

Michelle Meadows, MSNed, RN, CPAN, CAPA, NPD-BC
 Rusela DeSilva, DNP, RN, PHN, NEA-BC, CPAN, CAPA; Andre Lee “Ann” Deacon, MSN, RN, CPAN; Lillyann Rowe, DNP, RN, CNML, CPAN, CCRN
 Rosalind Morris, MSN, RN, PHN, CPAN, CNML; Lawrence Roxas, MSN, RN, CPAN, CNML; Kimberly Wesley, MSN, RN, CNML, CPAN
 Cedars Sinai Medical Center, Los Angeles

Background Information

Difficult intravenous (IV) access is a challenge that can lead to delays in care and increased patient discomfort. To address this issue, an ultrasound-guided IV access training program was developed within the emergency department and subsequently expanded to include the med/surg, ICU, and pre-op/PACU departments. The program incorporated a structured approach, including didactic instruction, hands-on simulation, and a series of ultrasound-guided IV insertions (fig. 1)—requiring participants to complete 10 proctored and 20 independent successful placements. Notably, the program lacked a defined timeline for completion. Despite initial engagement, only 20% of nurses who completed the didactic and simulation components progressed to successfully meet all clinical placement requirements.

Objectives

To increase the completion rate of ultrasound-guided IV placement (USGIVP) training from 20% to 60% by implementing structured guidelines, clearly defined timeline requirements, and accountability measures to support successful program completion.

Process of Implementation

A meeting was held with departmental leadership and education to review the current state of USGIVP training completion. A proposal was introduced to develop training expectations by implementing clear departmental guidelines (fig. 2). The newly established guidelines included the following timeline requirements:

- Completion of 10 successful proctored USGIVP insertions within 2 weeks of initial training
- Completion of 20 successful independent IV insertions within 45 days of initial training

Education formally announced the updated training requirements, and leadership met individually with nurses who had not yet completed their training to reinforce expectations and outline the new timelines. To support successful completion, refresher sessions were provided by education, and perianesthesia nurses were paired with IV team nurses for additional hands-on training opportunities.

To document successful IV-line insertions, nurses recorded each successful ultrasound guided placement in the REDCap system (fig. 3).

Nurses unable to successfully complete all training insertions within the established time frame, were given two options:

1. Repeat the entire training process, or
2. Choose to not proceed with performing the procedure

Statement of Successful Practice

Following the implementation of timeline requirements and accountability measures, the completion rate of USGIVP training significantly improved – from 20% to 80% (fig. 4) - demonstrating the effectiveness of structured expectations in supporting clinical skill development.

Additional anecdotal evidence from nurses and anesthesia residents that have completed the training program states that completing all training insertions within the timeframe requirement helped to boost their confidence in the skill.

