Demystifying the Sacred Cow – Where is the Evidence?
Objectives

1. Discuss the definition of a sacred cow.
2. Describe 4 clinical examples of when a sacred cow was turned over.
3. Describe the process of how you would debunk a sacred cow using the evidence-based practice process.
Sacred Cows

• This term alludes to the honored status of cows in Hinduism, where they are a symbol of God's generosity to humankind.

• The idiom appears to have emerged in America in the late 19th century.

• A figurative sacred cow is a figure of speech for a person or thing immune to question or criticism, especially unreasonably so....
Sacred Cows in Nursing

• In “Notes on Nursing” Florence Nightingale described her observations and findings related to the care of patients
  – Patient advocacy
  – Infection control
  – Physical care of the entire body not just disease or signs & symptoms

• Developed into the philosophy of nursing or what we call the Art & Science of Nursing
Sacred Cows in Nursing

• Scientific basis for practice:
  – Use research to answer questions
  – Establish protocols
  – Promote critical thinking and decision-making at the bedside

• Must be willing and able to change practice
  – Regarding the tradition or commonly held beliefs
Evidence-Based Practice

• Institute of Medicine Definition
  – *The integration of best research, clinical expertise and patient values in making decisions about the care of individualized patients.*

• Using Research to guide Clinical Decision Making is a shift in culture

Decisions based on
- Opinions
- Past experiences
- Precedents

Decisions based on
- Science
- Research
- Evidence

Greiner, A.C. et al *Health Professionals Education: A Bridge to Quality* 2003
Tipping Our Sacred Cows

• Four Evidence-Based Practice Recommendations for change or implementation into practice
  – Trendelenburg: Natalie Correll-Yoder
  – Wound Irrigation & Gastric Lavage: Mark Stevens
  – Four Side Rails as a Restraint: Anna Satake
  – Neonatal Cue-Based Feedings: Jenny Quinn
Trendelenburg Positioning for Hypotension

Natalie Correll-Yoder MN, RN, CCRN, CCNS
Clinical Practice Manager/Clinical Nurse Specialist
Critical Care Services
Trendelenburg

• First described by Dr Friedrich Adolf Trendelenburg (late 1800’s)
  – Used to improve surgical exposure for abdominal procedures
  – Described as a supine position, head-down tilt of at least 45°
  – Commonly used in the Operating Room for procedures

Hewer, C.L. The physiology and complications of the Trendelenburg position. CMAJ. 1956;74:285
Trendelenburg for Hypotension

• During World War I, Walter Cannon (American physiologist)
  – Known for developing theories:
    • Fight or Flight
    • Homeostasis
  – Popularized the Trendelenburg position as a treatment for shock
    • Increased venous return to the heart
    • Increased cardiac output
    • Improved vital organ perfusion

Trendelenburg Complications

• Initial complications:
  – Increased Central Venous Pressure
  – Engorgement of the head and neck veins
  – Increased cerebral spinal fluid pressure
  – Hypertension
  – Retinal detachment
  – Impaired Oxygenation and ventilation
  – Gastric secretions and mucus in oropharynx causing aspiration

• Trendelenburg position continued to be used
Does Trendelenburg Work?

- In 1967, Taylor & Weil tested Trendelenburg position in 6 hypotensive patients & 5 normotensive patients
  - 9 of 11 patients, ineffective and caused reduced systolic, diastolic and mean arterial pressures
  - The viscera weight down the diaphragm and compromise the lungs
  - Increased cerebral edema
  - Retinal detachment
  - Brachial nerve paralysis
- In 1979, Sibbald, et al. studied the effect of Trendelenburg on systemic and pulmonary hemodynamics in 76 critically ill patients (61 normotensive and 15 hypotensive)
  - Normotensive patients: no change in preload or MAP but slight increase in cardiac output
  - Hypotensive patients: no increase in preload or MAP and decrease in cardiac output
- In 1985, Bivins studied the effect of blood distribution in the Trendelenburg position
  - Only 1.8% of total blood volume was displaced centrally
### Physiological Effects of Trendelenburg in Hypotensive Patients

<table>
<thead>
<tr>
<th>System</th>
<th>Physiological Effects</th>
</tr>
</thead>
</table>
| Cardiovascular| • Slight Increase in MAP  
• No increase in preload  
• Dilated right ventricle  
• Decreases RV Ejection Fraction  
• Decreased Cardiac Output  
• Increase in systemic vascular resistance (SVR) |
| Pulmonary     | • Reduced Vital Capacity  
• Increased work of breathing  
• Decreases in PaO2  
• Increases in mechanical impedance of lung and chest wall  
• Decreased Tidal Volume  
• Decreased lung compliance  
• Increases inPaCO2 |

Makic, MBF et al. *Evidence-Based Practice Habits: Putting More Sacred Cows out to Pasture*. Critical Care Nurse 2011;31(2)38-44.
Physiological Effects of Trendelenburg in Hypotensive Patients

