

# THE EMPOWERED NURSE

Peer-Reviewed Journal for Innovative VUMC Nursing Research  
Volume 1, Issue 1



Aromatherapy in the Clinical Setting: Making Sense of Scents

VANDERBILT  UNIVERSITY

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# EMPOWERED NURSE

Information for Readers

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## Empowered Nurse

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## Journal Mission

To disseminate research and best practice based upon current evidence in order to promote quality nursing practice, improve patient outcomes, and inspire nurses from all areas across the medical center.

Florence Nightingale enhanced nursing practice with her curiosity and making simple advancements in the field. This changed the field of nursing as we know it.

## Author Guidelines

These are guidelines in regards to writing. The work is selected to represent Vanderbilt University Medical Center. Journal entries should be written in APA Style. Articles will be peer reviewed to improve VUMC nurse dissemination.

## Dedication

Dedicated to growing new knowledge, skills and understanding to improve the art and science of nursing practice.

Dedicated to growing new knowledge, skills, and understanding to improve the art and science of nursing practice.

All contents of journal are based upon information available at time of publication. We apologize for any omissions.

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# Recurring Article Themes

**The Spirit:** This inspirational article calls for nurses to be consumers and contributors to the evidence upon which our practice is based. This curiosity and optimism reflects the spirit of inquiry.

**The Mind:** This article will expand upon better understanding of interpreting statistical results and application.

**The Vision:** This recurring article will focus on searching and critiquing the literature, teaching the skills required to “see” relevant findings and synthesize the evidence.

**The Hands:** The topic of this featured article will change with each issue, submitted by VUMC nurse researchers- from the hands of nurse scholars.

**The Heart:** This article will examine the ethics in research. How do we ensure the rights and welfare of human subjects are protected. This crucial concept is at the heart of nursing research.

**The Body:** This article explores research methodology that provides the framework for research projects just as the skeletal system provides the framework for the human body.

**Guest authors:** These abstracts, posters or articles will report on VUMC nurse led research, Evidence Based Practice (EBP) or Quality Improvement (QI) projects

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General types of posters:

**Case Study**-presents rare or unusual conditions, unusual response to treatment or a new approach to a disease or medical condition.

**Evidence Based Practice (EBP)**-using evidence to change practice or synthesizing evidence into practice recommendations.

**Research**-Results/findings from a research study that generates new knowledge.

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# Inspirational article

**The Spirit** This inspirational article calls for nurses to be consumers and contributors to the evidence upon which our practice is based. This curiosity and optimism reflects the spirit of inquiry.

With pleasure, I welcome you to the inaugural issue of the Vanderbilt University Medical Center nursing peer review journal, *The Empowered Nurse*, for and by our nurse researchers.

This publication reflects our commitment to the development, dissemination and enculturation of evidence in all aspects of our practice.

Empowerment is one of the keys to our success.

Empower is to enable and permit. We enable through education and support and we permit by granting the authority to make decisions about how nursing care is delivered and provided to our patients and families.

The spirit of inquiry is a hallmark of our professional practice model. In our focus on patients and their families, we are motivated by the curiosity of why things happen and how they can be improved. Both clinical practice and leadership are informed by this commitment to improvement and the energy from this curiosity has inspired the creation of the journal.

The mission of the journal is to disseminate research and best practices based upon current evidence in order to promote quality-nursing practice, improve patient outcomes and inspire nurses from all areas across the Medical Center.

*The Empowered Nurse* is dedicated to sharing new knowledge, skills, and understanding to improve the art and science of nursing.

As a Magnet designated organization and a thriving nursing community, we aspire to raise the bar of our practice for both VUMC nurses and others. This commitment to excellence is fueled by intellectual curiosity and collaboration with one another.



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The history of Vanderbilt Nursing has long held a commitment to excellence and improvement on behalf of our patients. Our Shared Governance structure empowers staff and leaders to recognize challenges and seek creative solutions.

Our support of education through the Evidence-Based Practice Fellowship has introduced hundreds of nurses and colleagues to the power of a disciplined process of inquiry. An active and dynamic environment for lifelong learning is supportive of our efforts.

The creation and completion of projects has spurred collaboration, learning and problem solving. The sharing of these experiences has taught us the power of creating new knowledge and learning from one another. Last year, more than 100 VUMC publications, podium or poster presentations contributed knowledge to nursing and healthcare practices. This sharing of knowledge improves our own practice and contributes to the evidence for continued improvement.

The Empowered Nurse came from the vision and hard work of Vanderbilt nurses for Vanderbilt nurses.

My hope for the journal is two-fold. First, I look forward to sharing the work of our own nurse researchers with the Vanderbilt nursing community. The excellent work of staff, leaders and colleagues will be highlighted in the journal. Secondly, I hope all of us will use the knowledge and information to change practice, ask additional questions, and inspire the next great idea!



As we develop new knowledge and evidence, Vanderbilt Nursing continues its commitment to excellence. We will explore new ideas and learn together. Moreover, I hope that each of you will be motivated to use and create new evidence in your practice!



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# How to find the literature at VUMC

**The Vision** This recurring article will focus on searching and critiquing the literature, teaching the skills required to “see” relevant findings and synthesize the evidence.

The definition of Evidence-Based Practice (EBP) varies amongst health-related disciplines.<sup>1-4</sup> Regardless of the discipline, EBP consists of a trio of concepts such as expertise, patient/community values and preferences, and evidence/research findings with the ultimate goal of improving outcomes by implementing interventions that are appropriate, effective and coordinated efficiently. The articles in this column will focus on the evidence portion of the triad and provide guidance on finding, evaluating, and applying it. By doing so, it is the author’s goal to demonstrate how today’s health sciences libraries assist researchers and practitioners in creating and sustaining an evidence-based culture.

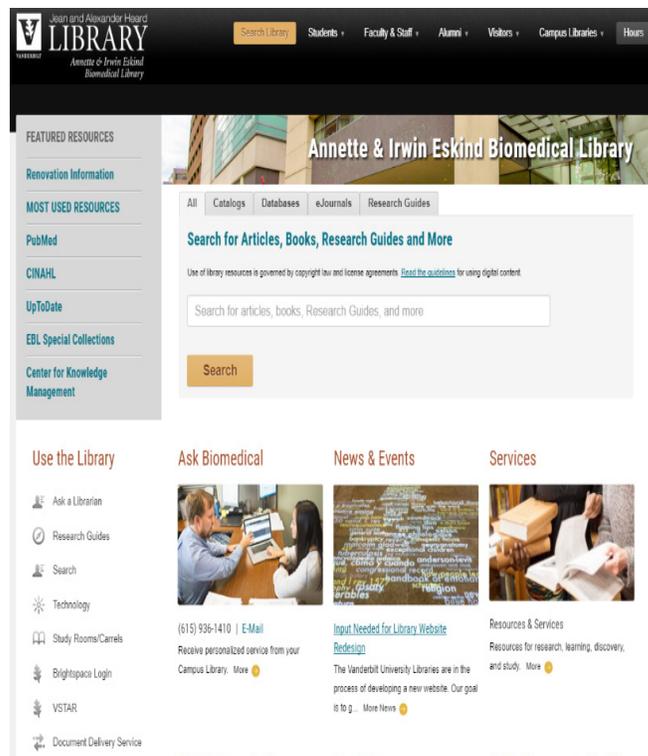
This column is dedicated to informing readers of the library’s role in the context of evidence-based practice. Future articles will discuss developing a clinical question using the PICO (Population, Intervention, Comparison, Outcome) Framework, identifying evidence-based resources, choosing the right resource, searching the literature, evaluating the literature, and the various tools to stay abreast with the literature and managing the literature.

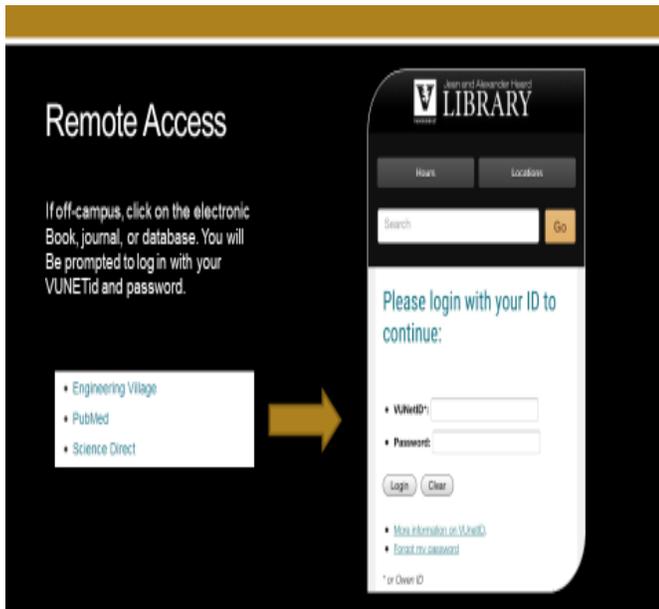
Several articles will focus on training by providing tips on using the major evidence-based resources (such as PubMed, CINAHL, EMBASE, National Guideline Clearinghouse, Nursing Skills, Clinical Key/Clinical Key for Nursing, Cochrane Library, PsycINFO, TRiP Database, and UpToDate). Additional articles will be devoted to understanding the types of evidence available within these resources and how to efficiently limit your search results to find them.

The following publication types are classified as evidence: expert opinions, case study/case reports/case series, cohort studies, clinical trials,

randomized controlled trials, critically-appraised article synopses, critically-appraised topics syntheses, guidelines, meta-analyses, and systematic reviews.

Before we get into searching details, it’s helpful to cover a few basic things about the library’s website. The Eskind Biomedical Library’s web address is <http://library.vanderbilt.edu/biomedical/>. There are links to three of our most highly-used resources, PubMed; CINAHL; and UpToDate, on the left side of the homepage. There are additional resources located on the MOST USED RESOURCES page. Print and Electronic items may be found by clicking on the Catalogs tab. Online databases and Journals can be searched by clicking on the databases or journals tabs, respectively. (See Figure 1)





Google Scholar users are advised to access it through the library's website in order to access the full-text articles from your search results. It can be found in the databases tab or by clicking 'G' on the databases list.

There is also a link on the MOST USED RESOURCES page.

In between journal issues, please feel free to contact the ESKIND Librarians for recommended EBP readings, training, or research project consultations.

During the current library renovation, we can be contacted by phone (615-936-1410) or the online Ask ESKIND form, <http://library.vanderbilt.edu/biomedical/ask-librarian.php>.

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Eskind Biomedical Library building is currently under renovation, it will re-open August 2018. ESKIND is currently available through the VUMC home page link for searching. Philip is on campus daily with the other librarians and available via email, telephone or in person.



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# How do we ensure the safety of human subjects in research?

**The Heart** This article will examine the ethics in research. How do we ensure the rights and welfare of human subjects are protected. This crucial concept is at the heart of nursing research.

Research, when involving humans as subjects must be reviewed and approved by an Institutional Review Board or Institutional Ethics Committee. This governing Board's or Committee's roles and responsibilities are outlined in the federal regulations under 45 CFR 46 and adopted by multiple federal agencies, thus referred to as "The Common Rule". It is a basic set of principles, codified as regulations, and implemented by academic medical centers, commercial entities and many other entities that are willing and capable to register with the federal government to review human subjects research.

