CASE STUDY

A Lifesaving Partnership: Forj Medical and Vero Biotech Scale the GENOSYL® Gen 3

The Project

Vero Biotech sought a design and manufacturing partner to bring the third generation of its flagship GENOSYL® inhaled nitric oxide (iNO) delivery system to market for use with infants in Neonatal Intensive Care Units (NICUs). They engaged Forj Medical for our manufacturing and industrial engineering expertise as well as our reputation for solving complex challenges.

The Challenge

Forj Medical needed to scale commercial production of the Gen 3 console - a complicated, multi-component assembly with tight tolerances. It demanded both design modifications and manufacturing process improvements to ramp volume without sacrificing quality. During initial production runs, testing wasn't conducted until post-assembly, creating a severe bottleneck when technicians had to tear down, troubleshoot, reassemble, and retest every defective unit - slowing output and threatening the ability to meet customer demand.

The Solution

Forj Medical's cross-functional team maintained Gen 2 production levels while simultaneously bringing Gen 3 online through two phases. In Phase I, we collaborated closely with Vero Biotech on requirements, then implemented design updates that allowed the Gen 3 line to produce twice as many units per month as the previous generation. In Phase II, we applied Design for Manufacturing (DFM) principles to modify cell layouts, secure parts availability, automate a tube-cutting process, and add subassembly testing. We also introduced day-by-hour boards with hourly output targets.

These improvements increased efficiency, prevented downtime, reduced waste, and eliminated late-stage bottlenecks, enabling the Gen 3 line to meet production goals in a single shift instead of two. Through strategic design updates and DFM, Forj Medical accelerated cycle times, lowered costs, and ensured sustainable production to help Vero Biotech bring a lifesaving product for babies to market.