EDITORIAL

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Stomatology toward 2030: science, innovation, and technology

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The Stomatology program brings together science, technology, and innovation to inform everyday clinical decision-making. It is a natural environment for creation with real-world impact. However, confusing innovation with "novelty" and progress with "adoption" is a potential failure. By 2030, the question will not be whether we incorporate technology, but whether we are capable of transforming it into better health outcomes, with less variability, lower risk, greater traceability, and a more human experience. Let us reflect together: What makes us truly irreplaceable as human beings? What legacy will we leave beyond technology and artificial intelligence (AI)? Having technology is not merely about being modern; it means embracing the challenge of being responsible. **If technology does not improve decision-making, it is just decoration.**

To frame this debate, let me offer a simple idea: by 2030, value will not be defined by what one "knows how to do," but by the ability to make sound judgments. And that capability is built upon four layers: clinical practice, data, innovation, and ethics.

1. **Clinical practice:** Everything will be auditable. The phrase "it works" will no longer suffice; it will have to be proven with measurable results. If you cannot measure it, you cannot defend it—clinically, ethically, or legally.
2. **Data:** "Digital" does not mean scanning or 3D printing. Digitalization is a set of principles for processing and sharing information with traceability and a specific purpose. The differentiating factor will lie in the reliability of the generated data: standardized clinical photography, reproducible scanning, complete records, and quality control. Speed without quality only leads to faster errors. And when it comes to health, "faster" may also mean "more harm."
3. **Innovation:** Innovating with impact means identifying real problems, formulating relevant questions, prototyping, validating, and—when appropriate—publishing, protecting intellectual property, and commercializing products and services. In Latin America, this is critical: many technologies were not designed for our contexts. For this reason, innovation

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in our region carries a mandate: adapt rigorously or create with purpose. If you only consume technology, you become dependent; if you build and validate it, you become a leader.

4. **Ethics:** By 2030, ethics will become the core that guides every decision. A strong ethical framework—informed consent, privacy, traceability, and limits—will drive technology that truly serves human beings.

Maturity under examination: adoption of digital technologies in stomatology

With AI, the rule should remain simple: Who bears the legal responsibility for a product or service? AI is useful for generating scenarios and organizing knowledge; it should not dictate definitive diagnoses or irreversible decisions without human verification. The risk is not AI itself; the risk is blind trust, bias, false certainty, and data leakage. If your judgment is based on persuasive text, that is not AI—it is natural irresponsibility.

The final invitation is clear:

- ✓ *Students:* Be role models for trust and rigor, not just for speed.
- ✓ *Faculty members:* Train leaders with critical thinking skills.
- ✓ *Researchers:* Leave contributions that improve lives, not only publications.

From now on, the rewards will go not to those who hoard technology, but to those who achieve the most difficult task: **solving problems with rigor and humanity.**

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