The foundation for the existence of the regulations are the results of history's acts of abuse and experiments gone wrong. The Nuremberg Trials, the Thalidomide effects, and the Tuskegee Syphilis Study are the main catalysts for the creation of the regulations however, history is riddled with examples even up to the present day. Following these "studies gone wrong", a Congressional Commission was created to pen "The Belmont Report". It is the cornerstone on which the regulations are built.

The Belmont Report outlines 3 basic ethical principles:

1. Respect for Persons;
2. Beneficence; and
3. Justice.

**Respect for Persons:** One of the most common ways to accomplish respect for persons is through the consenting process. It is important that subjects are fully informed and freely give their consent to participate. When potential subjects have limited autonomy, this becomes more challenging. Additional protections for vulnerable populations such as children or prisoners are among the populations considered to be vulnerable and require added thought and care to the consent process. To assure effective informed consent, there must be information provided in a manner understandable to the subject which can vary depending on cognitive ability and age. Assuring comprehen-

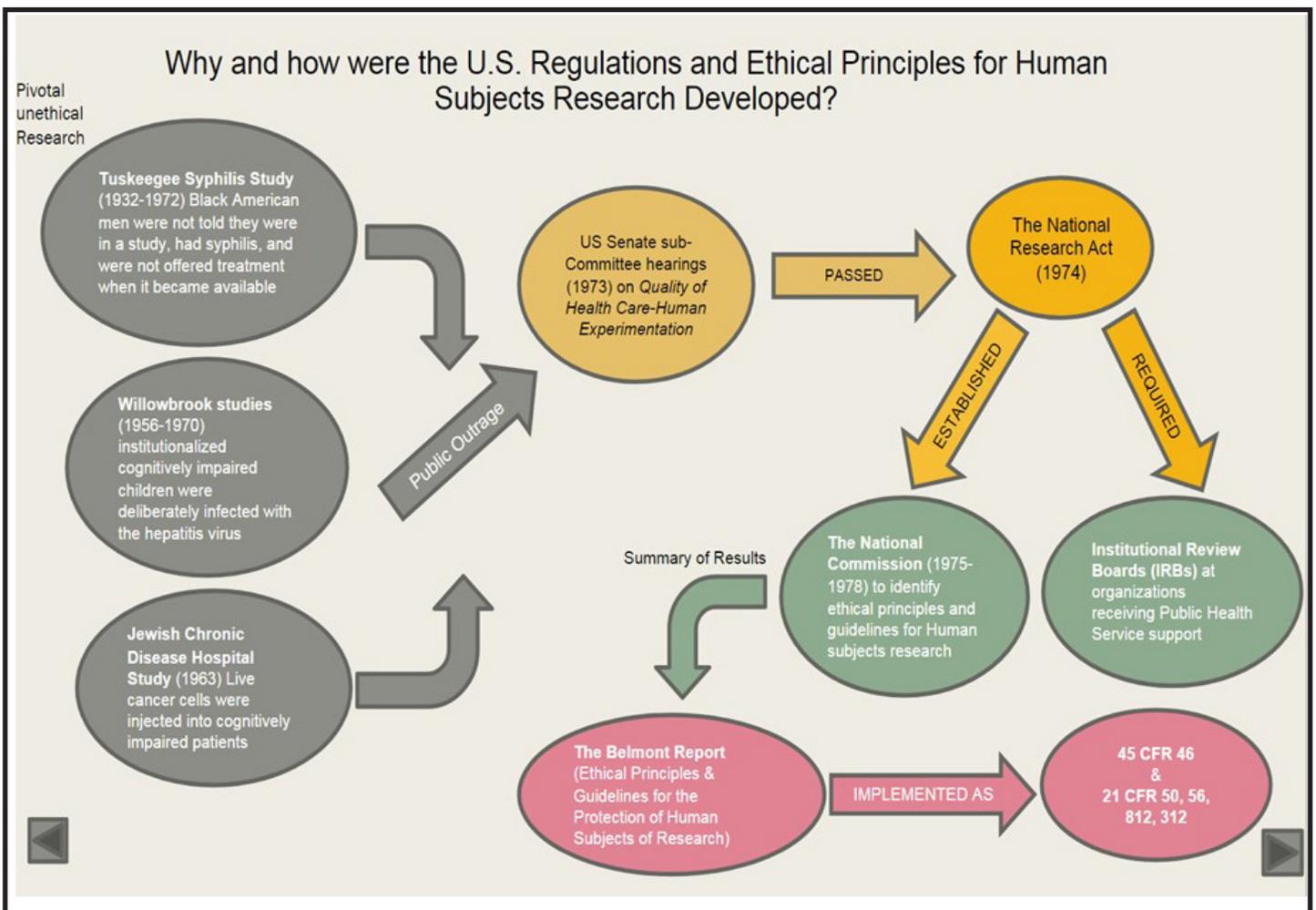
sion is critical in the consent process and can be achieved by careful dialogue during the consenting process as well as providing adequate time for consideration.

**Beneficence:** As a Site Visitor for AAHRPP (accreditation for IRBs) I often ask researchers when I visit their institution, "What types of things do you consider when designing research that assist in human subjects protections?" Most of the answers I get fall in line nicely with the criteria for approval written into the Common Rule. One of the main criteria is designing research so the risks are outweighed by the benefits or incorporating beneficence. This can be accomplished many ways for example, utilizing data from interventions that are already occurring as a part of healthcare rather than exposing subjects to additional interventions only for the sake of research. Take for example, a study of a new MRI scanning sequence. Instead of enrolling healthy volunteers to test the sequence, you might choose patients who are already undergoing a scan for another reason and add the new method in as one additional scan at the same time. Another way might be to compare existing data in a retrospective manner rather than prospective data collection provided the interventions would occur anyway. This is frequently seen in comparative effectiveness research.

**Justice:** One of the considerations for approval is to assure recruitment of the correct population and correct size to answer the research question. This principle is justice. Justice requires equitable selection of subjects such as selecting a diverse sample of the population rather than selecting one class of people just because it might be easier to get them to agree to participate. This further allows a broader distribution of potential benefits as well as burdens. For example, it would be unjust to exclude a population from participation because they do not speak the same language.

While there might be some issues in translation, denying that population the opportunity to participate is unjust. Justice can also be considered in the context of lack of accrual to a study. It is important to contemplate the targeted population and the feasibility of meeting the accrual goal. For example, if you have a study's accrual goal of 100 and the study requires radiation exposure through a CT scan for research. If only 20 participants are placed on the study and the study is closed, is it just to have exposed 20 people to radiation in a study that will likely not answer the research question.

These foundational concepts are at the root of the Common Rule's criteria for approval and provide a guideline for the ethical conduct of research. Consideration of these concepts applied to each research project during the planning phases can assist in creating ethically sound research.



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# Measure meaningful outcomes: Quality of life assessments in clinical trials

**The Body** This article explores research methodology that provides the framework for research projects just as the skeletal system provides the framework for the human body.

All clinical research studies have designated outcome measures to evaluate the impact of the intervention (drug, biologic or device) on the disease process. Examples of common outcomes may be improved laboratory tests (i.e.-decreased viral load or improved hepatic function), improved drug absorption (PK levels, plasma auc, etc), decreased drug toxicity (serious side effects) or even functional outcomes (improved cardiac output or vital lung capacity) or health care economics (costs).

While these are very important measures of health, overall wellness of an individual is more than just the physiologic state. Holistic approaches to health encompasses overlapping states of physical, spiritual and emotional health. Evaluation of the individual's quality of life is increasingly recognized as important endpoints in oncology clinical trials (1-4). However, quality of life questionnaires (QOL) are not routinely included in outcome evaluations. Without use of these measures, it is almost impossible to detect or measure the sometimes debilitating side effects in relationship to increased life expectancy/survival a treatment may offer. This information needs to be available to patients and healthcare providers when evaluating treatment options. Impact of a disease on social activities in addition to physiological state can be measured through use of valid and reliable instruments that measure this aspect of quality of life specific for the patient group (developmental level, etc). Ideally, QOL measurements should be self-report, brief with the ability for completion by proxy.

There are mysteries and phenomena that may be discovered through comparison of QOL

to physiologic measures.

In 1985 a clinical trial evaluating a drug for coronary artery disease and angina patients, physiologic measures (cardiac echo and cardiac output) were decreasing while the QOL measures increased. Further investigation into this inverse relationship lead to the discovery of the first erectile dysfunction medication (sildenafil citrate) developed by Pfizer (5). This discovery demonstrates undetected "side effects" may become more apparent through evaluation and measurement of patients' perception of quality of life.

A final thought- if we are not improving the quality of our patients' lives with new drugs or treatments; arguably, we are not improving the outcomes that may be the most important to them.

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- (2)Aaronson NK, AhmedzaiS, BergmanB, BullingerM, CullA, DuezNJ, et al. The European Organization for Research and Treatment of Cancer QLQ-C30: a quality-of-, 6 June 2005 Pages 680–691



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# Why do we use statistics?

## The Mind

This article will expand upon better understanding of interpreting statistical results and application.

All those symbols and numbers – it is sometimes hard to make sense of it. A simple definition is the statistics make sense out of numbers or data; statistics puts it in a useable form.

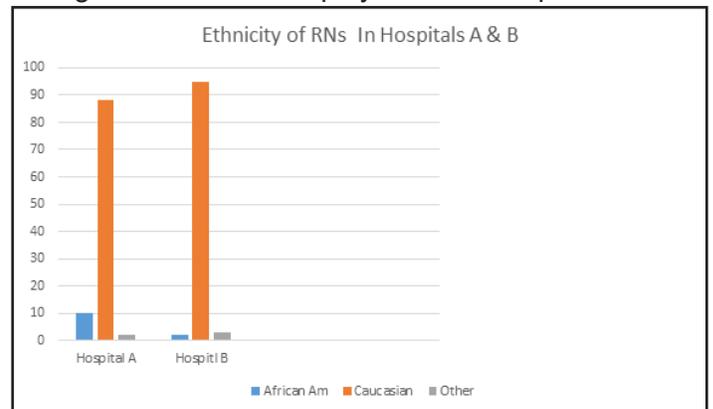
Use for what? There are 2 types of statistics commonly used today – descriptive and inferential. Descriptive statistics describe variables. Demographic characteristics (e.g., age, gender, ethnic background) are collected to describe the group providing the information. Descriptive statistics also are used to describe variables such as behavior, attitudes, vital signs and length of stay. Descriptive statistics give us a mental picture of how the data are distributed.

An example of a descriptive statistic you would be interested in if you follow the Tennessee Titans is rushing yards/carry. In the current (2017) season, the Titans averaged 4.1 yds/carry versus 3.6 for their opponents. With those stats, why didn't they win more games?

