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Juniper Biomedical Emerges as New Player in Pelvic Health

by Sharena Rice, contributing editor

Since its inception in 2019, Juniper Biomedical has emerged as a trailblazer in the bioelectronic medicine landscape, driven by a mission to revolutionize pelvic health therapies. Founded by David Constantine and Mario Romero Ortega, the Worcester, MA-based medical device company is tackling a critical yet underserved area of healthcare. "Mario and I started the company with the mindset of making a major clinical impact," Constantine said in an interview with BBR. "There has been a real dearth of innovation in this space, and by focusing on pelvic health, we could create a platform technology with far-reaching potential."

Juniper's flagship innovation is a low-power, implantable neuromodulation micro-implant—roughly half the size of a dime—designed to deliver highly precise therapy to pelvic nerves. Targeting conditions such as urinary incontinence, bowel incontinence, pelvic pain, sexual dysfunction, and pelvic floor disorders, this technology offers a less invasive and more effective alternative to conventional treatments. Unlike traditional neuromodulation systems that often require higher power and risk stimulating non-target tissues, Juniper's device modulates distal nerves locally, minimizing side effects and energy consumption. Implanted in a 20-minute procedure under local anesthesia, the autonomous micro-implant eliminates the need for external devices or manual activation, enhancing patient convenience and compliance.

The company's focus on mixed urinary incontinence—a condition affecting nearly one in three women—addresses a significant unmet need in a market where demand is rising and wait times for treatment are growing. "We have the ability to treat mixed incontinence with a solution that anticipates having the smallest battery-powered peripheral nerve stimulator," Constantine notes. This precision-driven approach not only promises improved patient outcomes but also aims to alleviate the economic burden of chronic pelvic health conditions on healthcare systems.

Juniper Biomedical's recent milestones underscore its momentum. In April 2024, the company secured an oversubscribed $2 million seed financing round, led by Auroral Holdings and supported by Atma Capital, Hub Angels, Beacon Angels, and private investors. This capital injection is fueling the development and commercialization of its neuromodulation

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platform. Just a month later, Juniper won $1 million in the NIH SPARC Neuromod Prize, a testament to the transformative potential of its technology in advancing targeted neuromodulation therapies. According to Constantine, "Next, there will be a larger funding round, followed by first-in-human studies as we refine our platform."

Strategic leadership enhancements further bolster Juniper's trajectory. In May 2024, Jayme Coates was promoted to COO, bringing her expertise in R&D and operations to steer the company toward commercialization. Concurrently, Jessica DeLong joined as CMO, contributing her deep knowledge of urology and pelvic floor reconstruction to guide clinical development. These appointments signal Juniper's readiness to scale operations and navigate the regulatory landscape.

Constantine emphasizes a "data-heavy" and "commercial mindset" as core to Juniper's strategy. "We've taken a commercial perspective from the beginning to mitigate downstream risk, rather than focusing solely on what the FDA needs from a measures standpoint," he explained. This approach ensures that the company's innovations are not only clinically viable but also market-ready, a critical consideration for entrepreneurs and investors eying scalable solutions.

Looking forward, Juniper Biomedical envisions its adaptable platform extending beyond pelvic health to other therapeutic areas where precise neuromodulation can make a difference. With clinical trials and regulatory approvals on the horizon, the company is well-positioned to meet the growing need for efficient, patient-centric treatments. "The demand is increasing, and the wait time for patients is only getting longer," Constantine observes. "We're building a technology that delivers efficiency to meet that need."

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> David Constantine, CEO
> Juniper Biomedical

For neurotech stakeholders—be it biomedical executives, investors, or tech transfer officers—Juniper Biomedical represents a compelling case of innovation meeting opportunity. By blending cutting-edge science with a pragmatic commercial outlook, the company is poised to redefine the standard of care in pelvic health and beyond, offering a blueprint for success in the evolving neurotechnology sector.

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