<table>
<thead>
<tr>
<th>System</th>
<th>Physiological Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tissue Perfusion</td>
<td>• No change in oxygen delivery</td>
</tr>
<tr>
<td></td>
<td>• No change in oxygen extraction</td>
</tr>
<tr>
<td></td>
<td>• No change in oxygen consumption</td>
</tr>
<tr>
<td>Gastrointestinal</td>
<td>• Cephalad shift of abdominal contents</td>
</tr>
<tr>
<td></td>
<td>• Increased abdominal pressure</td>
</tr>
<tr>
<td></td>
<td>• Impaired diaphragmatic function</td>
</tr>
<tr>
<td></td>
<td>• Impeded lung expansion</td>
</tr>
<tr>
<td>Neurological</td>
<td>• Possible increase in intracranial pressure associated with increase in central venous pressure</td>
</tr>
<tr>
<td></td>
<td>• Distention of internal jugular vein</td>
</tr>
</tbody>
</table>

Trendelenburg for Hypotension

• Nurses report learning about Trendelenburg position through
  – Nursing education
  – Colleagues
  – Physicians

• Believe it is almost always (28%) or sometimes (61%) proved beneficial to patients in shock by increasing blood pressure and cardiac output

Ostrow, C.L. Use of Trendelenburg position by critical care nurses: Trendelenburg survey. AJCC 1997;6:172-6
Tip the Sacred Cow
Recommendations for Practice

• Passive leg lift
  – Management of hypotension
  – Prediction of fluid responsiveness

• Keeping the HOB flat & raising the patients legs
  – Produces a volume shift of 150-300 mL to the upper part of the thorax
  – NOTE: Reich et al (1989) did find no difference between passive leg raise and Trendelenburg in anesthesized cardiac surgery patients

4 Side Rails Keeps My Patient Safe

Anna Satake RN, MSN, CNS
Clinical Practice Manager/Clinical Nurse Specialist
Geriatrics, Medical/Surgical
My Story

• It all started in 2006

• New GCNS coming from a large teaching facility to a smaller community hospital

• Identification of practice issues
Investigation of the “Why”

- Don’t assume you know the WHY
- Ask staff about their practice
- Why does this patient have 4-side rails up?
  - “I don’t want them to fall.”
- Why does this patient have 3 side rails up and the open side to the wall?
  - “Four side rails is a restraint, but I don’t want them to get out of bed and fall.”
Investigating Further

• Why did the staff believe that this was safe practice?
  – Nobody questioned the practice before
  – “This is how we always have done it”
  – Staff only had a few tools available to help decrease falls at the time of this practice.
Show me the evidence

• Joint Commission
• Centers for Medicare and Medicaid
• Literature Review
• Litigation cases
• Shared cases from the hospital
Education**Motivation**Change

1\textsuperscript{st} Increased awareness regarding the evidence

2\textsuperscript{nd} Motivate the change by discussing cases in the moment to understand the WHY

3\textsuperscript{rd} Maintain the change by continuing the conversations, sharing cases, and celebrating the positive change.
Sacred Cows of the Emergency Department

Mark Stevens MSN, RN, CNS, CEN, CPEN
Clinical Practice Manager/Clinical Nurse Specialist
Emergency Services
Wound Irrigation
Wound Irrigation

• 1990s: NS vs. Povidone/Iodine & Shur Cleanse
• No difference in rates of infections
• NS was most cost effective
• Pov-iod was cytotoxic

Literature Search

• Saline vs. Potable tap water?
• Cochrane Data Review 2010
  - Potable tap water is as good (if not better) than sterile saline
  - 37% reduction in rate of infection with tap water
  - Cost Savings potential of >$65 million/year in the US

Wound Irrigation

• At least 60 ml per cm of wound is recommended
• Most authors recommend “high-pressure” irrigation: 5-8 lbs. per square inch
  – Surrounding tissues – be careful
• 30-60 ml syringe with a 16-19 gauge needle
• Splash protection
Gastric Lavage for Ingestions
Gastric Lavage for Ingestions
Where is the evidence?

• No evidence showing that gastric lavage should be routinely used
• Evidence supporting gastric lavage as beneficial is weak
• Gastric lavage should not be routinely performed

Neonatal Cue-Based Feedings

Jenny Quinn RN, MSN, NNP-BC, MHA
Neonatal Nurse Practitioner/Clinical Practice Manager
NICU
But this is the way we’ve always done it.....

• Variation with practice and providers
  – Every 3 hours
  – Ad lib
  – Parents
  – Nurses

• Variation with initiation of first oral feed

• Focus was on **quantity** not **quality**

• Not developmentally supportive
• Stress with feedings can cause
  – Physiological instability
  – Motor function instability
  – Aspiration
  – Feeding aversion
  • Short and long term
How do we safely feed infants in the NICU that is neuro-developmentally supportive?