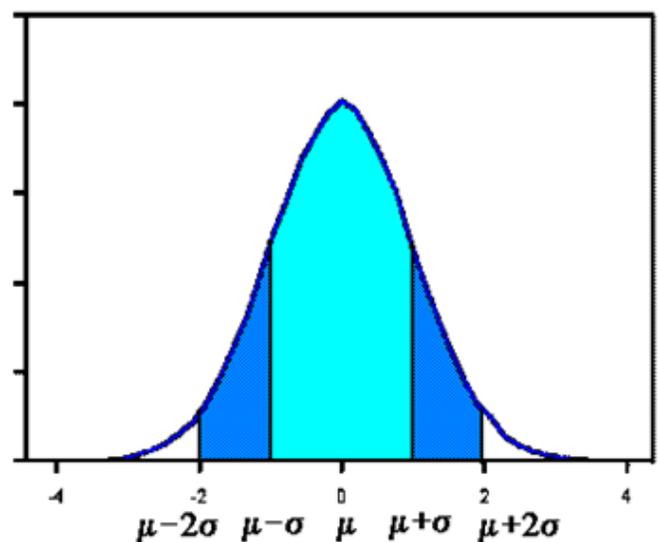
Descriptive statistics give us an idea of the people who have provided data – the sample or population – and the variables obtained. These numbers tell us how similar – or different – the study sample is from our patients or us.

When information is collected by category, such as gender or ethnicity, percentages are used to describe the sample. For example, a national survey of Registered Nurses (RNs) found 75.8% Caucasian or white and 11.5% African American or black. The remaining 12.7% include all other ethnic backgrounds. Percentages are important as a common metric for groups of varying sizes. For example, if you have 10 African American nurses in Hospital A with 100 nurses and Hospital B with 500 nurses, the raw numbers are the same. However, the percent's vary quite a bit – 10% African American RNs in Hospital A versus 2% in Hospital B.

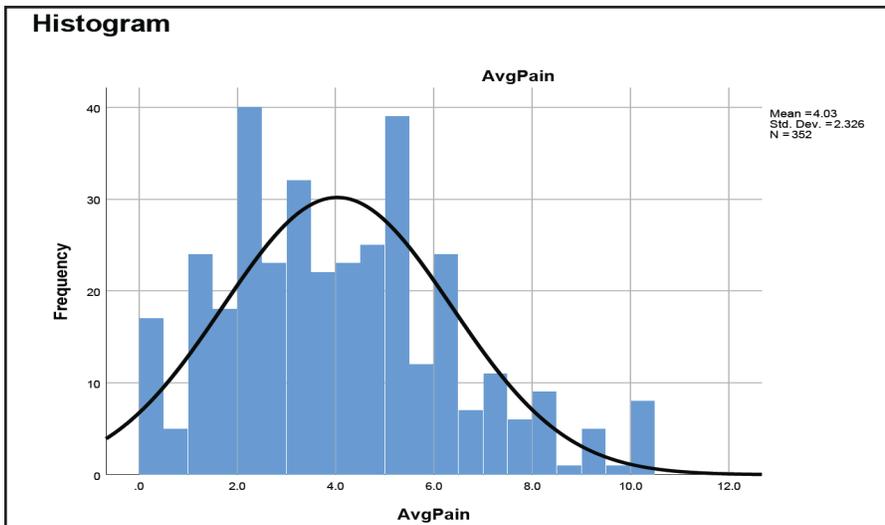
Categorical data are displayed as bar or pie charts



Continuous data, such as age or heart rate, are described by measures of central tendency (mean, median and mode) and dispersion (Standard Deviation (SD) and range). The mean is the average of the scores (sum of scores/number of scores); the median is the value that splits the scores in half, and the mode is the most frequent value. The SD measures the distance of each score from the mean; it tells us how much variation is present in the data set. The SD and range reflect the distribution of the values. The ideal distribution is the normal or bell curve.

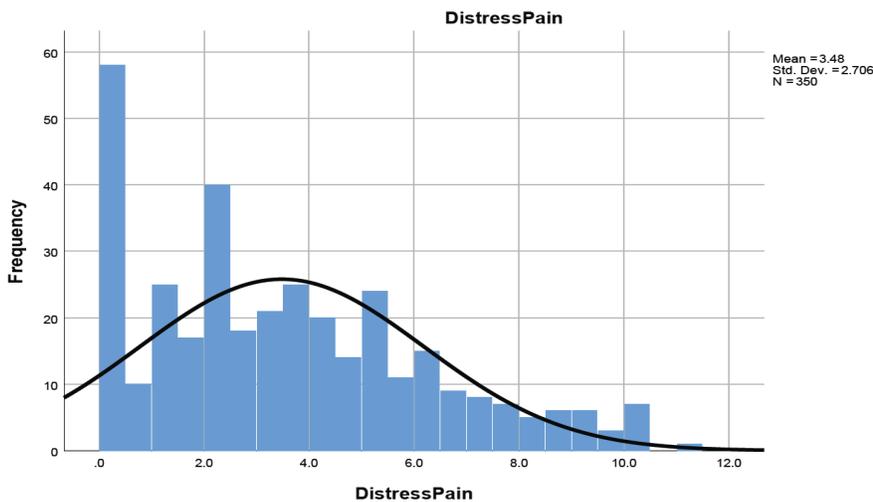


In research, however, we rarely have a normal curve. Understanding the distribution gives a better picture of the data. It also determines the type of inferential statistics, which I will discuss in the next issue. Below are 2 different distributions.



Variable	Mean	Median	Mode	SD	Range
Daily pain	4.03	3.85	5	2.33	0 – 10

The histogram above (daily pain) has a curve where the majority of the values are below 3.85 (median) but the largest of the values is 5.



Variable	Mean	Median	Mode	SD	Range
Daily distress	3.48	3.0	0	2.71	0 - 10

The distribution (daily distress) has a flatter curve with a pile up of data at the lower distress scores. Similar to the daily pain scores, the median is below the mean, but in this distribution, the mode is 0. The standard deviation (SD) at 2.71 also suggests the distribution of daily distress scores is skewed. The next time you read a statistic-mean, range, percent-visualize the variables they describe. It is as simple as that!



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# Aromatherapy in the Clinical Setting: Making Sense of Scents

**The Hands** Submitted by VUMC nurse researchers- from the hands of nurse scholars.  
Abstract submitted to ASPAN National Conference 2017

Aromatherapy is an age-old therapy designed to alter mood and symptoms. It has gained popularity as complementary and alternative therapies that are safe and cost effective. As the evidence of its effectiveness has grown, nurses have increased use of these essential oils to manage their own stress as well as the stress/anxiety of their patients. This article describes the basics of aromatherapy and two IRB-approved studies we conducted to begin to build the evidence of its effect on both nurses who work in clinical settings and their patients.

## Basics of Essential Oils

Aromatherapy, or essential oil therapy, is “the art and science of utilizing naturally extracted aromatic essences from plants to balance, harmonize and promote the health of body and mind”, according to the National Association for Holistic Aromatherapy (REF). Essential oils are volatile, aromatic compounds found in various parts of the plant – stems, leaves, roots, and seeds. Each essential oil with hundreds of chemical components is unique and versatile. There are thousands of essential oils identified to date. Selecting the appropriate oil will depend on the desired therapeutic effect. The versatility of the oils also allows for options based on preference and application. Therapeutic grade oils will meet criteria such as indigenous sourcing for potency and stringent testing for purity.

Essential oils may be used internally, topically or aromatically. For the purpose of our studies, we chose an aromatic model – scent diffused into the air via a diffuser. Through our sense of smell, essential oils affect our physiology, emotions, and behavior by

stimulating hormones and neurotransmitters. Aromatic use is highly effective and can be applied to any of the essential oils in moderation. Until recently, scientists had underestimated the influence aroma can have on health.



Photo Credit: Juli Reynolds



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## Formal transition program may increase transition readiness, independence and self-confidence in young adults living with congenital heart disease: a prospective cohort

Abstract submitted to ANCC Magnet National Conference 2018

Gretchen Jayawardena RN; Jennifer Koonce ACNP-BC; Nancy Wells DNSc RN; Elizabeth Card FNP; Ben Frischhertz MD; Larry Markham MD

**Introduction:** Survival to adulthood with congenital heart disease (CHD) is expected. Unfortunately, a significant loss to follow-up occurs as these patients transition from pediatric to adult care. It is postulated that adolescents may not fully understand their disease process and the importance of regular monitoring. A program, focused on transition of adolescents and young adults from child-centered to adult-oriented health care systems, may prevent unnecessary attrition. A formal transition program for adolescents with CHD has been created. This study evaluates the effectiveness of this transition program's ability to increase transition readiness, knowledge of condition, and compliance among adolescents and young adults with congenital heart disease.

**Method:** This prospective cohort study evaluates CHD patients between the ages of 16-25 years. Participants were placed in an intervention group (those who have participated in a formal transition visit with a nurse practitioner) or a control group (those entering adult care without a formal transition visit). Subjects completed anonymous electronic surveys collecting demographics with the valid and reliable instruments: My Heart scale, and Transition Readiness Assessment Questionnaire (TRAQ) data. The intervention group completed this comprehensive survey before and after their transition visit. The control group completed the comprehensive survey at their initial ACHD appointment. This study was approved through the Vanderbilt Institutional Review Board.

**Results:** 29 patients have been enrolled in this study (N=13 intervention group and N=16 control group). Participants in the intervention group were more likely to complete their survey without the help of others (parent, etc) (92% vs 63%;  $p=0.074$ ) and felt more ready to manage their own health (85% vs 31%;  $p=0.059$ ) than the control group. The intervention group was also more likely to correctly identify the need for SBE prophylaxis (77% to 63%;  $p=0.336$ ), correctly explain why antibiotics were needed (85% vs 69%;  $p=0.292$ ) and correctly identify the need for lifelong cardiology care (85% vs 75%;  $p=0.435$ ). Notably, patients who underwent a transition visit had more confidence to explain their heart defect (92% vs 56%;  $p<0.05$ ). The study is following the intervention group to determine retention. Enrollment is on-going with the expectation that a larger sample size will lead to additional significance.

**Conclusion:** Advance practice nurse-led transition visit can be clinical and research focused. Such a program is associated with increased knowledge level, transition readiness, independence and confidence in CHD patients transitioning to adult care. Further work is in process to determine the retention of knowledge.



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## The hands that cradle or the hands that harm: A pilot study comparison of modern-day parent adverse childhood event scores

Abstract submitted to ANCC Magnet National Conference 2017

### Highlights

- Recruitment of parents or caregivers of hospitalized children who are suspected of abuse or neglect is challenging; 48% of the adults approached refused to participate.
- Of the original 8 ACEs items, only 1, psychological abuse, was higher in the current sample than the landmark CDC and Kaiser Permanente study conducted in 1998 (Anda et al., 1998).
- The data suggest that income may be an indicator for ACEs exposure in this high risk, subset population.

### Abstract

#### Purpose

The purpose of this study is to address the concept of intergenerational ACEs transmission throughout families and compare parent ACEs scores to the sample of the landmark study conducted by the CDC and Kaiser Permanente (Anda et al., 1998).

#### Design and Methods

This study primarily aims to measure the ACEs scores of parents or caretakers of patients who are suspected of abuse or neglect as compared to the sample of the landmark ACEs study (Anda et al., 1998). This descriptive study utilizes the "Finding Your ACE Score" questionnaire to determine the ACEs scores of participants.

#### Results

The majority of individuals in the study experienced exposure to ACEs, with 87% of participants having experienced some form of ACEs exposure. Overall exposure data were similar to the landmark ACEs study (Anda, et al., 1998). Statistical significance was found when comparing ACEs scores to income level ( $p = 0.051$ ).

#### Conclusions

This study confirms previous findings of ACEs-related literature, demonstrating that ACEs are prominent in this population subset. In addition to confirming findings of the landmark ACEs study, this study found a significant amount of ACEs exposure in regards to the additional questions of the "Finding Your ACE Score" questionnaire.

