



GODDARD
PRODUCT DEVELOPMENT

| **LiV Labs**

CASE STUDY

Pelvic Floor Trainer

How Goddard Took a Novel Pelvic Floor Trainer from Idea to Impact

Overview

Service Model

Goddard Advanced
Collaborative Engineering (ACE)

Project

Pippa® Resistance Spring

Verticals

Medical Device, FemTech

Discipline

Mechanical Engineering

Expertise

Mechanical testing,
safety testing, documentation

The Challenge

Every year, over 78 million American women experience pelvic floor dysfunction, including urinary leakage—often postpartum. While there are many devices on the market designed to assist with pelvic floor muscle training, they tend to be time-consuming, effortful, and difficult to use. Enter Liv Labs and Goddard Product Development.

Liv Labs is a FemTech startup founded by Melody Roberts and Carly Price to commercialize Price's invention of the world's first conforming resistance spring. Her invention, now known as the Pippa® Resistance Spring (Pippa), is a workout accessory designed to activate the muscles of the pelvic floor during physical movement, without any conscious effort on the part of the user. Price's vision was to create something easy, approachable, empowering, and safe – a product women would feel comfortable buying and using on their own terms. The final product is discreet, accessible, and as simple to use as a tampon. To bring Pippa to market, Liv Labs required thorough product verification and safety testing – work their small team couldn't handle alone. To implement that necessary testing, they partnered with Goddard Product Development.



Goddard's Role

Liv Labs selected the Goddard Advanced Collaborative Engineering (ACE) program, which embedded an expert biomedical engineer directly onto their team. As the engineering and testing partner, Goddard provided capacity and expertise that Liv Labs did not have internally. Goddard adapted to Liv Lab's lean startup style, balancing rigor with flexibility in process and communication. Goddard began by conducting a Phase 0 gap assessment of quality documentation and systems. Following the assessment, they authored and executed verification protocols, plans, and reports to validate product safety and performance. They provided mechanical and biocompatibility expertise, working alongside the Liv Labs team to align testing with FDA guidance and real-world use cases.



What is Goddard ACE?

Goddard Advanced Collaborative Engineering (ACE) is a flexible service that embeds highly skilled engineers directly into your team. Whether you're building medical devices or industrial robotics, Goddard ACE helps teams expand technical capacity quickly—without the overhead, uncertainty, or long-term commitment of traditional outsourcing or hiring.

Clients use Goddard ACE to fill urgent resource gaps, accelerate new product initiatives, and extend their internal team's capabilities without slowing down.





Key Contributions

Goddard supported Liv Labs in three key ways: mechanical testing, safety testing, and documentation. In mechanical testing, engineers verified Pippa compression, insertion, removal forces, and lifecycle performance. To ensure accuracy, they developed custom fixtures and anatomical models to simulate use in realistic conditions. Safety was a key area of focus for the team. Goddard prepared product samples for toxic shock syndrome and microbiology testing with third-party labs. They oversaw accelerated aging, biocompatibility, cleaning validation, and chemical characterization tests. Crucially, they ensured all the testing comported with FDA guidance. Finally, Goddard ensured accurate documentation, key for quality system integrity. Goddard created verification plans, test protocols, and reports that align with medical device documentation standards. Additionally, they supported updates and training for consistent test execution.

Results & Impact

With Goddard's support, the Pippa® Resistance Spring moved from a concept to a safe, tested pelvic floor fitness solution. Liv Labs could be confident in the marketability of their product. Documentation and test data supported that it could enter the wellness market while maintaining compliance-ready records. Many women fear products related to pelvic health due to lack of information, discomfort and stigma. The rigorous testing Goddard performed expanded Liv Labs' credibility by building trust with funders, partners, and early users. "Without Goddard's role, this product wouldn't have gone to market," emphasized founder Melody Roberts. She added that she valued the blend of "rigorous engineering and collaborative problem solving" and trusted Goddard's expertise to guide testing. Following the launch of the product on Kickstarter, Liv Labs raised 400% of their goal and shipped final product within five months. They've since launched commercially at livlabsfitness.com.

