

# Building Evidence using Nursing Interventions Classification (NIC) and Nursing Outcomes Classification (NOC)

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# This presentation is an extension of our prior work:

Van Horn, E., & Kautz, D. (2008). Evidence-Based Nursing Guideline: Family Integrity Promotion. In Ackley, Ladwig, Swan and Tucker (Eds.) *A clinical guide to evidence-based practice in nursing*, St. Louis: Mosby.

Van Horn, E. & Kautz, D. (2007). Promotion of Family Integrity in the Acute Care Setting: A Review of the Literature. *Dimensions of Critical Care Nursing*, 26(3), 101 – 107.

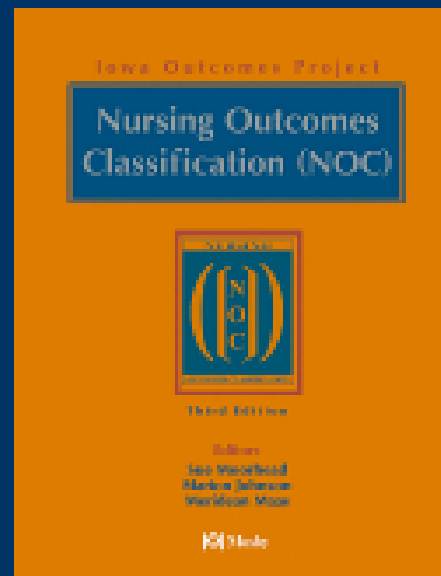
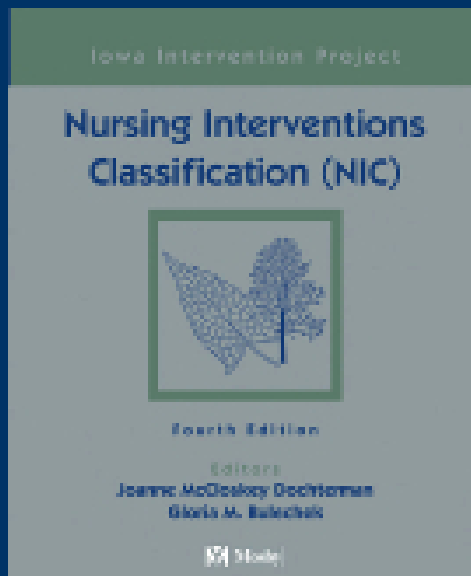
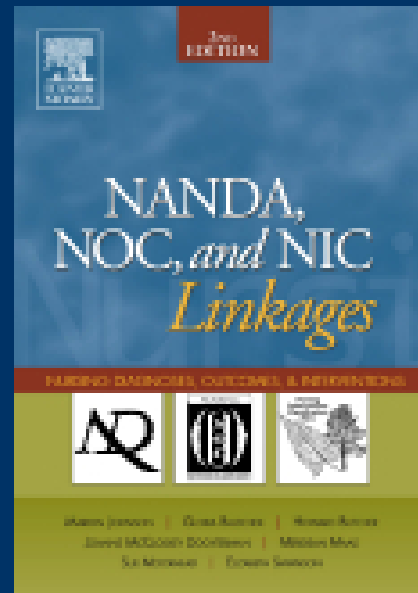
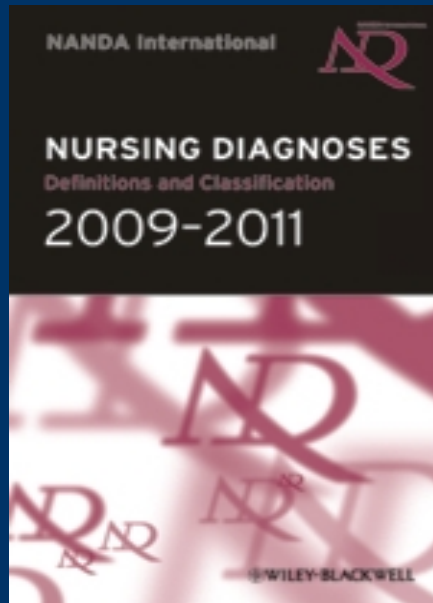
# More prior work

Kautz, D. & Van Horn, E. R. (2008). An Exemplar of the Use of NNN Language in Developing Evidence-Based Practice Guidelines. *International Journal of Nursing Terminologies and Classifications*, 19, 14-19.