#### Practice Implications

This study presents practice implications for understanding how and why data regarding intergenerational ACEs transmission is difficult – although not impossible – to obtain. Additional data regarding intergenerational ACEs transmission might influence how health care and public health providers deliver family-specific assessment, treatment, and prevention of ACEs transmissions throughout generations of family members.



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# Interprofessional Team Management: Partnering to optimize outcomes in diabetes

Abstract submitted to NCNP National Conference 2017

## Abstract

In striving to provide patient-centered, clinically efficacious, cost-effective care to medically complex adults with diabetes, a health care organization enlisted the diverse expertise of an interprofessional team that included a nurse practitioner who collaboratively guided weekly team huddles, directed ongoing coordination of comprehensive care plans, and orchestrated timely access to appropriate care settings and in-home and community resources. Using a pre/posttest design, participants (N ¼ 52) whose complex care was managed by an interprofessional team reported an increase in self-care behaviors, better health-related quality of life, improved physiologic outcomes, and a reduction in use of emergency and acute care services.

## Introduction

Chronic conditions, such as diabetes, account for more than 66% of total health expenditures, and individuals with multiple comorbidities utilize 7 times more resources compared to those with only 1 chronic condition.<sup>1</sup> As persons with diabetes are at increased risk of developing concurrent comorbidities with multifaceted needs, interventions beyond what traditional primary care can provide are required.

Endorsed by the Institute of Medicine (IOM), interprofessional team-based care offers a feasible, cost-effective alternative to the delivery of traditional primary care, especially for complex patients with multiple chronic conditions.<sup>2</sup> Primary care, as defined by the IOM, is the provision of accessible, integrated health services by accountable clinicians, among them nurse practitioners (NPs).<sup>3</sup> Consequently, a NP-led, quality improvement collaborative can optimize diabetes care, improve quality of life (QOL), and render positive, quantifiable clinical outcomes.

With their innate abilities to collaborate and coordinate, NPs are well positioned to influence and compel the delivery of cost-effective, clinically efficacious, value-driven primary care. With increasing emphasis on effectiveness of interprofessional teams, over 50% of family physicians now include NPs as valued team members.<sup>4</sup> With 83.4% of NPs board certified in primary care and averaging 12 years of experience, they can provide leadership, promote interdisciplinary collaboration, and direct primary and long-term care coordination and management.

The aim of this study was to examine the impact of an interprofessional, patient-centered approach that includes NP-directed care coordination and management for medically complex adults with type 2 diabetes. Through self-report, study participants (N ¼ 52) evaluated health-related quality of life (HR-QOL) and self-care behaviors (SCBs) before and after interprofessional management. Pre and post costs of care and attainment of physiologic indicators according to industry benchmarks were also compared to evaluate team care model efficacy.

Motivated by health care reform, rising care costs, an aging population, and the burden of chronic disease, a managed care organization scrutinized its care structure, processes, and outcomes. In early 2010, this managed care organization enlisted the diverse expertise of an interprofessional team to care for its medically Comprehensive Care Center (CCC). Of the CCC's 420 initial patients, 65% had a primary diagnosis of type 2 diabetes with multiple, concurrent disease states (GEMCare Health Maintenance Organization, unpublished raw data, 2012).

## THE INTERPROFESSIONAL TEAM

The interdisciplinary team included 1 internist/geriatrician, 1 family/geriatric NP, 2 registered nurse case managers (RN-CMs), 1 clinical pharmacist (PharmD), 4 licensed clinical and medical social

workers (LCSWs and MSWs), 1 palliative nurse, 1 health educator, and 4 medical assistants (MAs). With each having separate clinic schedules, the physician and NP managed dedicated patient panels. Of the 52 study participants, 38 (73%) were patients whose interprofessional care was managed solely by the NP.

## METHODS

### Setting and Sample

An outpatient, ambulatory clinic provided the setting for the study. Of the 420 CCC patients, 126 were eligible according to the inclusion criteria: adult male or female diagnosed with type 2 diabetes; cognitively capable of directing or completing self-care and questionnaires; not in hospice; and able to travel to the clinic. Of 60 eligible participants, 52 complete data sets were analyzed, which comprised the convenience sample. A pre/post test design evaluated the impact of team management on outcomes from the time of a participant's clinic admission to late June 2012. It was hypothesized that interprofessional management would positively affect HR-QOL; SCB; the physiologic variables of body mass index (BMI), blood pressure (BP), glycated hemoglobin (HbA1c), and lipids; and care costs.

### Interprofessional Care Coordination Intervention

Team huddles are an effective strategy to support team communication and care coordination.<sup>6</sup> Whether scheduled weekly or interspersed throughout the clinical day, these essential collaborations support efficient, productive clinic visits; timely problem solving; and appropriate resource utilization promoting patient satisfaction and optimal outcomes.

Weekly team huddles, held every Monday morning before start of the clinic day, provided a structured opportunity to discuss and formulate strategies for patients scheduled for follow-up that week. Patients with ongoing challenges were also discussed and added to a provider's clinic schedule, when needed. Such care management supported patients' continued independence, safety, and adherence to averting acute care services.

Team communication and collaboration extended beyond weekly huddles. Before seeing a patient in

the clinic, the NP and involved team members would discuss events or interventions (hospitalizations, emergency department visits, and procedures) experienced since the previous clinic visit. Although informal and frequent, these critical discussions extended into the exam room for patient and family inclusion. Such "shared visits" promoted understanding, engagement, and collective decision-making.

Outside of huddles, each team member had a specific focus and role. Whether facilitating a cardiology referral or in-home hospice consult, the RN-CM constantly communicated to provide the right care, at the right time, in the right place. When assuming a new patient for case management (CM), a face-to-face meeting with the patient and family communicated available CM support and provided information on who to call for any need or concern, day or night. This "24/7 lifeline" permitted timely phone assessment and symptom management instructions, which frequently nullified the need for acute care. When required, the RN-CM would consult the patient's provider, also readily accessible by phone 24/7. Before and during a visit, the PharmD would reconcile medications, review drug-to-drug interactions, and collaborate with providers to optimize pharmacotherapy. As 50% of patients are nonadherent, interventions that enable adherence could reduce care costs.<sup>7</sup> Patients frequently returned for a visit solely with the PharmD to clarify or reinforce information.

Patients with complex, long-term medical needs have congruent psychosocial challenges that interfere with QOL and adherence. The LCSWs and MSWs assessed patients upon admission and suggested appropriate interventions or resources. During shared visits, the SWs lent support and guidance when sensitive issues were discussed. Patients with ongoing needs would be seen before or after a visit or for one-on-one counseling sessions between scheduled visits. By lessening psychosocial barriers, patients could more actively participate in decision-making and self-management.

Nurses helped patients understand their disease and use interventions to alleviate pain and suffering. Cognizant and respectful of literacy and unique learning needs, the health educator provided relevant information and therapy demonstrations. Lacking basic information or self-care skills, many patients expressed appreciation for structured, individualized education.

By promptly greeting and rooming patients, locating diagnostic results, administering provider ordered treatments, placing calls to pharmacies, and completing discharges, the MAs were essential to patients' positive clinic experiences. Each provider had a designated MA aiding continuity for familiarization with each patient's unique needs.

With a broad, encompassing role, the NP, like the physician, was accountable for providing high quality, evidence-based care, attaining industry benchmarked outcomes, judiciously utilizing resources, and assessing and intervening to preserve well-being and avert acute care utilization. Both providers were responsible for promoting a functional team through effective communication, professionalism, and respect for each discipline's expertise and contributions.

In a usual clinic day, the NP would see 16-22 scheduled and unscheduled patients, as any with acute needs were seen same day. Newly discharged hospital patients were seen within 24-48 hours to reconcile medications, clarify self-care, and verify new or continuing in-home services, consults, or therapies.

A critical contribution was the NP's ability to "connect" with patients and establish and maintain an open, nonjudgmental, therapeutic relationship. Allowing patients and families a safe, unrushed, and unconditional environment to share fears and express concerns was essential in breaking down barriers created during previous negative care experiences.

In one study exploring patient and family perceptions, team effectiveness and care processes were enhanced when NPs were added.<sup>8</sup>

## OUTCOME MEASURES

### Self-report

Outcomes were assessed through measurable changes in HR-QOL and SCBs, defined as values noted upon CCC admission and at the project's conclusion in June 2012. The 36-item Short Form Health Survey evaluated perceptions of physical, mental, social/role functioning, energy/fatigue, pain, and general health.<sup>9</sup> LaGreca's Self-Care Inventory—Revised assessed perceived adherence to diet, glucose monitoring, medication adherence, exercise, hypoglycemia management, and preventive care.<sup>10</sup> Random phone surveys accessed patient satisfaction.

### Physiologic Indicators

The Healthcare Effectiveness Data and Information Set and the American Diabetes Association provided industry benchmarks for physiologic indicators such as BMI, BP, HbA1c, and lipid values.<sup>11,12</sup> Retrospective review of participants' electronic health records (January 2012) provided baseline values that were compared with values collected at the conclusion of the 5-month study (June 2012).

### Cost

Historical in- and outpatient data compared pre/post costs of care to determine the effectiveness of interprofessional management. Each participant's monthly and annual utilizations of care services were also tracked.

## RESULTS

Over 50% of study participants reported statistically significant improvements in physical function, emotional well-being, pain, and energy/fatigue. Although 40% reported improvements in all SCBs, 60% reported statistically significant enhancements in glucose, insulin, and food regulation. Regarding HbA1c levels, 75% of participants exhibited a mean reduction of 0.68%. Attainment of industry benchmarks for diabetes care and statistically significant reductions were also noted for BMI, HbA1c, BP, and triglyceride levels. When care costs among all CCC patients (including all study participants) were examined, there was a 37% decrease in emergent visits and a 38% reduction in acute care utilization, including hospital admissions and readmissions.

Patient satisfaction averaged 4.7 on a 1-5 scale (GEMCare Health Plan 2010 fiscal report, unpublished raw data, 2011).

## CONCLUSION

By re-engineering traditional care delivery, positive care outcomes can be achieved and fiscal and human costs associated with chronic disease, frequent exacerbations, and debility can be reduced. Patients can optimize physical and emotional well-being while the health care industry generates vital cost containment. Interprofessional management of high-risk adults with diabetes yielded measurable improvements in HR-QOL, SCBs, physiologic indicators, service utilization, costs of care, and patient satisfaction. Serving as primary care providers, a NP and physician effectively partnered with team members to ensure timely, appropriate access to care and resources.

## PRACTICE IMPLICATIONS

Interprofessional care models, in which NPs are core members, can organize and direct delivery of comprehensive, holistic, integrated care. Increased utilization of NPs in planning and implementation of such care models may produce significant, measurable results to health care systems and consumers. In addition, NPs must openly advocate for role optimization to ensure patients' timely, unfettered access to high-quality, efficient, cost-effective care.

In a value-based care environment, quantifiable and sustainable quality outcomes support organizational viability and financial solvency, and enhance market and vendor competitiveness. With decades of demonstrated positive outcomes, NPs practicing to the full extent of their education and training can competently and safely direct chronic care management. As contributions to care outcomes continue, NPs must disseminate findings to colleagues, federal and state legislators, health care plans, consumer advocacy groups, and health care consumers. Supported by the evidence, NPs can educate system administrators, physicians, and other decision-making stakeholders about the abilities of NPs to proficiently lead interprofessional teams as primary and chronic care providers, resource coordinators, and patient and family advocates. Outcome validation

must continue as NPs expand practice into community-based areas, such as patient-centered primary care or medical homes, home health, and retail and concierge services.

