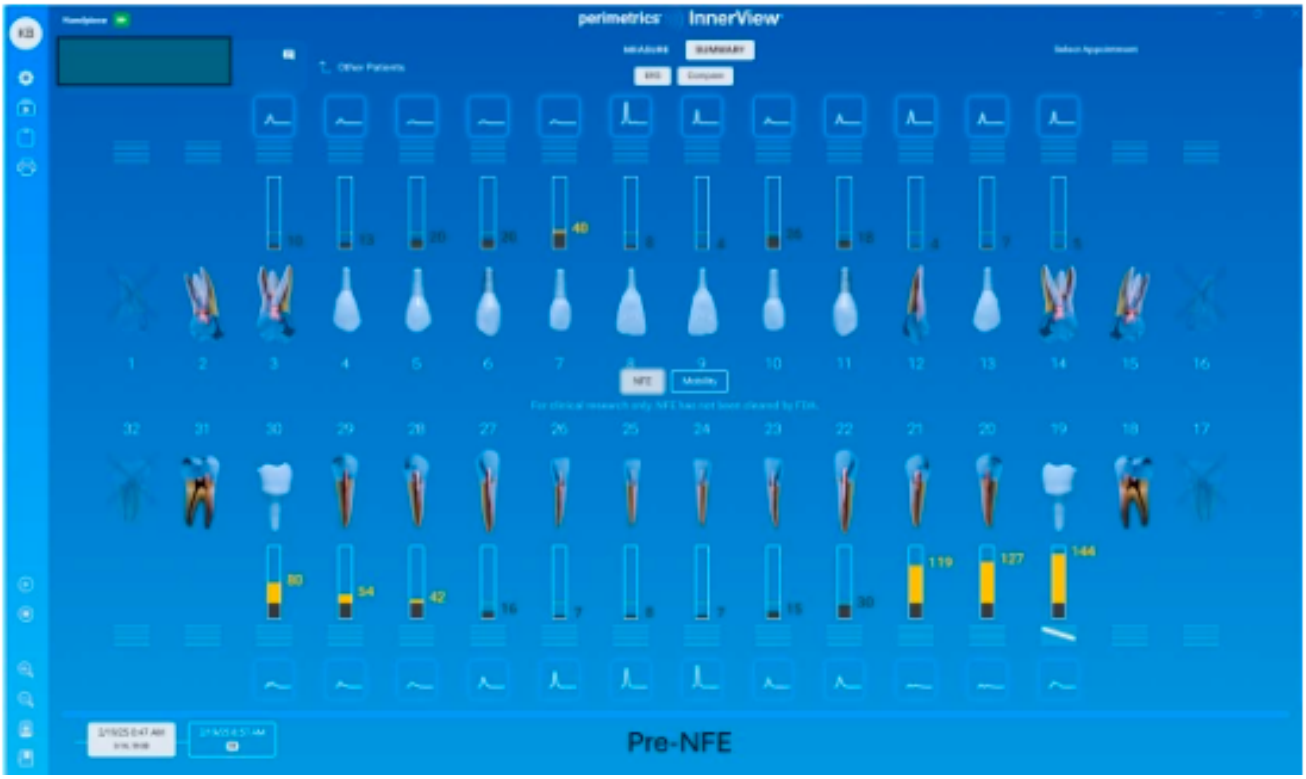
- Splinted PFM crowns on these teeth had been in place for over 20 years.
- High NFE readings suggested possible post-loosening or debonding.
- Decay was confirmed beneath the restorations upon crown removal.

Implant #30i – Peri-Implantitis and Structural Concerns

- Radiographic bone loss and high NFE reading suggested early implant complications.
- No clinical looseness was detected, but the InnerView scan confirmed mechanical concerns.

Clinical Examination After Reviewing InnerView Results

- Implant #19i: Slight movement in the crown was detected.
- Teeth #20, #21, #28, and #29:
    - Appeared normal clinically, but InnerView suggested hidden structural weaknesses.
    - Given the age of these restorations and their placement opposite a fixed implant, replacement was recommended.



Mobility reading pre-treatment and ERG show elevated readings for Teeth #20, #21, #28, and #29, indicating structural inconsistencies within the restorations

