

From 100% Failure to 100% Passing: How Forj Medical Resolved Tooling & Supply Chain Issues and Accelerated Time to Market

The Project

A startup sought a manufacturing partner capable of supporting rapid, iterative prototyping for its cutting-edge medical sensor assembly. They selected Forj Medical to provide design for manufacturing (DFM) guidance, radio frequency (RF) layout recommendations, and printed circuit board (PCB) expertise. Our customer-focused approach included build tracking, responsive communication, and 3-day turnaround to yield a high-quality assembly while shaving months off the development timeline.

The Challenge

The Forj Medical team identified design deficiencies in five mold tools that caused poor venting, inadequate cooling, and incorrect steel geometry, yielding unacceptable plastic parts that failed strength testing and exhibited short shots, leak failures, and aesthetic blemishes. Numerous cavities failed acceptance criteria, reducing production capacity. The project demanded rapid resolution as the FDA submission timeline did not allow for corrections, putting the project at risk.

The Solution

Forj Medical's in-house injection molding and tooling experts addressed the mold deficiencies for all five tools concurrently, simultaneously establishing sampling and validation plans. The team rapidly resolved a weak part design – exceeding expectations with a twofold improvement in performance – and automated manufacturing with robotics-driven molding, inspection, and parts-handling that eliminated distortion and human error, increased efficiency and yields, and reduced costs. Forj Medical also leveraged supplier relationships to source alternative materials and packaging options to avoid additional delays. The previous suppliers had submitted parts that had a 100% test failure rate, but Forj Medical's parts had a 100% pass rate. The team also resolved the failing cavitation to achieve 100% acceptance on all leak-tested components.

By working with the customer, Forj Medical resolved all tooling and molding issues, improved product quality, and enabled the company to achieve their original FDA submission deadline. The customer credits Forj with accelerating its timeline by at least six months, stating, "As is the norm, Forj Medical delivers on time or sooner, in many cases pushing us for approvals. Without the expertise and guidance of Forj Medical, we would not be where we are today."