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# Joining Forces to Turn: Elevate Outcomes in the ICU with a Shared Lift Team Model

Abstract submitted to ANCC Magnet Conference 2017-podium presentation.

In 2014 the RN's were responsible for nearly all of the bedside care for these busy ICU settings with minimal nursing assistant support. Elevated unit acquired pressure ulcer rates, staff dissatisfaction with being able to provide excellent patient care and employee injury rates led staff to recommend forming a combined lift team for MICU and CVICU.

This collaborative unit-based initiative brought together staff, nursing leaders, educators, quality, human resources, research and safe patient handling to forge a Lift Team to improve outcomes.

## Strategy and Implementation:

We assembled a team to plan the implementation and evaluation of the Lift Team. Allocated funds for nursing assistant positions from both units were pooled. The goal of the Lift Team was to turn all appropriate patients every 2 hours; this means that the team would spend 1 hour in MICU and the next in CVICU. The number of FTEs needed were derived from the goal and the size of the units (anticipated workload). Human Resources assisted with the development of the job description, posting and hiring into the new position. Educators prepared an orientation for the new Lift Team members, keeping in mind this is an entry-level position and may attract people not familiar with health care. Evaluation of key variables was planned, including \*(1) unit-acquired pressure ulcer rate, (2) ICU staff's satisfaction with the Lift Team support, \*(3) Lift Team satisfaction with role and integration into unit, and (4) patient handling injuries. Six Lift Team members were hired and oriented, and the team began working in Oct., 2015.

## Evaluation/Outcomes:

A 44% reduction in Stage 2 or above unit acquired pressure ulcers was found 1 year post-implementation.

There was a significant improvement in staff satisfaction with "support to move my patients" and "can turn as prescribed" from baseline to 6 months; satisfaction dipped slightly at 1 year post-implementation.

All of the Lift Team members felt their job had meaning and contributed to patient care.

Two patient handling injuries occurred in the year prior to implementation; no injuries have occurred since the launch of the Lift Team.



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# Improving Pediatric Perioperative Discharge Teaching

Abstract submitted to ANCC Magnet Conference 2017 and poster presented.

## Program Description

This presentation describes findings from a single site research study examining pediatric patient and family satisfaction with post-discharge teaching started preoperatively (in the holding room).

## Background

Pediatric patients and patient's families typically experience significant physical and psychological stress prior to the child's surgery resulting in high levels of anxiety, worry, and uncertainty about surgery. There is research to support patients and families understanding the surgical process and expectations can decrease anxiety and stress. Our discharge teaching practice involved providing family teaching post-operatively in the Post Anesthesia Care Unit (PACU). We noticed our GI patient and family satisfaction survey scores related to discharge instruction had decreased to 67.8% from our ongoing patient satisfaction survey. We used this as an opportunity to examine our current practice. We wondered if implementation of discharge teaching pre-operatively in the Holding Room (HR) would increase patient and family understanding, knowledge retention and satisfaction.

## Action taken

A pre-implementation knowledge assessment was conducted with 20 parents and families the day following the child's procedure. This assessment examined retention of information and learning preferences through 5 questions. The knowledge assessment results were shared

with our staff. In response to these data, we developed a new discharge teaching process to be performed pre-operatively in the HR for pediatric patients undergoing EGD and/or Colonoscopy. This new procedure would allow for multiple exposures to the knowledge by the patient and family in a quieter environment without distraction of post-procedure discomfort or sedation.

Two weeks after implementing pre-operative discharge teaching the same knowledge assessment was completed with another 20 parents and families the day following their child's procedure using the same 5 questions.

## Outcomes and take aways

Family preference for teaching pre-operatively in the holding room was evident. Parents/families were able to restate 2 or more items from discharge teaching when performed pre-operatively. GI patient satisfaction scores related to discharge instruction has now increased to 72.7% after we implemented this new procedure. Prior research findings supports comprehensive discharge instructions are associated with higher patient satisfaction and lower readmission rates. This presentation provides evidence to support initiating discharge teaching preoperatively in order to promote greater recall of instructions and increased pediatric patient and family satisfaction.



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# Poster Submissions

- 25 Pain Management Communication for Non-English Speaking Postpartum Patients  
Julia Yao, BSN, RN



- 30 Tonsils with a Tune, Recovering with Rhythm The Effects of Music Medicine on Pediatric Adenotonsillectomy Postoperative Pain and Anxiety  
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- 26 Pain Treatment for Adolescents with Depression  
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- 31 Leading with evidence: ASPAN's synthesis of evidence for use by bedside nurses



- 27 Implementation of Lidocaine for Nasogastric Tube Insertion  
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- 28 Perceived Importance of Specialty Certification among orthopedic registered nurses



- 32 Case Study : iCast stent use in Interventional Bronchoscopy



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- 33 Nothing by Mouth: Eliminating Needless Deprivation in the Emergency Department



Traci Denton, MSN, RN, CCRN

# Pain Management Communication for Non-English Speaking Postpartum Patients

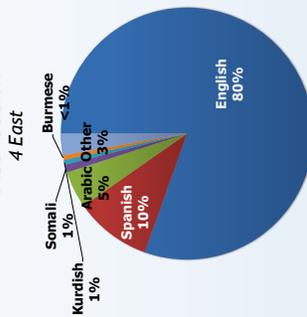
Julia Yao, BSN, RN; Michelle Browning, MSN, RN; Vicki Sandlin, MSN, RN, CCRP; Nancy Wells, DNSc, RN, FAAN  
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## -Introduction-

- Women interviewed about their memories of pain experiences throughout their lives report that the pain of childbirth was the most memorable pain they had ever experienced (Miven & Brodie, 1995)
- Pain assessment communication is the key function to provide comfortable, quality care, and increase patient satisfaction
- 4,165 obstetrical postpartum patients (OBPP) were seen at Vanderbilt University Medical Center between July 2011 and June 2012
  - Over 19% of OBPP had a language barrier
  - Nurses face challenges in communication

## FY12 Language Distribution

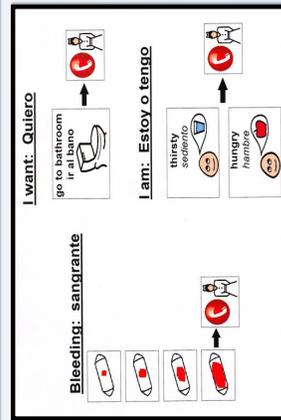
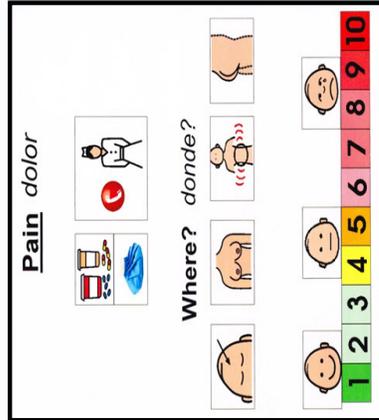


## -Purpose-

To determine if a visual chart improves communication about pain management in non-English speaking patients.

## -Methods-

- Pre-post evaluation
- Sample:** 30 non-English speaking patients
- Collected data on:
  - Language
  - Amount of analgesics received
  - Length of stay
  - Method of delivery
- Surveyed patients about the ease of use and helpfulness of visual chart



## -Results-

- Significant difference in amount of analgesics administered to patients
- Number of dosages of analgesics increased with use of the chart
- 100% agreed the chart was easy to use and helpful for communicating pain to the nurse

## Visual Chart Results

# of dosages of pain analgesics during length of stay

	N	Mean without chart	Mean with chart	Independent t-test
Ibuprofen	26	4.46	6.88	P = .001
Oxycodone	26	2.92	6.96	P = <.001
Total Analgesic Use	26	7.38	13.84	P = <.001

## Patient Survey Results

Category	Patient Response	
	Not Satisfied	Satisfied
Pain Management	0	23
How do you rate the visual chart?	Not Very Easy	Very Easy
	0	30
How do you rate the visual chart for helping you to communicate with the nurse for pain management?	Not Very Helpful	Very Helpful
	0	30
Pain Communication	Visual Chart	Interpreter & Visual Chart
	16	14

## -Conclusion -

- Visual chart is a useful tool for communicating with non-English speaking patients
- May improve barriers to pain management and control



# Implementation of Lidocaine for Nasogastric Tube Insertion

Greg Gladstone, BSN, RN

## Background

- A literature search revealed safety and efficacy for using Lidocaine for NG tube placement to decrease discomfort. (Mosby Nursing Skills)
- Insertion of an NG tube is uncomfortable and can elicit discomfort.
- Current practice doesn't require an order for an analgesic for NG tube insertion and it isn't typically used.
- All previous studies evaluated showed an increase in number of attempts for ng tube insertion when using lubricant only.
- Additionally the trials showed a decrease in complications of nausea, vomiting, gagging, epistaxis and blood pressure alterations.

## OBJECTIVES

- To assess the impact of a practice change (use of lidocaine & Afrin for insertion of NGTs) on patient pain, anxiety, satisfaction with procedure and staff perception of ability to change practice.
- The secondary goal is to share study results with Vanderbilt MD's and policy committee to implement using Lidocaine & Afrin for every NG tube insertion order.

## PROCEDURE OF IMPLEMENTATION

- IRB approval was obtained for the study, this approval allowed for waiver of consent.
- Distributed a voluntary anonymous survey to RN's assessing their perception and barriers to change practice
- Identified RN champions and gave instructions about the data collection form

## PROCEDURE OF IMPLEMENTATION

- Distributed protocol on Mosby's guidelines of NG tube insertion.
- Pre practice change, measured patients pain and anxiety on a scale of 0-10, vital signs prior to & immediately post insertion, number of attempts required for insertion and any complications with insertion to include nose bleeds, gagging.
- RN's will report the ease of placement on a scale of 0-10 scale (0 easy, 10 hardest).
- VUMC Pharmacist will complete nurse teaching on protocol using Afrin and lidocaine pre-NGT insertion.
- Identical measurements will be collected on 30 patients using Afrin & lidocaine with a 16FR NG tube
- RN's will complete pre and post procedure data and patient questionnaires and place it in a locked box located in the charge nurse office

## PRELIMINARY RESULTS

- Of 22/30 subjects completed with lubricant only, the average pain and anxiety level was 7/10. The average heart rate pre insertion was 86 and post insertion was 102.
- 17 subjects experienced a gagging and/or choking sensation.
- Several patients report a 9-10 on the pain and anxiety scale with insertion using lubricant only.
- Patients surveyed and of 16 of the most painful procedures they rated NG tube insertion as second, rated only behind arterial blood gasses. <sup>1</sup>

## IMPLEMENTATION AND FUTURE RESEARCH NEEDS

- Training of colorectal unit RNs by Pharmacist on proper administration of Lidocaine & Afrin Nasal Spray
- Compile data from pre and post NG tube insertion with Lidocaine Spray and compare to findings from the 30 subjects enrolled to lubricant only group.
- Share results with colorectal physicians and proposal of standard orders for Lidocaine spray 4% and Oxymetazoline 0.05%





PERCEIVED IMPORTANCE OF SPECIALTY CERTIFICATION AMONG ORTHOPEDIC REGISTERED NURSES  
Ronald Eugene Destura Osea RN, MSN, ONC



BACKGROUND

- Nurses holding specialty certification is associated with improved patient outcomes; effect on mortality and failure to rescue in general surgery patients. (Kendall-Gallagher, 2011)
- Evidence indicates that advanced education (i.e., specialty certification or higher degree) among nurses has a direct effect on improving the quality of patient care and results in better patient care outcomes (e.g. short hospital stay, satisfied customers, and decreased readmission of recently discharged patients)(Sanfort & Best, 2013, Hughes, 2013, Kendall-Gallagher, et al, 2011).
- Secondary gains are low staff turnover and highly satisfied consumers (Sanfort, 2013).
- To encourage nurses to seek specialty certification, healthcare systems actively eliminate biases and anxieties in pursuing specialty certifications.

