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## Abstract

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**Abstract**

**Background/rationale:** Open chest resuscitation of the post cardiac surgical patient is a high risk, low frequency skill for a very specific group of clinicians. A request was received to create a simulation for this group of clinicians which brought a unique idea to mind. A specific manikin for this purpose is very expensive and cumbersome, but could a repurposed manikin be utilized in the simulation? To be fiscally responsible, the idea of repurposing a retired manikin into a static manikin was created. After much searching an old style "Annie CPR" manikin was utilized.

**Objective:** To provide an opportunity to practice the procedure and process of emergent re-sternotomy during cardiac arrest of the post cardiac surgery patient. It provides simulation for an interdisciplinary team of all those involved to work together.

**Description of the Innovation:** The idea began by taking apart the manikin and cutting the plastic rib cage, wiring it shut, cutting the skin and moulage it to appear as a fresh open chest wound. A dressing was applied to cover the wound, then the manikin was made to appear as a post cardiac surgery patient. A Swan Ganz line, triple lumen, femoral arterial line, intubated "on ventilator", bilateral chest tubes and pacer wires were placed in the manikin. Simulated medicated drips on simulated infusion pumps were added to complete the realism.

The simulation was conducted to provide an opportunity to practice the process of re-opening a chest. The learner was able to go through the sterile process to drape the patient, open the chest, cut the wires, and utilize all the specialized equipment including rib spreaders to "stop a bleed in the heart". Utilizing simulated vitals allowed the manikin to become a high-end task trainer. The manikin is designed to utilize the equipment and go through the essential steps of sterile technique and resuscitation of this very specific population.

**Impact:** The manikin has become a very efficient, affordable and a portable way to provide simulation education for the cardiovascular surgical intensive care units or others that manage these types of patients. The simulation is effective to practice the process by allowing the learner to be immersed into this complex patient. It has been utilized at several of the cardiovascular surgical intensive care units within the health system with positive reviews. Since implementation two years ago the manikin is being requested on an annual basis from those departments to continue to train their staff.

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