

Dear Colleague,

Thank you for the trust you place in our practice each time you refer a patient. This newsletter is our way of staying connected, sharing a clinical insight that may be useful in your day-to-day case selection, a look at something we use every day in our office, and a genuine word of gratitude for the partnership we share.

01 CASE OF THE MONTH

CALCIFIC METAMORPHOSIS · TOOTH #9 · POST-TRAUMA

Navigating Pulp Canal Obliteration After Trauma: A Non-Surgical Success

Calcific metamorphosis following dental trauma is one of the most technically demanding scenarios in endodontics and one of the most common reasons a case gets labeled "untreatable" before a specialist has looked at it. This case illustrates how the right tools, imaging, and a clear treatment planning conversation can save a tooth that many clinicians would write off.

Clinical History: Patient presented with pain to palpation and percussion on tooth #9. History of trauma 20+ years prior. Radiographic and clinical findings consistent with pulp canal obliteration (calcific metamorphosis), pulp necrosis, and symptomatic apical periodontitis. A previous apicoectomy had been performed by an oral surgeon, which included a beveled root-end resection and no retrofill placed.



FIG. 1: PRE-OP PA: CALCIFIC METAMORPHOSIS VISIBLE AS OBLITERATION OF THE PULP SPACE. NOTE PERIAPICAL RADIO-LUCENCY.



FIG. 2: CBCT CORONAL: CANAL OBLITERATION AND PERIAPICAL PATHOLOGY CLEARLY DEFINED.



FIG. 3: CBCT SAGITTAL: BEVELED ROOT-END FROM PRIOR APICOECTOMY VISIBLE. NO RETROFILL PRESENT.

TREATMENT OPTIONS DISCUSSED

- **Option 1:** Non-surgical root canal treatment, with informed consent that the canal may be too calcified to locate (>50% chance of inability to negotiate).

■ **Option 2:** If Option 1 unsuccessful, repeat apicoectomy with a 3mm retroprep using ultrasonics and retrofill with bioceramic material.

■ **Option 3:** Extraction and implant replacement.

After a thorough discussion of risks and realistic expectations, the patient elected to attempt non-surgical treatment first, fully understanding the likelihood that the calcified canal might not be negotiable.



FIG. 4: ACCESS CAVITY PA: CONFIRMS MESIO-DISTAL ORIENTATION DURING PREPARATION. BUCCAL PERFORATION RISK REMAINS HIGH WITHOUT CBCT GUIDANCE.



FIG. 5: FINAL OBTURATION PA: SEALER APPEARS SHORT OF RADIOGRAPHIC APEX, WHICH IS EXPECTED GIVEN THE BEVELED ROOT-END. WORKING LENGTH CONFIRMED VIA APEX LOCATOR, NOT RADIOGRAPH.

Outcome: Canal successfully located and treated. 24-hour follow-up: patient asymptomatic. 12-month recall scheduled to assess periapical healing.

CLINICAL PEARLS · FOR YOUR REFERENCE

Treatment Planning the Calcified Canal: What Every Referring Dentist Should Know

1. Calcific metamorphosis ≠ automatic extraction. A tooth with pulp canal obliteration that develops apical pathology is treatable in many cases, but it requires the right technology and an experienced hand. Refer before recommending extraction.

2. CBCT is not optional on these cases. A 2D periapical shows mesio-distal canal position, but it cannot show buccal-lingual anatomy. CBCT is essential for safe access in calcified anterior teeth where buccal perforation risk is high.

3. The dental operating microscope and specialized burs make the difference. Muncie Discovery Burs paired with an operating microscope allow controlled, conservative troughing to locate calcified canals that would be missed entirely at normal magnification.

4. Don't trust the radiographic apex when prior surgery has occurred. A beveled root-end from apicoectomy means the radiographic terminus is not the true working length. The electronic apex locator is the gold standard in these cases.

5. Set realistic expectations with your patient before referring. Letting patients know upfront that calcified cases carry a meaningful chance of non-negotiable canals, and that a backup surgical plan exists, makes for a smoother experience for everyone.

CBCT

ESSENTIAL FOR ORIENTATION

Scope

REQUIRED MAGNIFICATION

EAL

TRUST OVER RADIOGRAPH

02

TECHNOLOGY UPDATE

TECHNOLOGY WE USE EVERY DAY

Why We Use GentleWave on Nearly Every Case We Treat

We have been using GentleWave technology since 2021, and upgraded to the fourth-generation G4 system in 2024. At this point it is not a niche tool we reach for occasionally. It is the foundation of how we clean and disinfect canals on almost every nonsurgical case that comes through our door. We want to explain why, because it directly affects the outcomes your patients experience.



MULTISONIC ULTRACLEANING · G4 PLATFORM · IN USE SINCE 2021

GentleWave G4: Cleaning the Canals Conventional Instrumentation Cannot Reach

Conventional endodontic irrigation relies on needle delivery of sodium hypochlorite into canals that have been mechanically shaped. The limitation is well established: irrigant penetration into lateral canals, isthmuses, fins, and apical ramifications is inconsistent, and those are precisely the areas where residual bacteria and debris drive treatment failure.

GentleWave uses a multisonic fluid dynamics approach, delivering broad-spectrum acoustic energy through a minimally prepared canal to create fluid activity throughout the entire root canal system, including anatomy that a file and a needle syringe will never access. The result is a dramatically cleaner system before obturation, and that difference shows up clinically in two ways your patients will notice: faster resolution of symptoms and significantly less post-operative pain compared to conventionally treated teeth.

2021

IN USE AT OUR PRACTICE

G4

LATEST GENERATION

~95%

OF CASES TREATED

For your patients, this translates into a more comfortable recovery and greater confidence in the long-term prognosis of the treated tooth. For complex anatomy, including curved canals, C-shaped morphology, and teeth with prior instrumentation, the advantage is even more pronounced, since those cases benefit most from irrigation that does not depend on canal shape.

If you have patients who have had difficult post-op experiences with root canal treatment in the past, or who are anxious about recovery, this is worth mentioning when you make the referral. We are happy to speak with those patients directly about what to expect.

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A WORD OF THANKS



"Every referral you send represents a patient who came to you first, trusted you, and was guided to a specialist by your recommendation. That is not a small thing, and I do not take it lightly."

Running a solo practice means that every patient who walks through our door arrived here because someone they trust, you, sent them. I am genuinely aware of that, and I want to say thank you in a way that goes beyond a form letter.

Our commitment to you is simple: your patients will be treated with the same care and attention I would want for my own family, your referral will be acknowledged promptly, and you will receive a thorough report the same day treatment is completed. If there is ever a case where you felt the communication fell short, please tell me directly. That feedback is how we get better.

I look forward to continuing to earn your confidence, one patient at a time.

Dr. Kyle Countryman

BOARD CERTIFIED ENDODONTIST · DFW ENDODONTICS



URGENT & SAME-DAY REFERRALS WELCOME

For acute pain patients, call us directly at [817-786-4696](tel:817-786-4696) and we will do our best to see them the same day. Email referrals to office@dfwendo.net or use our online form at dfwendo.net.

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