The objectives of this unit based project are to:

1. Number of nurses are holding or are planning to take specialty certification exams
2. Measure awareness of specialty certification and its importance
3. Identify the barriers for specialty certification
4. Identify motivators for nurses to take specialty certification
5. Provide staff education on orthopedics specialty certification
6. Measure the effect of staff education
7. Provide an avenue to create a comprehensive program for nurses wishing to take orthopedic specialty certification examination.

METHODS

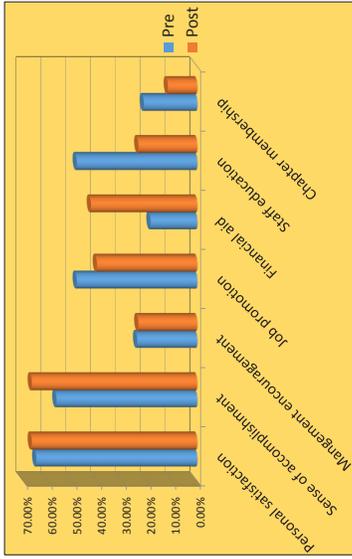
A descriptive quantitative design using paper & electronic survey methodology to gather data from nurses.

The setting: Orthopedic Units of the Vanderbilt University Medical Center (VUMC- specifically 6RW/10S).

- An IRB approval from VUMC
- A pre intervention survey was sent to 50 RN respondents.
- Intervention: A 10-minute educational presentation "An Orthopedic RN Journey Towards Specialty Certification"
- Post intervention survey was sent to the respondents to measure the effectiveness of the education presentation.

There will be a follow-up survey after 6 months.

TABLES/FIGURES



RESULTS

- BSN more likely to take certification tests (P<0.001)
- BSN & Diploma nurses more likely to take certification exam (P<0.001)
- Nurses with fewer years experience more motivated by increase in salary from certification ((P<0.003)
- Higher number of nurses felt job promotion was not a factor (P<.004)
- Younger nurses more likely to take exam at least once ((P<.004)
- Younger nurses are encouraged by increase in salary (P<.004)
- Among younger RNs, job promotion is a factor (P<0.003)



Sample demographics	PRE n(%)	POST n(%)
AGE		
20-30	19 (51.4)	21 (50.0)
31-40	4 (10.8)	4 (9.5)
41-50	10 (27.0)	9 (21.4)
51-60	3 (8.1)	5 (11.9)
61+	1 (2.7)	3 (7.1)
EDUCATION		
DIPLOMA	4 (10.8)	4 (9.5)
BSN	32 (86.5)	35 (83.3)
MSN	1 (2.7)	2 (4.8)
DOCTORATE	0 (0.0)	1 (2.4)
YRS NBSG EXPERIENCE		
0-10	24 (64.9)	27 (64.3)
11-20	5 (13.5)	6 (14.3)
21-30	7 (18.9)	5 (11.9)
31-40	1 (2.7)	4 (9.5)
GENDER		
MALE	5 (13.5)	5 (11.9)
FEMALE	32 (86.5)	37 (88.1)
MARITAL STATUS		
SINGLE	21 (56.8)	25 (59.5)
MARRIED	12 (32.4)	12 (28.6)
COMMITTED	3 (8.1)	4 (9.5)
PREFER NOT TO ANSWER	1 (2.7)	1 (2.4)
DEPENDENTS		
YES	11 (29.7)	8 (19.0)
NO	26 (70.3)	34 (81.0)
SPECIALTY CERTIFICATION		
YES	1 (2.7)	3 (7.1)
NO	35 (94.6)	39 (92.9)
WHAT IS SPECIALTY CERTIFICATION?		
YES	1 (2.7)	0 (0.0)
NO	36 (97.3)	40 (95.2)
IMPORTANT FOR RN TO HAVE CERTIFICATION		
YES	18 (48.6)	22 (52.4)
NO	5 (13.5)	1 (2.4)
MAYBE	14 (37.8)	19 (45.2)
WILLING TO TAKE ONC TEST		
YES	26 (70.3)	10 (23.8)
NO	3 (8.1)	10 (23.8)
MAYBE	7 (18.9)	22 (52.4)
I AM CERTIFIED IN ORTHO		
YES	1 (2.7)	0 (0.0)
NO	35 (94.6)	39 (92.9)

CONCLUSIONS

- Staff education increased the perception among orthopedic nurses about the importance of specialty certification.
- Certified nurses decrease patient mortality

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# Novel Use of Pulse Oximetry

Leah Bergman CRNA; Brett Alvis MD & Susan Eagle MD

## PURPOSE

- Pulse Oximetry is a standard ASA monitoring
- Burns, crush, amputation, poor perfusion or presence in a surgical field can limit sensor sites available.
- The case presented, all known monitoring sites were unavailable resulting in oral pulse oximetry measurement from the hard and soft palate.

## CASE HISTORY

- Surgical debridement of 45-year-old male with full-thickness burns on 80% total body surface area (TBSA)
- Pulse oximetry sensor moved for skin grafting, no traditional site was available
- Only remaining option was to obtain oxygen hemoglobin saturation measurements from the mouth using an oral airway and a disposable pulse oximetry sensor.

## METHOD

- Disposable pulse oximetry sensor was taped over an oral airway and then placed in the standard insertion manner (Figure 1).
- Pulse oximetry readings with an observed consistent waveform, and average pulse oximetry reading of 94%
- Remainder of the procedure and were able to successfully obtain SpO2 measurements throughout.

## ORAL PULSE OXIMETRY



## PULSE OXIMETRY MEASUREMENT CHALLENGES

The forehead: this was where the pulse oximetry sensor was placed to obtain measurements in the Intensive Care Unit

Ears, nose and lips: There was no intact skin remaining near the ears, nose or lips. Burns were covered in Sulfamylon cream on the bilateral ears and this prevented our ability to take SpO2 measurements at these locations. The nose and lips were part of the sterile field that was being debrided and were not an option for measurement sites.

Penis and scrotum: Intact, healthy skin. Pulse oximetry was attempted on these sites and a reliable tracing was unable to be obtained.

Posterior surface of neck: Considered as a possible site but also covered in burn. Other challenges included moisture from chlorhexidine wash of the sterile face, blood from the surgical site and debrided skin slid to the back of the neck, disrupting the integrity of the adherent pulse oximetry sensor.

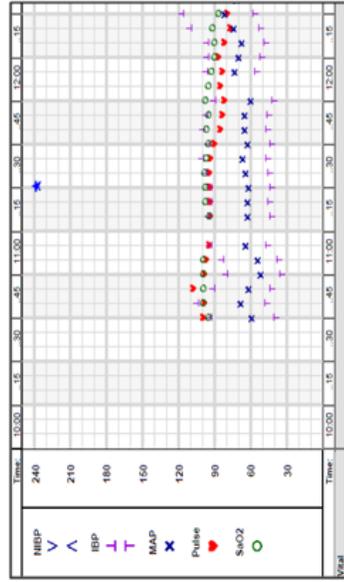
The fingers: The left hand was wrapped in burn pack dressings and unavailable. The right hand was freshly grafted and prepped into the sterile field.

The toes: Covered in fresh graft during the surgery and presented the same challenge as described with the fingers.

## OXYGENATION ASSESSMENT METHODS

Arterial Blood Gases	No barriers, femoral arterial line was previously placed and aspirated blood easily
Inspired / Expired FIO2 ratio	Mismatches can occur due to inhalation injury, fluid replacement and/or shifts commonly seen in burn patients, fluctuations in temperature from intraoperative exposure of burned skin to ambient OR temperature, blood loss, and blood administration
Cap refill	All capillary nail beds covered or burned
Mucus Membrane	Lips are burned
Persistent End Tidal CO2	Excellent measurement, no barriers until extubation. Pulse Ox, chest excursion, respiratory rate and depth are typically heavily relied upon in the minutes following extubation
End Tidal CO2 reading is no longer measured	Very poorly tolerated by patient who continued to displace oxygen delivery and CO2 monitoring devices

## ANESTHETIC RECORD



## Conclusion

- Consistent waveform and oxygen hemoglobin saturations that correlated with an arterial blood gas was achieved.
- This novel approach to monitoring could be considered and used when the standard more traditional sites not an option

## Recommendations

- More than one source of esophageal oximetry has been used successfully in burn and shock patients with limited options for traditional, peripheral sites.
- A prospective data collection targeting the number of burn and shock patients with limited peripheral sites in a 6 month period of time is underway allowing evaluation of the benefit to making this device available.

## References

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 [2] M. Mitzan, Romem A., Koppel, R., "Pulse Oximetry: Fundamentals and technology update," Medical Devices, vol. 7, pp. 231-239, 2014.  
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# Tonsils with a Tune: The Effects of Music Medicine on Pediatric Adenotonsillectomy Postoperative Anxiety & Pain

Summer Fitts, BSN, RN 4, CPAN & Angela Alexander, BSN, RN



## BACKGROUND

- Pain and Anxiety in pediatric adenotonsillectomies (T&A) are often difficult to manage
- Increased anxiety, inability to communicate, altered sensorium, and increased fears compound pain
- Music is an adjunct therapy used to treat T&A pain and anxiety

## PURPOSE

- Evaluate the efficacy of music on pediatric T&A patient's anxiety, pain, opioid analgesic use, and satisfaction of surgical experience