Hold the presses!
Interdisciplinary Knowledge Building and Sharing

• Nursing discipline
• Clinical researchers
  – Neuroscientists/behavioral specialists
• OT/PT
• Physicians
Goals of Cue-Based Feedings

- Safe
- Functional
- Nurturing
  - Relationship based event
  - Not task driven
- Individualized
- Developmentally appropriate

Infant Driven Feeding®

• Model for cue-based feeding
• Assesses feeding readiness and quality
• Caregiver technique
  – External pacing
  – Modified sidelying position
  – Chin/cheek support

Nursing Implications

• Autonomy

• Patient and parent connection
  – Observing infant cues, developmentally appropriate
  – Parent education, engagement and empowerment

• Interdisciplinary collaboration
  – Parents
  – Therapists
  – Providers

• Translating EBP into clinical practice
THANK YOU!
How would you debunk a sacred cow?

The Steps of Evidence-Based Practice

Elisa Jang MS, RN, CNS
Clinical Practice Manager/Clinical Nurse Specialist
Translational Research
Putting Sacred Cows out to Pasture

• Nurses cannot knowingly continue practice despite research showing it is harmful or not helpful
  – Many practices based on intuition and tradition
  – Older practice habits hard to change -- considered routine and beyond dispute

OPPORTUNITIES FOR IMPLEMENTING EVIDENCE-BASED PRACTICE AT THE BEDSIDE ARE WAITING TO BE DISCOVERED!
EBP Models

- EBP process models helpful for step-by-step approaches
  - Provides framework for effective change

- Iowa model
- Stetler’s model
- Rosswurm and Larrabee’s model
- Johns Hopkins Nursing model
- ACE Star Model of Knowledge Transformation
- ARCC
- AHRQ
- PARIHS
- Colorado model
Steps of Evidence-Based Practice

**Step 0** • Cultivate a spirit of inquiry & EBP culture

**Step 1** • Ask the PICO(T) question

**Step 2** • Search for the best evidence

**Step 3** • Critically appraise the evidence

**Step 4** • Integrate the evidence with your clinical expertise and patient preferences to make the best clinical decision

**Step 5** • Evaluate the outcome(s) of the EBP practice change

**Step 6** • Disseminate the outcome(s)
Clinical Inquiry

• Encourage ongoing curiosity about best evidence to guide clinical decision making

• Must create culture that supports questioning practice for clinicians to embrace EBP
<table>
<thead>
<tr>
<th><strong>P</strong></th>
<th><strong>Patient / Problem / Population</strong></th>
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<tbody>
<tr>
<td></td>
<td>meaning the individual, the condition or group that is the subject of the clinical question</td>
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<table>
<thead>
<tr>
<th><strong>I</strong></th>
<th><strong>Intervention</strong></th>
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<tbody>
<tr>
<td></td>
<td>the treatment that might be applied to the patient, problem or population</td>
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<tr>
<th><strong>C</strong></th>
<th><strong>Comparison</strong></th>
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<tbody>
<tr>
<td></td>
<td>an alternative treatment that might provide similar if not greater benefits to intervention.</td>
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*Please note*: there may not always be a comparative intervention

<table>
<thead>
<tr>
<th><strong>O</strong></th>
<th><strong>Outcome</strong></th>
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<tbody>
<tr>
<td></td>
<td>the expected result of the intervention</td>
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</table>
Search for the Evidence

• Search within bibliographic databases

  Cochrane Library
  Joanna Briggs Institute
  CINAHL
  OvidSP
  ProQuest
  PubMed/MEDLINE

• Use levels of evidence to choose best available sources in literature search
Levels of Chocolate

- Godiva Truffles
- Donnelly Dark Chocolate
- Ghirardelli Chocolate
- Toblerone
- Hershey’s Kisses
- Nestle’s Quik
Levels of Evidence


2. ©Copyright 2011, Lynn Gallagher-Ford; Center for Transdisciplinary Evidence-based practice, The Ohio State University | http://nursing.osu.edu/ctep
Critical Appraisal

• Assess for strength, quality, and scientific merit of a study
  – Use levels of evidence
• Ensures relevance and generalizability to specific patient population
Critical Appraisal

1. What were the results of the study?
2. Are the results valid and reliable?
3. Will the results of the study help me in caring for my patients?
Integrate the Evidence

Utilizing the Change Process

Implement practice change

Use a Change Team

Identify key stakeholders

Talk with CNS, Clinical Educator

Build administrative support

Utilize shared governance structure

Pilot the change
Measure & Evaluate Outcomes

• Provide outcomes of practice change
• Monitor and analyze process and outcome data
  – Structural and fiscal implications
  – Partner with your Quality Improvement Dept
Disseminate Results

- IMPERATIVE to share evaluation data from implementation of EBP
  - Formal and informal methods
  - Presentations, posters
  - Publications
Thank you!