

Using Technology in Practice: Nurse Educators Answer the Call

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Conflicts of Interest and Disclosures

Neither the planners or presenters
indicted that they have any real
or perceived vested interest that
relate to this presentation

Today's Objectives

1. Identify technology as a mechanism to support nurse competency.
2. Demonstrate the impact of healthcare technologies on learning in the practice environment.
3. Discuss strategies nurse educators in the practice setting can adopt to model best practices for developing competent nurses amid fast-paced healthcare change.

Kahoot

- Get your phone!
- Open Google
- Enter www.kahoot.it
- Enter game PIN number

The Kahoot! logo is displayed within a purple rectangular box with a thin grey border. The word "Kahoot!" is written in a white, bold, sans-serif font, with the exclamation mark being slightly larger and more prominent than the rest of the text.

- What do you see as the greatest obstacle for nurses using technology in practice?
 - A. Lack of comfort with navigating technology
 - B. Limited equipment to support learning
 - C. Budgetary constraints limiting technology resources
 - D. Knowledge of technology but not healthcare technology

NEPD's Role in Quality and Safety Competency

- Bridge Education and Practice
- Shift from teaching tasks
 - Focus on why interventions are necessary-not just how to complete a skill
- Global pandemic prompted innovation
 - Education moved to online classes & virtual experiential learning
- **Learning is now scaffolded by informatics and healthcare technologies competency**

Technology's Influence on Quality and Safety

- Data drives practice
- All units monitor nursing sensitive indicators
- Dashboard data identifies learning needs in real time
- Technology provides the platform for delivering needed instruction

Strategy: Gaming

PROCESS

- Download a game model
- Insert instructional content
- Aggregate response results
- <https://www.superteachertools.us/jopardyx/>
- <https://www.superteachertools.us/millionaire/>
- <https://slidechef.net/templates/free-interactive-family-feud-game-template/>

BENEFITS

- Tests knowledge and skills
- Enhances engagement
- Provides immediate feedback
- Works well for Gen Z-digital natives (those born after 1995)
- Fosters motivation



EBP

**Literature
Review**

**Research
Approaches**

Pot luck

100

100

100

100

200

200

200

200

300

300

300

300

400

400

400

400

500

500

500

500

Strategy: Simulation and role play

PROCESS

- Focus on identified need
- Structured
 - Prebriefing
 - Learning activity
 - Debriefing/guided reflection
- Ranges from low-high fidelity
- Trained standardized patients

BENEFITS

- Standards established by INACSL provide evidence-based guidelines
- NEPD staff can obtain Certified Healthcare Simulation Educator(CHSE) credential
- Role play impacts affective domain (attitudes & emotional growth)
- Builds communication skills to enhance clarity

Strategy: Virtual Screen-based Simulation

PROCESS

- Combines gaming & simulation
- Requires licensing agreement
- Digital clinical experience scores enable objective measure of clinical reasoning skills

BENEFITS

- Wide selection of products
- Incorporates
 - EBP
 - National safety standards
 - SDOH
 - Diverse populations
 - Uncommon situations

Strategy: Immersive Virtual Reality Simulation

PROCESS

- Experiential-replicates real-life
- 3-dimensional
- Equipment: headsets, goggles, haptic sensors, safe space

BENEFITS

- Improves cognitive performance
- Improves psychomotor skills
- Provides prep for uncommon events

Simulation with Virtual Simulation Component



Sharing What We Learned

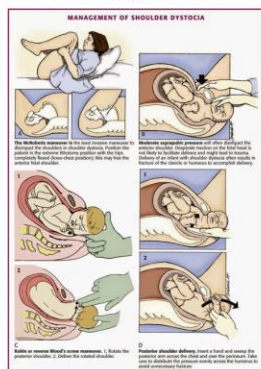
Mixed Reality Simulation for Shoulder Dystocia Management Training

Priscilla Nuñez, MSN, RN, MPH, CBC | Katelyn MacDonald, RN | Maria Lay, RN | Alyssa Zintner, RN

BACKGROUND

Shoulder dystocia occurs when the fetal shoulders fail to deliver, and obstetric (OB) maneuvers are needed to deliver the baby. This occurs in about 3% of deliveries and may result in brachial plexus injury, neonatal asphyxia or death, and postpartum hemorrhage (ACOG, 2017). Shoulder dystocia cannot be prevented, therefore OB maneuvers such as McRobert's and suprapubic pressure, shown in Figure 1, must be performed correctly for optimal patient outcomes. Learning these is a challenge because you cannot see the mechanics of how they work internally. Mixed reality headsets such as the one shown in Figure 2 may help alleviate this. The technology uses holograms over a simulator that allows the user to observe how maneuvers applied externally affect resolution of the OB emergency.

Figure 1.
Management of Shoulder Dystocia



Source: <https://images.squarespace-cdn.com/content/536a936ae4b09724c1063b54/1427573282994-HQ3SQKOSITCELEH2ERXU/dystocia.JPG?content-type=image%2Fjpeg>

PICO/T

For Labor and Delivery (L&D) RNs, does simulation training with the use of mixed reality headsets help RNs correctly perform maneuvers to resolve shoulder dystocia events 3 months after training?