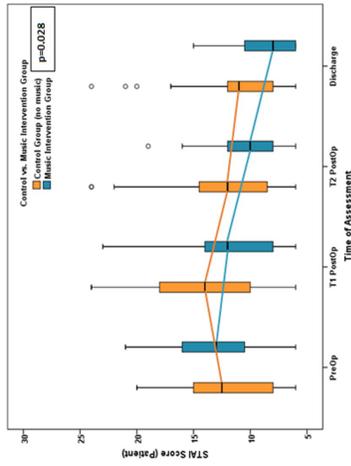


## METHODS

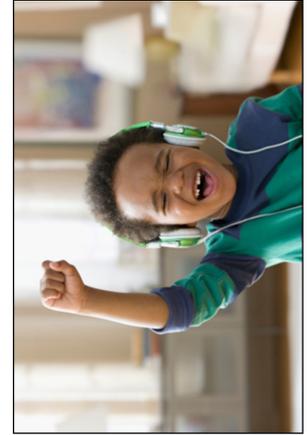
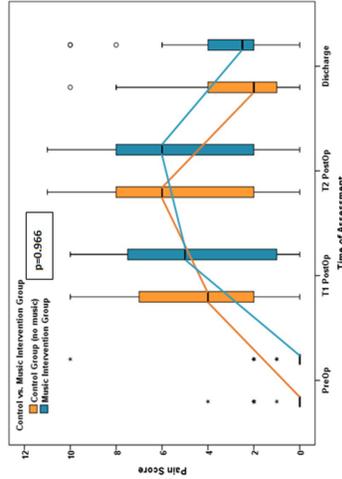
- **Patient Randomized Control Trial**
- 80 T&A patients; Ages 7-18 years old
- Music Intervention (MI) Group: patients listened to music of their choice preoperatively and postoperatively.
- Control patients: never listened to music
- Outcomes: Pain & anxiety measured using analog numerical scales (FLACC, FACES, Children's Numerical) and short State-Trait Anxiety Index (STAI).
- Measured pre- and postoperatively
- Opioid requirement & LOS obtained from EHR
- Patient's & caregiver's satisfaction obtained at discharge

## RESULTS

Perioperative Anxiety Scores: Control vs. Music Group



Perioperative Pain Scores: Control vs Music Group



## DISCUSSION

- **Music decreased anxiety** (p.028); this intervention was feasible and ease of use tested
- **Pain scores** were no different between groups, perhaps due to sample size and limitations
- Median **Intraoperative Narcotic Consumption** is lower in Music Intervention Group (4.0) than in Control Group (4.5), but the difference is not statistically significant, p = 0.513
- Variance in **Postoperative Narcotic Consumption** is greater than in Intraoperative period. The median is not statistically significant, p = 0.767
- No differences in **Length of Stay** between group



## LIMITATIONS

- Pain & Length of Stay are multifactorial
- Nursing Inter-Rater Reliability
- Pain Management Variation amongst Anesthesia Provider (ie Midazolam, Precedex, Ketamine, Tylenol, Motrin, & Oral Narcotic Use).
- Quantity of Pre-operative exposure to music: Not measured
- Sample size

## CONCLUSIONS

- **The passive listening to music decreases postoperative anxiety in pediatric T&A patients.**
- **89.2%** of patients that listened to music enjoyed it.
- **86.5%** of patients think music helps them feel calm.
- **80%** stated that music made their stay better.
- Music is inexpensive, convenient, & easy to administer and can improve patient satisfaction & patient anxiety.



# Leading with evidence: ASPAN's synthesis of evidence for use by bedside nurses

Elizabeth Card, MSN, APRN, FNP-BC, CPAN, CCRP; Diane Swintek, MSN, RN, CPAN; & Susan Russell, BSN, RN, JD, CPAN, CAPA

## BACKGROUND

The Institute of Medicine has mandated that 90% of the clinical decisions made by nurses be based on evidence by the year 2020.

Most nurses provide care based on what preceding generations had stated was good practice and lack skills to practice EBP.

Bringing EBP to bedside practice requires training and can be time consuming.

The American Society of PeriAnesthesia Nurses (ASPAN) provides evidence synthesized into standards, guidelines and practice recommendations.

ASPAN's infrastructure provides experts and tools to disseminate evidence based guidelines and practice recommendations which improve care for the perioperative patient.

## PURPOSE

This poster outlines the rigorous process for creation of ASPAN guidelines and practice recommendations.

## Procedures

ASPAN's EBP infrastructure evolved over decades:

- ASPAN Standards & Guidelines (1983)
- ASPAN position statements (1985)

ASPAN EBP Milestones:

- Pain & Comfort Clinical Guideline (2003)
- Creation of EBP SWT (2004)
- EBP model (2006)

## Procedures

ASPAN EBP Milestones:

- Normothermia Clinical Guideline (2010)
- Joanna Briggs Institute, global leader in creation of EBP practice guides for nurses, partners with ASPAN (2011)
- ASPAN creation of journal club (2013), creation "journal club blog" (2017)
- Position Statements reflect current trends, are evidence based, and must be adopted by vote of the Representative Assembly.
- Standards & Practice Recommendations are updated with new evidence every other year and must be approved by the Representative Assembly.

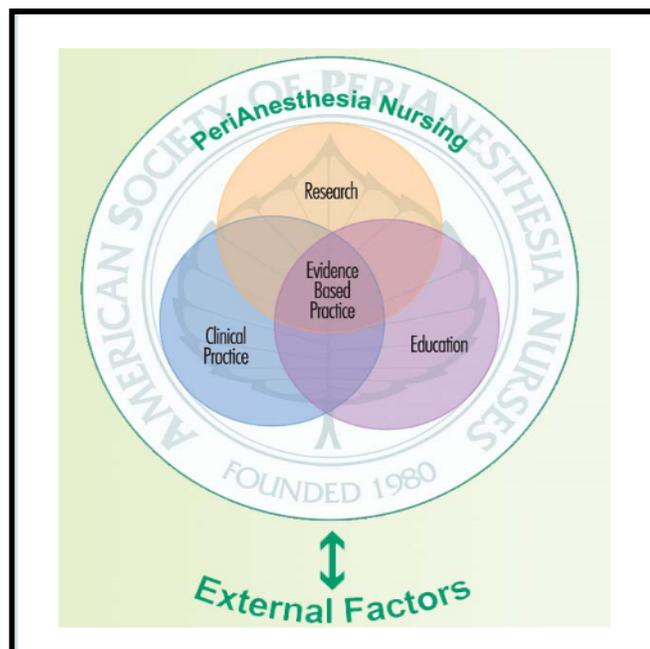
## Procedures -individual level

- Education for nurses on EBP process
- Interactive "journal club blog"
- Efforts for utilization of EBP for education of bedside nurses---articles, podium presentations, posters
- Education (web, conferences, articles, videos) on finding, appraising and synthesizing evidence
- Component level poster sessions

## CONCLUSIONS

- EBP streamlines care, improves patient outcomes and is cost efficient
- Evidence exists that nurses with specialty area training and certification improve patient outcomes- these are contributions of specialty organizations

## ASPAN EBP Model



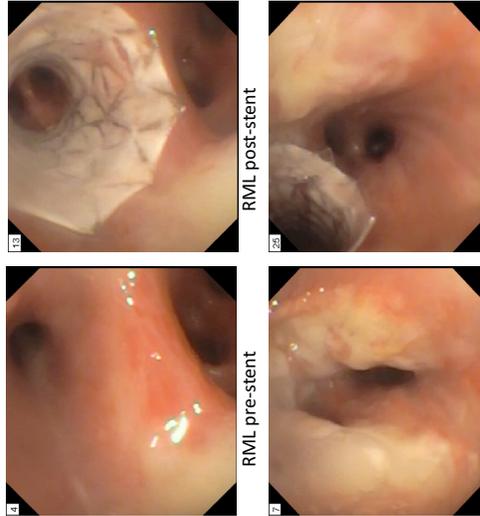
# Case Study: iCast stent use in Interventional Bronchoscopy

Matthew Fosnot MS APN CRNA, Shawnee Brenkman MS APN CRNA, & Otis Rickman DO

## INTRODUCTION

- Vanderbilt Medical Center Interventional Pulmonology diagnoses & treats tracheobronchial stenosis post-lung transplant, including stenting of narrowed passages.
- Treatment typically requires general anesthesia with ETT intubation, muscle relaxation and rigid bronchoscopy.
- The newly approved iCast® stent allows for general anesthesia with an LMA placement, eliminating risks from rigid bronchoscopy.

## TABLES/FIGURES



LUL pre-stent LUL post-stent

RML pre-stent RML post-stent

Placement of iCast stent

## DESCRIPTION of CASE

- 56 y/o male s/p double lung transplant with post-op complications including pneumonia, prolonged intubation, dysphagia requiring G-J tube feedings, early donor specific rejection and bronchoscopy which showed notable stenosis of RML and LUL.
- Patient presented for dilation and stenting.
- General anesthesia was induced with lidocaine and propofol per IV. #3 i-gel LMA placed without incident.

## LITERATURE REVIEW

- Therapeutic rigid bronchoscopy complications: bleeding, pneumothorax, hypoxemia, significant airway injury, hypotension, respiratory failure, arrhythmia, cardiac arrest, and death.

## Complications sequelae:

- Higher level care
- Hypoxemia
- Respiratory failure due to hypercarbia or lost airway
- Airway injuries as associated with the rigid bronchoscope and barotrauma from jet ventilation.
- Increased risk of post-operative weakness and subsequent PACU re-intubation, atelectasis, and pneumonia with muscle relaxant usage.

## DESCRIPTION of CASE

- Anesthesia was maintained with propofol infusion and fentanyl boluses.
- Flexible bronchoscopy was performed under fluoroscopy with placement of iCast stents into RML and LUL stenosis. Stent positions were easily adjusted via flexible scope and dilations successful.
- Following confirmation, patient emerged from anesthesia, LMA removed, and taken to PACU for recovery. No complications occurred.

## CONCLUSIONS

- Until iCast stent approval, interventional bronchoscopy with stent placement required a rigid bronchoscope. Risks related to rigid bronchoscopy, jet ventilation, and muscle relaxation are uncommon but considerable and potentially life changing or life threatening.
- Placing a stent via an LMA reduces and could eliminate the associated complications. The overall effect of iCast stent usage for anesthesia providers is a reduction in post-operative complications and hospital length of stay. The recently FDA approved iCast stent completely changes bronchoscopic anesthesia.
- The ability of the CRNA to use an LMA eliminates rigid bronchoscopy and therefore any of its potential complications.

## REFERENCES

- Available upon request

# Nothing by Mouth: Eliminating Needless Deprivation in the Emergency Department

VANDERBILT UNIVERSITY  
MEDICAL CENTER

Traci Denton, BA, RN, CCRN  
Vanderbilt University Medical Center  
Nashville, TN



## Background

- Emergency Department (ED) patients were placed on an extended NPO status lasting from several hours to days into their admission.
- In 1999, the American Society of Anesthesiologist (ASA) adopted preoperative fasting guidelines that suggested to:
  - Fast 8 hours from fried or fatty foods
  - Fast 6 hours from solids
  - Fast 2 hours from clear liquids
- These practice guidelines were updated and published in 2011. Unfortunately, providers are still using the standard order "NPO after midnight".

