

Supplemental digital content for Ma WY, Brindle ME, Ronksley PE, Lorenzetti DL, Sauve RS, and Ghali WA. Use of Simulation-Based Education to Improve Outcomes of Central Venous Catheterization: A Systematic Review and Meta-Analysis. Acad Med. 2011;86 (9).

Supplemental Digital Form 1

Reviewer initials _____ Date of data abstraction _____ Study ID # _____ Last name _____

IRB Approval Y N Not described

Population studied (check all that apply):

Medical student PGY-1 PGY-2 PGY-3 Fellow

Attending/consulting physician

Nurses Physician Assistants Other _____ Not described

Specialty of Learners (check all that apply): Critical Care Internal Medicine

Surgery

Emergency Not mentioned Other _____

Baseline Experience of Trainees: Not mentioned

Instructor level of training (check all that apply):

Medical student PGY-1 PGY-2 PGY-3 Fellow

Attending/consulting physician

Nurses Physician Assistants Other _____ Not described

Specialty of Instructors (check all that apply): Critical Care Internal Medicine

Surgery

Emergency Not mentioned Other _____

Design of Study

Case Control cross-sectional
 Single group (check one of the following: before / after study,
time series)
 Cohort (check one of the following: Prospective Retrospective not
mentioned)
 Trials (check one of the following: randomized pseudo/non-
randomized),

Setting:

Hospital Educational facility Not described Other _____

Country/countries: _____

Single Centre Multiple Centres (how many _____)

Type of simulation used (check all that apply):

Timeline of Educational curriculum:

Over how long _____
Same time line for control group? Yes No If not, please describe timeline
Follow-up duration

Outcome Domains Assessed:

User Satisfaction
 Acquisition Retention (if so, how long) _____
Scale used & Results:

Confidence
 Acquisition Retention (if so, how long) _____
Scale used & Results:

Knowledge
 Acquisition Retention (if so, how long) _____
Scale used & Results: Scale validated? Y N

Performance Measures
 On live patients On Simulators Both Other
 Number of Evaluators: _____ Who are evaluators: _____
Evaluators blinded Y N

- Time:
- Errors:
- Success rates:
- Other:

Scale(s) used (please list all):

Scale(s) validated? Y N

Acquisition Retention (if so, how long) _____

Transfer (if so, how is transfer tested?)

Results:

Clinical Measures – how long are outcomes followed? _____

Infection

Pneumothorax

Hemothorax

Arterial puncture

Bleeding

Clot

Other _____

Patients intubated Y N Not described Type of patients

How are outcomes captured?

Who captured outcomes?

MERSQI

Reed DA. JAMA 298(9):1002-9; 2007

Study Design

- Single group cross-sectional or single group posttest only
- Single group pretest and posttest
- Nonrandomized, 2 group
- Randomized controlled trial

Sampling

Number of institutions studied

- 1
- 2
- >2

Response rate, %

- Not applicable
- < 50 or not reported
- 50-74
- ≥75

Type of data

- Assessment by study participant
- Objective measurement

Validity of evaluation instrument

Internal structure

- Not applicable
- Not reported
- Reported

Content

- Not applicable
- Not reported
- Reported

Relationship to other variables

- Not applicable
- Not reported
- Reported

Data Analysis

Appropriateness of analysis

- Data analysis inappropriate for study design or type of data
- Data analysis appropriate for study design and type of data

Complexity of analysis

- Descriptive analysis only
- Beyond descriptive analysis

Outcomes

- Satisfaction, attitudes, perceptions, opinions, general facts
- Knowledge, skills
- Behaviors
- Patient/health care outcome