PROJECT GOALS

- Use mixed reality headsets to practice proper application of shoulder dystocia maneuvers and improve performance of such maneuvers
- Improve team communication
- Participants will report that this activity will improve their patients' care

Figure 2.
Use of Mixed Reality Headset



Source: Own photo

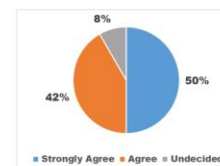
METHODS

L&D RNs participated in an in-situ shoulder dystocia simulation using mixed reality headsets. Performance of maneuvers and team skills were assessed using a competency skills checklist and feedback was provided during the debrief following the simulation. Three months later, RNs participated in a follow up shoulder dystocia simulation without using the headsets and were reevaluated.

RESULTS

Twenty-one L&D RNs participated in high fidelity simulations using the headsets. In 50% of these, staff either did not ask about suprapubic pressure direction or were unaware that the direction is dictated by baby's position. Calling out 30 second intervals from delivery of the head to delivery of the body is a best practice but was not observed in any of the initial simulations. During follow-up simulations, suprapubic pressure was correctly performed 60% of the time and calling out 30 second intervals was performed 70% of the time. Additional benefits from this work include, increased awareness of risk factors for shoulder dystocia and adoption of "to the window" or "to the wall" as a communication strategy to identify suprapubic direction. Additionally, as shown in Figure 3, 92% of survey respondents 'agree' or 'strongly agree' that participation in this activity will improve their patients' care.

Figure 3.
This will improve my patients' experience or results



Note. Ninety-two percent of respondents 'agree' or 'strongly agree' that participating in simulation using mixed reality headsets will improve their patients' care.

NEXT STEPS

- Use mixed reality headsets for simulation training as an ongoing competency.
- Explore additional applications for the headsets for use in simulation

REFERENCES

Available upon request

Strategy: Just-in-Time Training

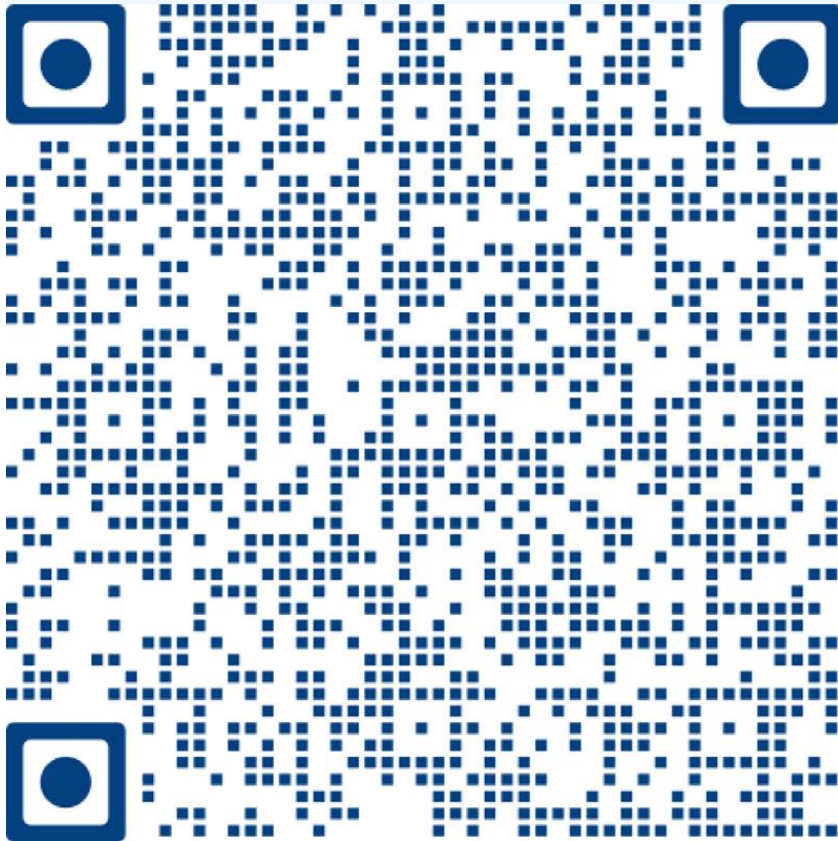
PROCESS

- QR Codes
- Immediate access to review specific tasks
- Links to:
 - Websites
 - Equipment videos
 - Clinical updates
 - Procedure demonstrations

BENEFITS

- “On-the-spot”
- Provides clinical support to nurses
- Mitigates errors
- Enhances safety
- Improves confidence

Vacutainer Safety Mechanism Education



- **How to create a QR code:**
- Free QR generator feature is built into the Share system in Chrome and is available in every desktop version of Chrome.
- **Desktop** versions of Chrome on Windows or macOS
 - Right-click or tap with two fingers on a touchpad to display the “Create QR code” option.
 - You can either scan the image or select to download
- <https://www.techrepublic.com/article/how-to-create-qr-codes-5-methods/>
- <https://www.keepandshare.com/>
- <https://www.qrcode-monkey.com/>

