Introduction:
Conjoined twins are a rare occurrence with an estimated incidence of 1:100,000.1 Given the complexity of the operation and the limited number of such cases, conjoined twin separations can prove to be very challenging, not only for the anesthesiologist but for the surgeons and nursing staff involved. Simulation training can reinforce the many components required for an effective team to function in complicated cases such as conjoined twin separation.

Case Description:
We present a set of 8 month old thoraco-omphalopagus female twins who presents for surgical separation. Preoperative evaluations showed a shared pericardium and liver, but otherwise normal separate anatomy. Two days prior to the planned separation, a full-environment simulation of the surgery was done which included individuals from the anesthesia, surgery and nursing team that would be involved in the care of the twins. Introductions were done so everyone was familiar with who each person in the room would be and their role in the surgery. A real life mannequin of the twins were used for the simulation which included actual IV tubing, airway tubing and monitors so as to determine optimal positioning of the patient and anesthesia equipment given the unique positioning of the patient and need to transport the other twin post separation while maintaining sterility. Surgical staff and nursing staff simulated the actual prepping and draping of the patient as both can be a challenge given the anatomy and position of the patient. Concerns from all teams involved were brought up during the simulation. Furthermore, issues from past experience were also addressed so as to not repeat the same mistakes. On the day of the separation, anesthetic induction proceeded without any issues, followed by uncomplicated surgical separation of the twins. Both were left intubated at the end and taken to the NICU for recovery and further care.

Discussion:
Complex cases such as conjoined twin separation can bring about multiple challenges which require teamwork principles allowing for effective and efficient interactions and communications not only with the anesthesia team but with the surgeons and nursing staff as well. With the use of full-environment simulation, these principles (leadership, followership, situational awareness, communication, etc.) can be practiced as to ensure the optimization of the team synergy and to ensure effective and safe care to the patients. 2,3

References: