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Chairside Curiosity: A journey through research to innovation

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If I close my eyes, I can still hear the familiar soundtrack of my early clinical days—the persistent hum of the compressor, the high-pitched whir of a handpiece drifting over from the doctor's chair, the low buzz of an ultrasonic bath cleaning instruments, front office greetings welcoming arriving patients, and of course, the unmistakable garble of patient conversations mid-appointment.

In those early days, instrument in hand, my focus was on technique, patient comfort, and building confidence in my clinical skills. At that time, research was not on my radar and seemed far removed from patient care—or so I thought.

Looking back even further to dental hygiene school, affectionately known as "DH boot camp", research was all around us in textbooks and assignments. It was definitely part of the curriculum, but not something I felt truly connected to.

When I transitioned into private practice full-time, I made a conscious effort to stay connected to the academic world, working part-time with first-year dental hygiene students as they navigated care for their very first patients. Through this collaborative transition, my mindset remained the same across both roles: centered on patient care and the practical application of the materials and technologies I had learned. Without a doubt, I was truly a novice in dental hygiene care, with plenty of areas to develop and grow.

Over the course of more than 18 years in private practice, my perspective continued to evolve. It took nearly seven years before I found myself working in what I would consider "that practice" - the one we all seek out, where professional growth is supported, teamwork is key, and meaningful discussions are part of daily practice. Together, we explored new trends, emerging chemistries, and evolving technologies. Those conversations alongside the doctor and team, not only strengthened my clinical confidence, but also deepened my curiosity about the "why" behind the products we were using and recommending.

I remember a time when the doctor called me into his office, journal in hand, and asked, "What do we know about this form of treatment?" The article introduced silver diamine fluoride, SDF, a term that was completely new to me at the time. This was decades ago, when SDF was just beginning to surface in clinical conversations, but it captured exactly how our team approached new products and therapies - with curiosity, discussion, and a careful look at the research before deciding whether something belonged in patient care.

Because our practice was located near several dental manufacturers, we were occasionally invited into early product conversations. Prototypes were brought in for discussion and evaluation, while representatives also observed our procedures, movements, and workflow to better understand ergonomics, efficiency, and the realities of daily practice. At the time, it felt like we were simply sharing our opinions, but what I didn't yet realize was that we were contributing to one of the most meaningful forms of product innovation research, voice-of-customer research. Looking back, I can see that what felt like simple clinical feedback was actually

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helping shape products and ultimately influencing patient care.

That curiosity continued to grow, and I began to notice patterns—some products performed differently, some patients responded better than others, and certain clinical challenges persisted despite our best efforts. These observations led me to ask: Why did product "X" seem to work better? What made one product more effective? How and why were these technologies developed? And why did some patients improve while others did not?

What I did not realize at the time was that those very questions were rooted in research, and I was using the outcomes of research every day without fully seeing the process behind them. As time progressed, I transitioned into a first-year clinic coordinator role for a brief time. Many days became a whirlwind of exploration and once again, I found myself back at square one, this time with a bit more responsibility and a lot more humility!

Working in both the classroom and clinic, I was no longer just demonstrating how to perform procedures but also explaining why we do them. Discussing literature and guiding students through the development of critical thinking expanded my own perspective on the importance of integrating evidence-based research into teaching. Research began to feel more relevant to the decisions we were making every day. However, I also found myself wondering: was I relying too heavily on what I could find in the literature? I had yet to see the full scope of how research drives innovation.

That broader awareness began to take shape as I moved into the corporate space, and began working with a dental manufacturer, Dentsply Sirona. This was an exciting transition for me, as I had been "raised" with their products in my hands throughout my time as a student and clinician. For the first time, I was exposed to the full landscape behind the products, a behind-the-curtain view of a process I never understood in my early dental hygiene years.

I began in clinical education, where I helped build curriculum supported by evidence-based research and centered around the dental hygiene process of care and the products dental hygienists use every day. In that role, I found myself connecting the how and why of product benefits to clinical practice—helping translate science into something meaningful for the clinician at chairside.

Over the last five years, my role has evolved into clinical research support and with that, came an even deeper appreciation for how innovation is built. I found myself supporting innovation with science, identifying clinical trends, listening to the voice of the customer, networking with researchers around the globe, exploring concepts through in vitro work, and discussing opportunities for clinical studies that may support improved clinical outcomes. What once looked like a finished product in my hands now revealed itself as the result of layered inquiry, thoughtful collaboration, and research in many forms.

What I understand now, far more deeply than I ever did as a student, clinician, or educator, is that research is not simply a supporting part of innovation, but rather what makes innovation possible. It gives direction to ideas, substance to curiosity, and purpose to improvement. Without research, innovation is only assumption—an assumption about need, clinical impact, and how products fit within our everyday workflows. With it, we create products and technologies that are not only new, but meaningful solutions shaped by evidence, informed by experience, and designed to improve outcomes for both the clinician and the patient.

As the *Journal of Dental Hygiene* celebrates a century of advancing our profession, it is a reminder that curiosity, paired with research, continues to shape what comes next.

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