

AHA Innovation 90

90-DAY INNOVATION IMMERSION BOOTCAMP AND COACHING

CASE STUDY

The immersive, team-based AHA Innovation 90 program enables hospital teams to tackle innovation problems and produce a solution ready for implementation in 90 days. **Here's an example of one team's success.**

Academic Medical Center Creates a New “Incremental Syringe”: Enables Surgeons to Accurately Dose Patients While Using a Cystoscope

CHALLENGE

The Department of Urology at an academic medical center focused on a problem with dosing patients while using a cystoscope and syringe. Its design challenge: How do you safely deliver multiple doses of injection drugs to patients while keeping your eyes on the site through the scope? You can't easily look down at the syringe to visually measure the dose, so how can you improve the dosing? The syringe hasn't changed much in 200 years.

INNOVATION PROCESS

To address the problem, the department gathered a team that included physicians, technologists and biomedical engineers. Through a range of design thinking sessions, the team investigated a range of automated dosing capabilities, similar to the IV pumps with which the clinical staff was familiar. These were all complex and expensive options.

SOLUTION

Finally, they identified a simpler approach for adding audible clicks for each increment on the syringe, giving the surgeon immediate audible feedback on exact dosing. The “incremental syringe” was an elegant solution that did not require automation or complex technology. The use of an integrated team, design thinking and prototyping helped accelerate the development process for a human-centered solution.

RESULTS

The integrated innovation approach helped the Urology Department and surgery center adopt the incremental syringe quickly, and license their solution to a vendor. By working with engineers from the beginning, the team could provide engineering design specifications that gave the licensing company help with seeking U.S. Food and Drug Administration clearance. It also cut commercialization time by giving manufacturing engineers plans that they began applying immediately.