Intervention Guided by InnerView Data

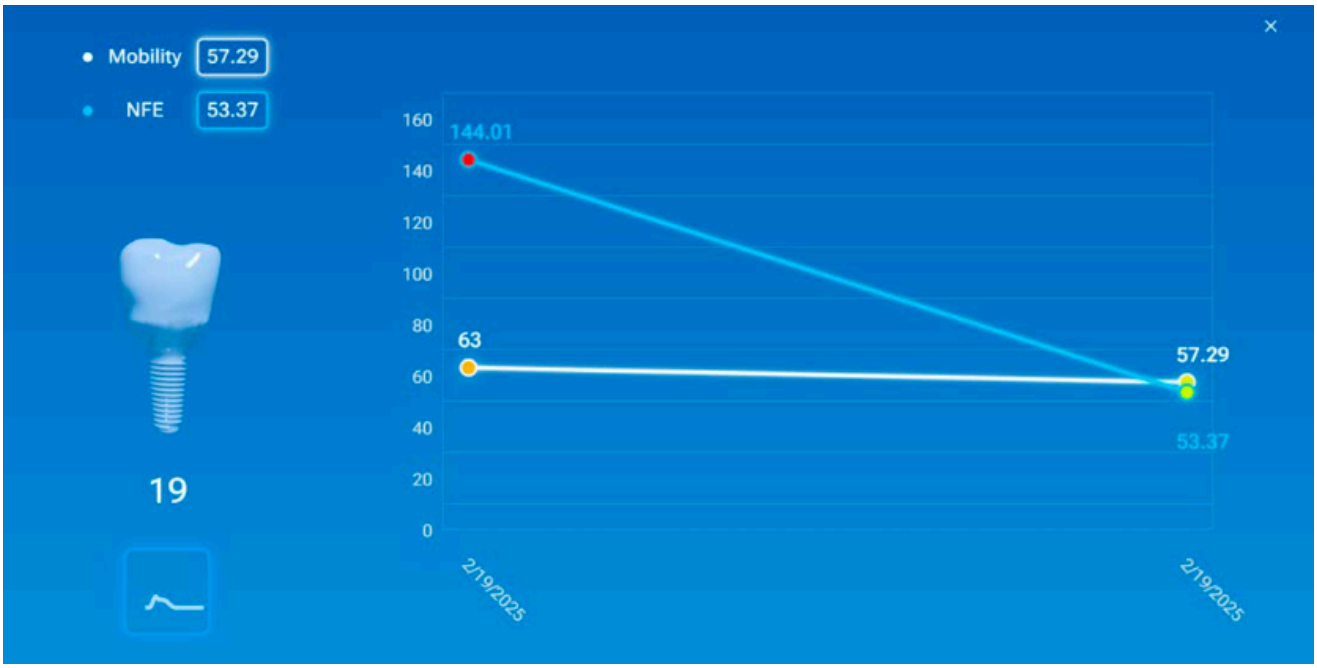
Planned Treatment:

- Replace crowns on #20, #21, #28, and #29 (possible core/post replacement).
- Expose and evaluate the abutment screws on #19 and #30.
- Peri-implantitis treatment for Implant #30i.

Follow-Up Confirms Stability

Immediate Intervention – Implant #19i

- Since the implant was cement-retained, an occlusal access hole was drilled.
- The abutment screw was exposed and retorqued to correct the mechanical defect.
- A post-tightening InnerView scan confirmed stability, as the NFE score dropped from 144 to 53.



InnerView trendline for Implant #19i shows a significant drop in NFE score (144 → 53) following abutment retorquing, confirming restored implant stability and improved mechanical integrity over time.

InnerView Takeaways & Clinical Impact

✓ Early Detection Prevented Undiagnosed Implant Instability

- The patient had NO symptoms, and manual testing did not detect movement.
- Without InnerView, the instability in #19i and high-risk restorations would have gone undetected.

✓ Data-Driven Insights Enable Proactive Treatment

- InnerView provided real-time, quantifiable evidence of implant stability concerns.
- The clinician adjusted treatment plans based on data, rather than waiting for symptoms.

✓ Routine Monitoring Ensures Long-Term Implant Success

- InnerView will be performed every six months to track implant stability and restoration performance.

ABOUT THE AUTHOR

Howard Golan, DDS

Dr. Howard Golan has been practicing at Golan Family Dentistry since 1998, when he joined his father in their family-owned practice.

He earned his dental degree from the University of Michigan School of Dentistry and completed a general practice residency at North Shore University Hospital (NSUH) in New York. He went on to complete a two-year Implant Surgery and Advanced Prosthetic Fellowship at NSUH.

A Mastership-certified member of the World Clinical Laser Institute since 2004, Dr. Golan incorporates laser technology into his procedures whenever possible and lectures on laser-assisted dentistry across the U.S. and Canada.

He is the co-founder of the Center for Laser Education and a faculty member with the World Clinical Laser Institute. He also leads the Laser Assisted Dentistry program at NSUH, where he supervises clinical training for dental residents.

Dr. Golan is a graduate of the Alleman-Deliperi Center for Biomimetic Dentistry and is passionate about delivering tooth-conserving care. He also holds a law degree from Concord Law School and is a member of the California Bar.

The Future of Dental Diagnostics

This case demonstrates how InnerView identified structural issues and early-stage implant instability that were not visible on radiographs or detectable through clinical exam—allowing the clinician to intervene early and prevent more extensive treatment.

InnerView enables clinicians to:
✓ Detect early structural compromise before symptoms appear
✓ Catch hidden implant mobility missed by traditional exams
✓ Support earlier intervention and better long-term outcomes

Want to learn more about how InnerView can transform your practice? Book a 5 minute demo today!

BOOK A DEMO

See InnerView in action—scan to book a demo!!