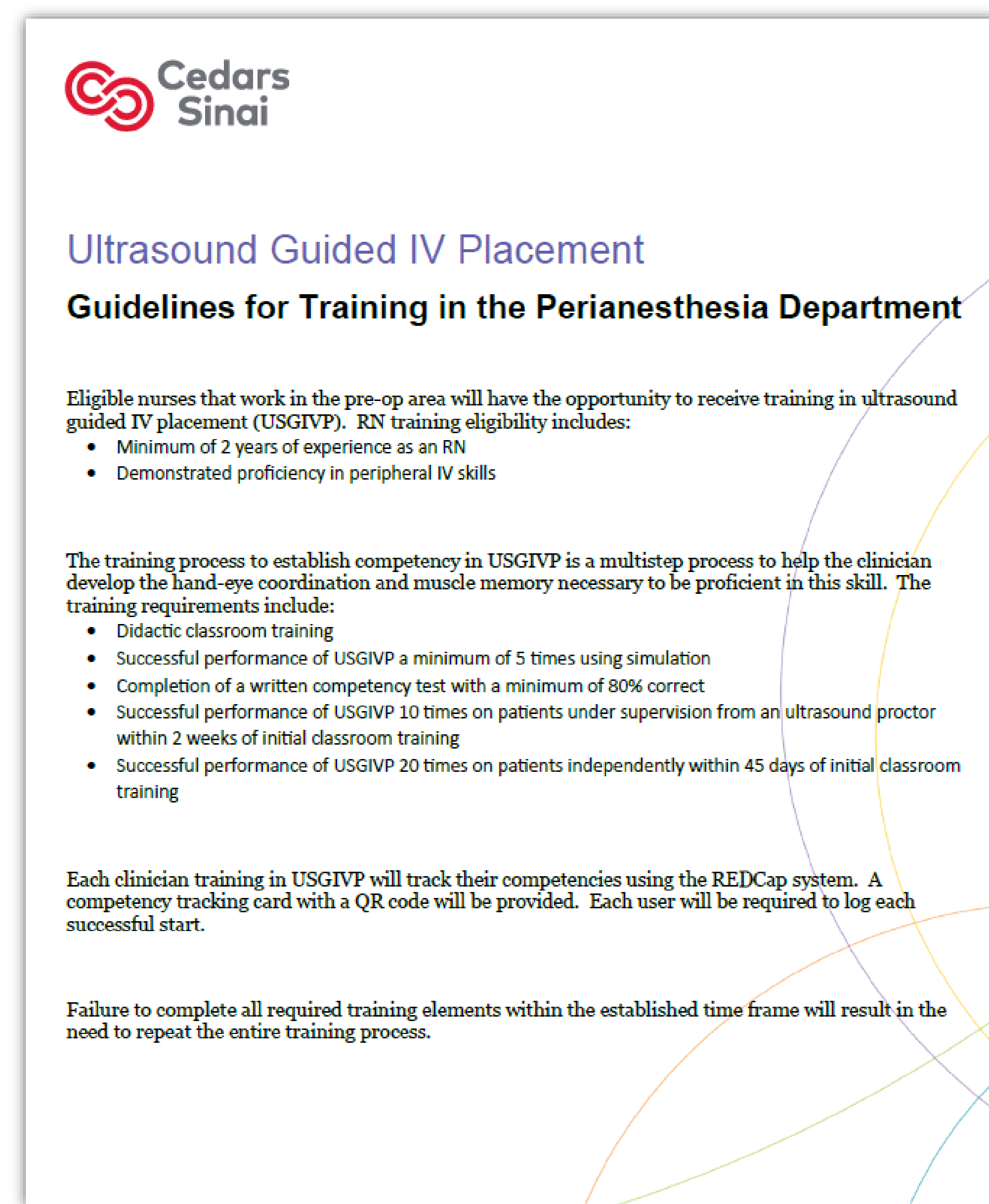


Figure 2
Ultrasound Guided IV Access Training Guidelines



Figure 5
Left to Right: Dr Bahar Mjos (anesthesia lead for program), Michelle Meadows (nursing lead for program)