Kautz, D. D. & Van Horn, E. R. (in press, 2008). Promoting family integrity to inspire hope in rehab patients: Strategies to provide evidence-based care. *Rehabilitation Nursing*.

# NNN Language

- NANDA –Nursing Diagnoses
- NOC –Nursing Outcomes Classifications
- NIC –Nursing Interventions Classifications
  
- NOC and NIC have been in development for the past two decades by the University of Iowa School of Nursing



# Why use NNN Language when Developing Evidence-Based Practice and Conducting Research?

- Consistent documentation of nursing practice in multiple settings
- Compare and evaluate effectiveness of care
- Increased communication across disciplines
- Captures the essence of nursing practice
- Advances nursing knowledge

(Adapted from Johnson et al., 2005)

# Cardiac Care: Acute NANDA, NOC, & NIC Linkages

**NANDA:** Tissue perfusion:  
Cardiopulmonary, Ineffective

**Outcome (NOC):** Tissue perfusion: Cardiac

**Major Intervention (NIC):**  
Cardiac Care: Acute

# Evidence-Based Practice is all the buzz...

## Integrates

- Research
- Clinical expertise
- Patient's values and needs
  
- Some argue, a better term is  
“evidence-based care”

# The rush to adopt Evidence-Based Practice



<http://go.funpic.hu>

ROWING HARDER DOESN'T HELP IF THE  
BOAT IS HEADED IN  
THE WRONG DIRECTION



# Sources of Evidence-Based Practice Guidelines

- Evidence-based practice texts
- Journal articles
- Cochrane Collaboration (medicine)

[www.cochrane.org](http://www.cochrane.org)



- Joanna Briggs Institute (nursing – Australia)

[www.joannabriggs.edu.au](http://www.joannabriggs.edu.au)



- National Guideline Clearinghouse – AHRQ

[www.guideline.gov](http://www.guideline.gov)



# Levels of Evidence

Melnyk & Fineout (2004) *Worldviews on EB care*

Level 1:  $\geq 3$  RCTs, systematic review, or meta-analysis

Level 2:  $\geq 1$  RCT

Level 3: nonrandomized controlled trials

Level 4: case-control or cohort studies

Level 5:  $> 1$  descriptive or qualitative studies

Level 6: single descriptive or qualitative study

Level 7: expert opinion or committee reports

# NIC Activities are Evaluated as:

- Effective
- Possibly Effective
- Standards of Practice
- Possibly Harmful

# Cardiac Care: Acute (NIC)

Definition: Limitation of complications for a patient recently experiencing an episode of an imbalance between myocardial oxygen supply and demand resulting in impaired cardiac function

(Dochterman & Bulecheck, 2004, p. 224)

# Cardiac NIC activities

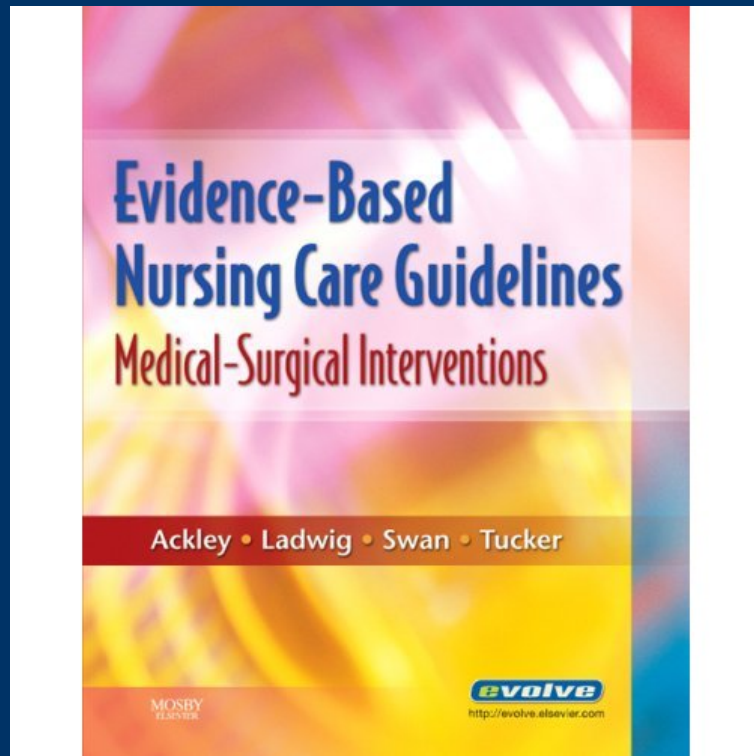
Based on standards of practice developed before the EBP revolution

