1. Charging

2. Counting

Problem: human error and tediousness of counting surgical instruments.

Population: every surgical patient

Outcome: to increase the efficiency of surgery, to decrease the workload of OR staff, and to decrease surgical complications.

A way to reduce tediousness of counting surgical instruments in every surgery, that will increase the efficiency of the medical procedures, decrease the workload of the OR staff, and decrease surgical complications caused by human error.

1. Vessel diameter

Problem: difficulty distinguishing the vessels of the heart that need to undergo bypass.

Population: patients that need CABG (Coronary artery bypass surgery)

Outcome: to decrease the time between patient imaging and diagnosis, to speed up pre-operative procedures, increase the EMT’s ability to accurately diagnose patients in emergency cases.

A better way to distinguish vessels that need to undergo bypass pre-operative imaging for the CABG procedure, in order to speed up diagnosis, and to increase the accuracy of medical professionals in emergency cases.

1. Heart valve sizing

Problem: Sizing the heart valves in pre-operative imaging.

Population: Transcatheter valve replacement patients.

Outcome: to speed up the sizing process and to increase the accuracy of choosing the proper valve.

A way to more accurately determine the size of a heart valve during transcatheter valve replacement, in order to increase the accuracy and efficiency of choosing the proper valve.

1. AR glasses for instruments identification and education

A way to improve surgical instrument identification during surgeries, in order to improve physiran-nurse communication and decrease the length of procedure.