

## PRODUCT

A needle management and counting system.

## INDICATION

Needle Management, Needle Disposal, OR Organization

## VALUE PROPOSITION

- Improved needle management in the OR.
- Safe disposal of needles.

## DEVELOPMENT STAGE

Functional prototype was used to validate the counting technology. Concept models of various product embodiments were used to solicit user feedback.

## INTELLECTUAL PROPERTY

US 11,594,324  
US 17/462,204 EP21798156.2  
US 17/734,434 EP22725027.1  
US 17/869,988  
PCT/US2022/037803

## CONTACT INFORMATION

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# Needle Counter and Disposable Device

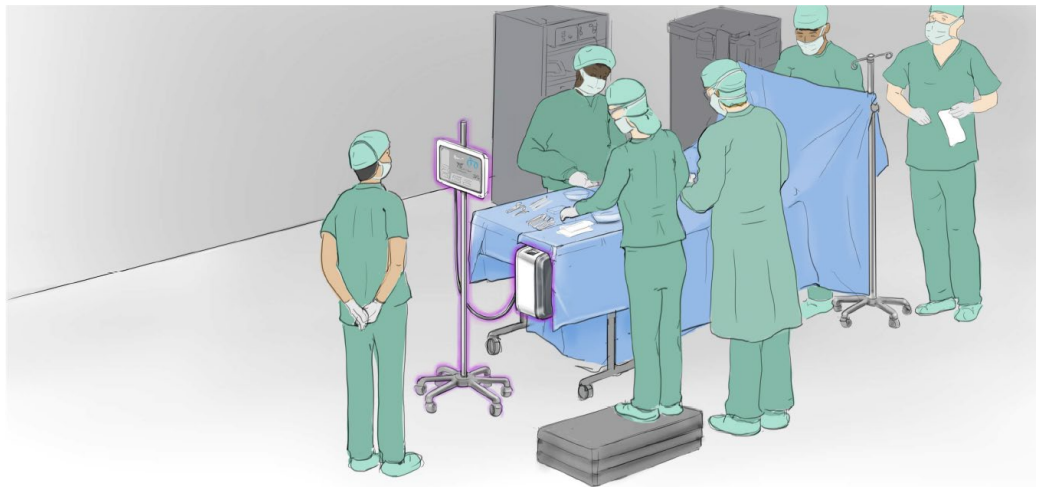
*Cristiano Quintini MD, Edward Soltesz MD, et al.*

## UNMET NEED

Hospital operating rooms use safety and quality procedures to avoid leaving foreign objects inside of patients following surgery (i.e., Retained Surgical Items or RSI's). The National Quality Forum includes RSIs on its list of serious reportable events. The Centers for Medicare & Medicaid Services has referred to an RSI as a "never event", and RSI is on the list of hospital-acquired conditions that could reasonably have been prevented. The Joint Commission considers an RSI to be a "sentinel event" that requires investigation. (AORN journal 95.2 (2012): 205-219.) Such preventable medical errors in surgery can even have heavy medical-legal consequences. (Journal of surgical research 190.2 (2014): 429-436.)" Needles are one of these foreign objects; if a needle is unaccounted for at the end of the surgery, great effort is made to locate the needle, including taking an x-ray prior to closing the patient. Current needle counting methods rely on an entirely manual process which is prone to errors, and takes focus away from and adds time to the operation. The variety in sizes and shapes of needles makes accurate counting even more of a challenge, and a more effective method of needle management is required.

## SOLUTION

This device automatically tracks needles as they are removed from the surgical field and supplants the traditional "needle box and tally sheet", facilitating fast and accurate counting. The proposed product enables improved strategies for preventing RSI's, provides a clear audit trail of needles used, and increases operating room efficiency.



*One possible implementation of Cleveland Clinic's needle counting technology.*