- Evaluate chest pain
- Monitor cardiac rhythm and rate
- Auscultate heart sounds and lungs
- Determine serum CK, LDH, and AST levels
- Monitor renal and liver function

# Cardiac NIC Activities (cont.)

- Provide small, frequent meals
- Maintain an environment conducive to rest and healing
- Instruct patient to avoid valsalva maneuver
- Administer medications to relieve and prevent pain
- Monitor effectiveness of medications

# EBP Guidelines using NIC/NOC



Ackley, Ladwig, Swan and Tucker (Eds.) 2008

- Provides 200 *research-based* nursing care guidelines.
- Identified by NIC intervention labels when appropriate.
- Activities are classified by their effectiveness (LOE).

# Cardiac Care: Acute Effective Activities

- Implement an open visiting policy (LOE=2)
  - Initiate patient's education/discharge planning (LOE=1)
  - Provide music therapy to improve psychological and physiological state (LOE=1)
  - Ambulate following cardiac catheterization (after 2 hours of bedrest) (LOE=1)
- (Moser, Lennie, Frazier, & Heo, 2008)

# These Activities are other NICs

- Implement an open visiting policy
- Initiate patient's education/discharge planning
- Provide music therapy to improve psychological and physiological state
- Ambulate following cardiac catheterization

- Visitation Facilitation
- Discharge Planning
- Music Therapy
- Exercise Therapy:  
Ambulation

# Cardiac Outcomes of Open Visitation

- Lower heart rate
- Lower systolic and diastolic blood pressure
- Lower anxiety levels
- Fewer cardiovascular complications

# EBP and NIC Evolution

Content experts found current research that supported nursing interventions that were *NOT* NIC activities.

New evidence-based nursing interventions were identified.

# EBP and NIC Evolution

Evaluation of current research broadens the scope of NICs (i.e.. inclusion of music therapy, family visitation, education, and discharge planning).

Evaluation of *multidisciplinary* research aided in supporting activities and expanding their scope.

# Deductions about NICs

- NICs are too limiting for current level of research; therefore, possibly not an appropriate guide for future research areas.
- The level of evidence (LOE), based on the research, aids in prioritizing nursing care.
- LOE also helps determine future research priorities.

# Deductions continued

- EBP care should incorporate nursing activities determined to be *effective* based on current research.
- Future nursing research should focus on providing evidence to support *possibly effective* activities and those with lower levels of evidence (ex. 5, 6, & 7).

# NOC: Tissue Perfusion: Cardiac

- Systolic and diastolic blood pressure
- Heart rate
- Cardiac enzymes
- Angina
- Electrocardiogram findings

# NOCs

- Remain appropriate because they address the NIC, not specific to activities.
- Useful in practice to evaluate outcomes of nursing interventions (NICs and others)
- Can be used by nurse researchers to develop measurable outcomes for nursing interventions.

# NANDA, NIC, & NOC

## Future Considerations

Update texts to incorporate nursing interventions supported by current, multidisciplinary research.

Update the NIC activities language to promote consistency with current research.

All NNN language needs to include the current level of evidence.

# Future Considerations (cont.)

Broaden the scope of interventions from physiologic and clinical aspects to incorporate family care and current therapies with demonstrated effectiveness.

Cross-reference NIC activities to aid users in identifying effective interventions across multiple NICs - comprehensive care.

**Thank You**

**Questions?**

# Contact Us

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