Two days prior to the planned separation of 8-month-old, thoraco-omphalopagus female twins, a 2-h full-environment simulation of the separation surgery was performed. The simulation consisted of a lifelike manikin of the twins with color-coded tubing, equipment, and monitors (fig., “Simulation”), and all of the personnel who were to participate in the separation: nursing, anesthesiology, general surgery, and plastic surgery. The teams had consistently taken care of the twins during their multiple prior procedures (e.g., imaging studies and tissue expander placement). The promulgated simulation ground rules included treating the simulated patients and environment as real, maintaining professionalism, and—of considerable benefit—minimizing unnecessary conversations.

Anesthetic preparation and the 8-h surgical procedure proceeded without complications, delays, or the need for additional personnel (fig., “Actual”). The entire simulation team was present and the solutions that were rehearsed during simulation were implemented. For example, the team had spent considerable time solving the challenge of maintaining sterility while transferring one twin immediately post-separation to a second table in the operating room; this task was performed smoothly on the day of surgery. Simulation had also revealed unanticipated issues, such as determining the optimal position of the twins to maintain a sufficient interface between the twins’ body surfaces and the gel grounding pad system.

While conjoined twin separation surgery is both extremely complex and exceedingly rare,1 simulation offers a variety of logistics in how to prepare surgically and to accomplish the myriad steps that nursing, surgical, and anesthesia personnel must perform. Teamwork principles (e.g., leadership and communication) can be practiced and enhanced by the use of simulation to ensure the optimization of team synergy and to ensure safe, effective patient care.2,3

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Competing Interests
The authors declare no competing interests.

Correspondence
Address correspondence to Dr. Simpao: simpaoa@email.chop.edu

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