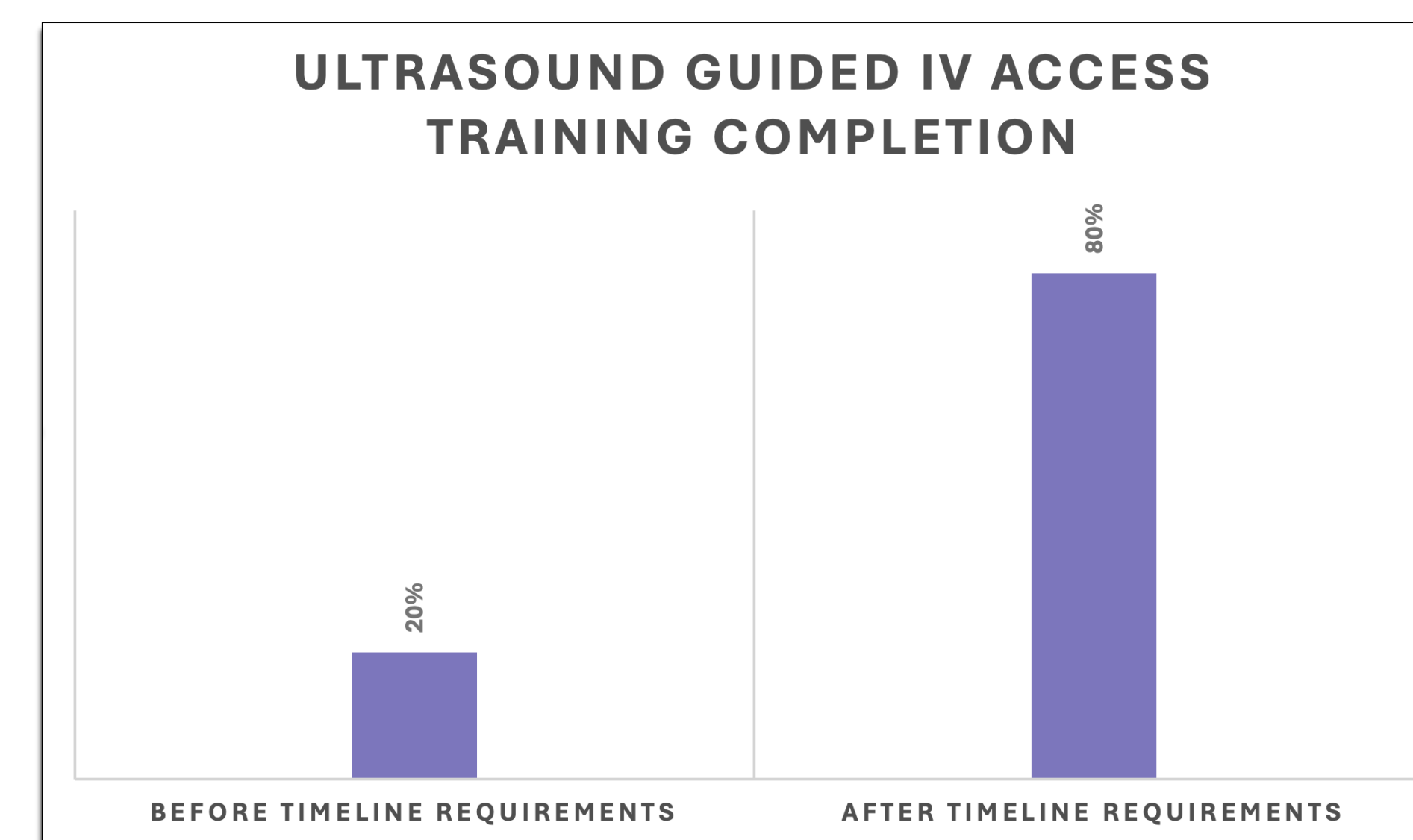


Figure 4
Digitized Competency Checklist Badge Buddy

Ultrasound Guided Intravenous (IV) Insertion Class Agenda	
Date	
0800-0900: Introduction to Ultrasound	Instructor
0900-0945: Demonstration of the Ultrasound (US) Machine	Instructor
0945-1030: Learners to Map Human Veins Using the US Machine	Instructor
1030-1045: Break	
1045-1145: Return Demonstrations	Instructor
1145-1200: Post Test, Surveys, and Distribution of Checkoff Form	Instructor