Strategy: Electronic Communication Systems

PROCESS

- Adopted from academia (blackboard, Canvas)
- Stores resources: podcasts, videos, webinars
- video-conferencing platform (set requirements for engagement)

BENEFITS

- Flexibility
- Wider audience
- Allows group & Individualized learning
- Enhances group work
 - Screen-sharing
 - Breakout rooms
- Audience polling to assess knowledge



Strategy: Breakout Exercise for Nurse Residency Program

- Identify those at risk for infection
- Bundles and protocols
- <http://www.ihl.org/sites/search/pages/results.aspx?k=how-to+guides>



- **Activity**
 - Group work to make posters that highlight an assigned bundle:
 - CAUTI
 - CLABSI
 - VAP
 - SSI
 - MRSA

[Nurse Educator Article Link](#)



Strategy: Virtual Nurse Systems

PROCESS

- Virtual nurse available on rolling screen
- Uses experienced nurses
- Conducts history while nurse conducts physical assessment
- Can use Nurse Emeritus Program

BENEFITS

- Availability of nurse resources



Evidence-Based Best Practice for Technology in Practice

- **Scanning**
 - Medication Bar-coding
 - Positive patient identification for laboratory testing
- **Preventing Harm**
 - Hard stops to prevent harm
 - Advanced monitoring and alarm systems
 - Checklists
 - Task alerts in EHR
- **Improved Care Delivery**
 - Ultrasound guided peripheral IV insertion
 - Sherlock 3CG Technology for PICC insertion



Partnership Between Academia and Practice

- **Practice readiness**
 - Interpretation of dashboard data incorporated in academia
 - Increased focus on information and healthcare technologies competencies
 - Greater implementation of virtual simulations
- **Budgetary considerations-sharing technology**
 - State-of-the-art Sim labs
 - Virtual reality systems
 - Online venues to expand education opportunities
- **Ongoing Work**
 - Planning for system failures
 - Addressing Gen Z learning curve

Menti-meter

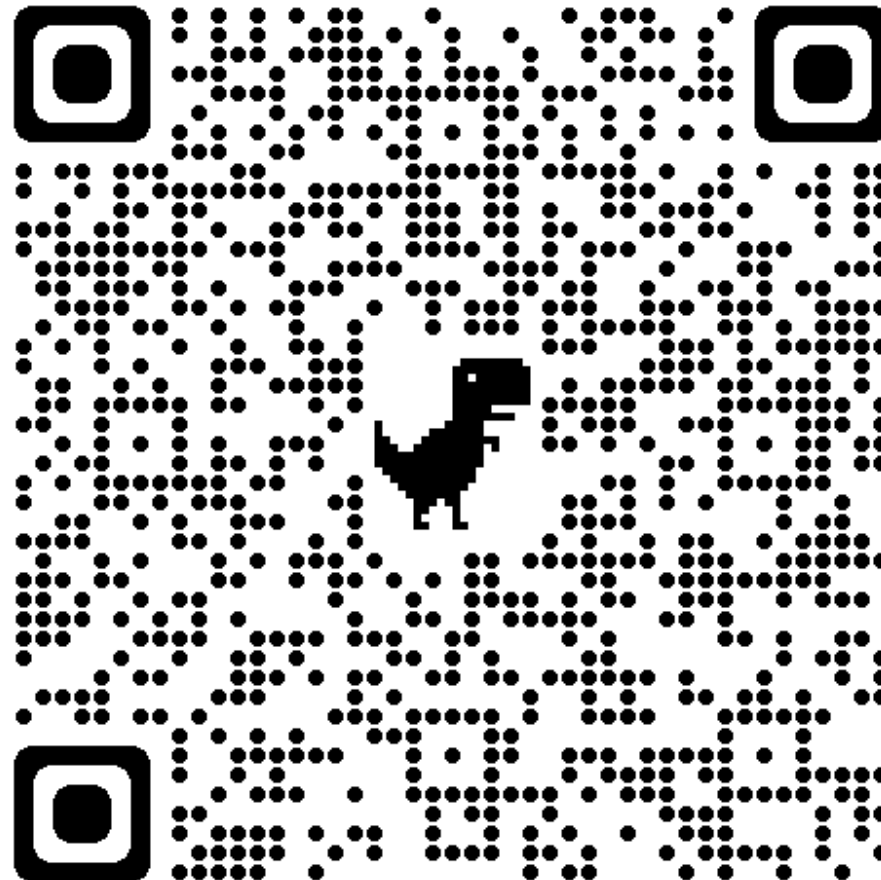
- **Process to Develop:**

- Mentimeter.com
- Develop username and password and sign in
- Select “new presentation”
- Select “new slide”
- Write content
- Select slide type (word cloud, multiple choice, open ended, scales, ranking).
- Presentation is given a code number to be used with participants. **Code lets audience join the presentation and expires in 2 days!**
- If using free app, can only write two questions! Otherwise, need a subscription.

- **Audience instructions:**

- Get your phone!
- Open Google
- Enter www.menti.com
- Enter code





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