Figure 1
Ultrasound Guided IV Access Class Agenda

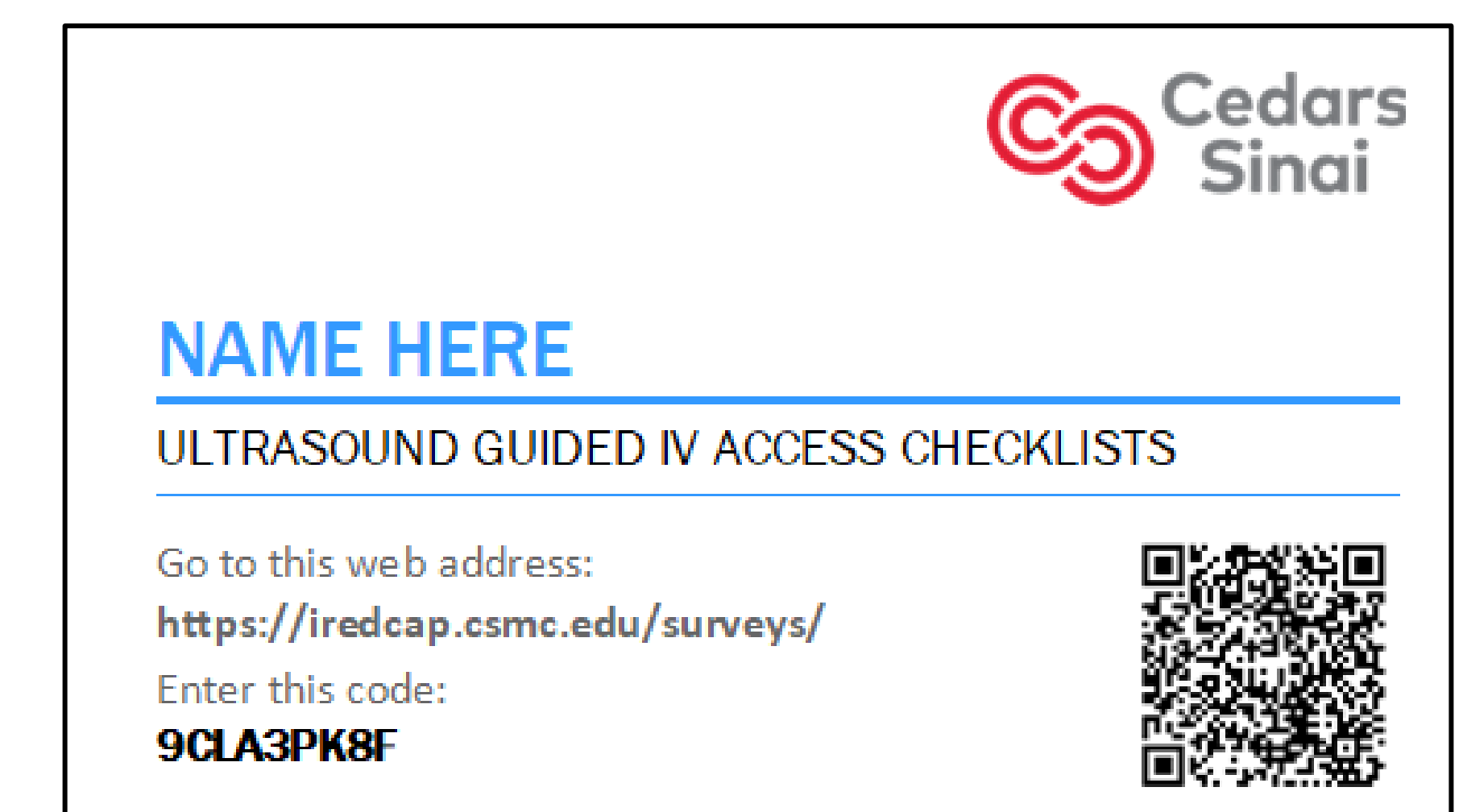


Figure 3
Ultrasound Guided IV Access Class Learning Objectives

Implications for Advancing the Practice of Perianesthesia Nursing Practice

The successful implementation of an USGIVP training program enhances perianesthesia nursing practice by improving patient satisfaction, reducing delays associated with difficult IV access, and minimizing late operating room starts. Empowering nurses with advanced vascular access skills support more efficient, patient-centered care, and contributes to improved perioperative workflow and outcomes

Acknowledgements

We would like to acknowledge Dr Bahar Mjos (fig. 5), who's idea to create timeline requirements for anesthesia residents learning ultrasound guided IV access was an inspiration for the success of this project.