## Purpose or Objectives

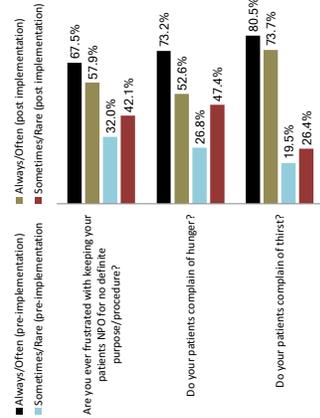
- To eliminate adverse patient outcomes:
  - Discomfort from hunger and thirst
  - Dehydration
  - Interruptions in routine medication schedules
  - Poor glucose control
  - Compromised acid/base balance

## Timeline

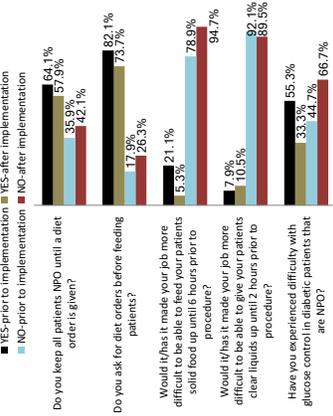
- July 2010** = survey of the ED nursing staff (N=39)
  - NPO related questions were added to the Professional Research Consultants, Inc. (PRC) survey
- September 2010** = ED staff were educated on initiative using the Standard Rollout Process
- October 2010**
  - ASA preoperative guidelines were implemented
  - Physician order set for the ED and ED Chest Pain Unit Admission were modified



## Pre and Post Implementation Staff Survey Results

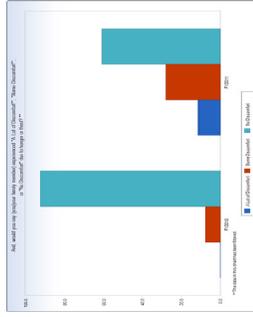


## Pre and Post Implementation Staff Survey Results

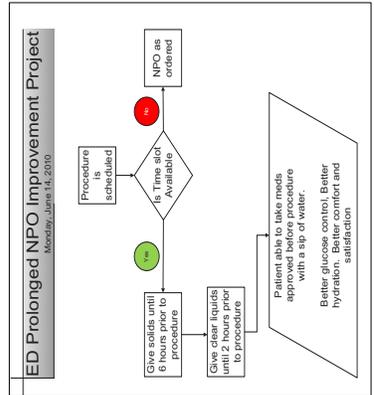
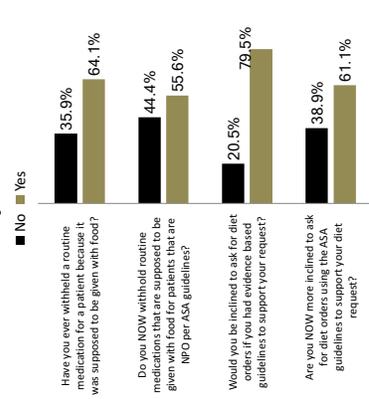


## Results

- 4 months post**
  - At 4 months, a repeat survey of RN perceptions of the NPO practice results were demonstrated as follows:
    - Decrease in nursing frustration
    - Decrease in patient hunger complaints
    - Decrease in patient thirst complaints
    - Decrease in difficulty with glucose control
    - Decrease in nurses withholding routine medications
    - Decrease in workload associated with being able to feed patients
    - Increase in workload associated with being able to give patients clear liquids
    - Decrease in likelihood of asking for diet orders
- 1 and 2 years post**
  - Results of the PRC data regarding the perceptions of NPO practice by patients showed little change.



## Pre and Post Implementation Staff Survey Results



## 3 years post

- Dr. David J. Moran, MD, (Emergency Department Cardiologist) and Ian D. Jones, MD (Executive Medical Director for Emergency Services) consulted as follow-up monthly for 3 months, and then bi-annually going forward.
  - Confirmed that there have been no reported adverse outcomes or delays with cardiology or ED procedures since the ASA guidelines have been implemented

## Conclusion

- Initial implementation was well received by the nursing staff.
- Two years after implementation it became apparent not all staff were cognizant of the NPO expectations.
- Education regarding the guidelines and expectations was added to new staff orientation and in annual competency training.

# Recent VUMC Nurse Disseminations

**5/1/2017** Ruth Kleinpell, April Kapu, Brianna Witherspoon, Lauren Oliver, Jayme Gibson, Haley Vance, Janet Myers, Roslyn Green, Ann Minnick, Peirce Trumbo & Wade Iams. (VUMC) APRNs and the Choosing Wisely campaign, published in: American Nurse Today

**5/1/2017** Brian Higgins & Jared McKinney RN (VUH Lifelight) Publication Event Medicine, Pearls and Pitfalls of Managing Mass Gatherings. Journal of Emergency Medical Services

**5/1/2017** Nancy Wells & Elizabeth Card APRN NP (Nursing Research) Publication How to Define Significant Practice Problems within Complex Health Environments Chapter 11 Book chapter

**6/1/2017** Cindy Kilgore Lori Smithson, MBA, MSN; Tracey Carrigan, MSN & Jodi Koch, MBA, BSN, RN (VUH 3S Central Operating Room) Publication Employee engagement: The path to better patient care-Part 1 OR Manager

**7/1/2017** Cindy Kildgore; Jodi Koch, MBA, BSN, RN; Tracey Carrigan, MSN & Lori Smithson, MBA, MSN, RN (VUH Perioperative Services) Publication. Employee engagement: The path to better patient care-Part 2 OR Manager

**7/3/2017** Boehm LM, Dietrich MS, Vasilevskis EE, Wells N, Pandharipande P, Ely EW, et al. (Nursing) Publication. Perceptions of Workload Burden and Adherence to ABCDE Bundle Among Intensive Care Providers. American Journal of Critical Care: an official publication, American Association of Critical-Care Nurses. 2017;26 (4):e38-e47. American Journal of Critical Care

**7/27/2017** Jeannette Jackson-Rose, Judith Del Monte, Adrienne Groman, Linda S. Dial, Leah Atwell, Judy Graham, Rosemary O'Neil, Semler Maryellen O'Sullivan, Lisa Truini-Pittman, Terri A. Cunningham, Lisa Roman...et al...& Robert David Rice RN (Cancer PC) Publication. Chemotherapy Extravasation: Establishing a National Benchmark for Incidence Among Cancer Centers. Clinical journal of oncology nursing. 2017;21(4):438-45. Clinical Journal Oncology Nursing

**9/15/2017** Jungquist, C. R., Card, E., Charchaflieh, J., Gali, B., & Yilmaz, M. (2017). Preventing Opioid-Induced Respiratory Depression in the Hospitalized Patient With Obstructive Sleep Apnea. Journal of PeriAnesthesia Nursing.

**12/12/17** Hyman, S. A., Shotwell, M. S., Michaels, D. R., Han, X., Card, E. B., Morse, J. L., & Weinger, M. B. (2017). A survey evaluating burnout, health status, depression, reported alcohol and substance use, and social support of anesthesiologists. Anesthesia & Analgesia, 125(6), 2009-2018.

**2/13/2018** Jonathan Wolfe, Talbot, Tom, Domenico, Henry John, Wang, Deede, Marilyn Dubree, Nancye Feistritzer, Wells, Nancy, & Hickson, Gerald (2018) Characteristics of Inpatient Units Associated with Sustained Hand Hygiene Compliance. Journal of Patient Safety

**2/23/2018** Jennifer Baker Fritsche; MR, Watchmaker, J, Lipnik; AJ, Baker; JC, Geevarghese; S, Banovac; F, Omary; RA, Brown DB (VUH Interventional Oncology). Publication Outpatient Transarterial Chemoembolization of Hepatocellular Carcinoma: Review of a Same-Day Discharge Strategy. Journal of Vascular Interventional Radiology J Vasc Interv Radiol [print-electronic]. 2018 Feb 2/23/2018; PMID: 29478795, PII: S1051-0443(17)31038-2, DOI: 10.1016/j.jvir.2017.11.018, ISSN: 1535-7732

**3/2/2018** Cindy Kildgore, Rachael Poff, Sonja Walsh (RN VUH Perioperative Services). Publication. Float pool supplements OR staff schedule, satisfaction. OR Business Manager

**3/30/2018** Jennifer Baker Fritsche (VUH Interventional Radiology) Publication. Fritsche MR, Watchmaker JM, Lipnik AJ, Baker JC, Geevarghese S, Banovac F, Omary RA, Brown, DB. (VUH Interventional Oncology). Publication. Outpatient transarterial chemoembolization (TACE) of hepatocellular carcinoma (HCC): review of a same-day discharge strategy. J Vasc Interv Radiol 2018; 29:550-555.JVIR

**4/1/2018** Steven S. Spires, MD; Peter F. Rebeiro, PhD, MHS; Mickie Miller; Katie Koss, RN, MSN; Patty W. Wright, MD; Thomas R. Talbot, MD, MPH, RN (VCH, CHOC. Offsite Clinics) Publication. Medically Attended Catheter Complications Are Common in Patients With Outpatient Central Venous Catheters. Infection Control and Epidemiology Journal

**5/2/2017** Tracy Warhooover APRN (VCH Pediatric Orthopedics) Presentation. The Missed Monteggia Fracture External POPS (Pediatric Orthopedic Practitioners Society) annual meeting

**5/3/2017** Elizabeth Card APRN, NP (VUMC Nursing Research) Presentation. Nurse Scientist, Ignite your research passion. ASPAN 36th Annual National Conference

**5/4/2017** Elizabeth Card APRN, NP (VUMC Nursing Research) Presentation. Nursing Research-getting started. ASPAN 36th Annual National Conference

**5/6/2017** Kristin Pegram, BSN, RN (VUH Cancer Infusion Center) Poster Bridging the Gap Between Clinical Trial Infusion Nurses and Clinical Trial Research Nurses. ONS 42nd Annual Conference

**5/6/2017** Martie Steinfeld RN (VUH VICC) Poster Transition Care Room: Facilitating Patient Flow and Decreasing Length of Stay ONS 42nd Annual Congress

**5/6/2017** Martie M Steinfeld RN (VUH Myelosuppression) Poster Transition Care Room: Facilitating Patient Flow and Decreasing Length of Stay. Oncology Nurses Society 2017 Congress.

**5/6/2017** Jessica Shirley RN (VUH 11N Hem/onc) Poster The patient flow nurse has helped create quality discharges for our oncology/hematology patients. Oncology Nursing Society's Annual Conference 2017

**5/23/2017** Ron Osea RN (VUH Round wing ortho) Presentation Importance of certification. National Association of Orthopedic Nurses Congress 2017

**5/24/2017** Deborah Ariosto RN (VUH Nursing Informatics) Presentation. Enabling Nurse Driven Documentation Re-Design

**6/9/2017** Vickie Brinsko RN (VUH Infection Prevention) Poster Using Evidence Based Bundles to Reduce Cesarean Section Surgical Site Infections. Association for Professionals in Infection Control (APIC) 43rd Annual International Educational Conference, Charlotte, N.C.

**9/1/2017** Stephanie Abbu, DNP, RN, CNML (VCH Neonatal Services) Poster Managing Staffing Expense: H-P-P-D Initiative. TNA Conference

**9/1/2017** Stephanie Abbu, DNP, RN, CNML (VCH Neonatal Services) Poster Peer-to-Peer Mentoring. TNA Conference

**9/15/2017** Gretchen Jayawardena RN (VUH Adult and Pediatric Congenital Heart Program) Poster. Formal Transition Program May Increase Transition Readiness, Independence and Self-Confidence in Young Adults Living With Congenital Heart Disease: A Prospective Cohort. ACHD Symposium

**9/16/17** Elizabeth Card APRN (VUMC Nursing Administration) Podium. Investigating Your Clinical Questions. ASPAN Leadership Development Institute.

**10/3/2017** Mary Jeskey, BSN RN (VUH periop) Podium presentation at ANCC pathways conference 'Level 1 trauma' AORN National Conference

**12/11/2017** Ashley Ried APRN (VCH Performance, Management and Improvement) Presentation. Continuous Infusion Medication Safety in a Pediatric Intensive Care Unit. OR Business Management Conference

**12/19/2017** Brenda Weedman RN (VMGEskind Diabetes/Endocrinology Adult Clinic) Presentation. Common Gaps in Diabetes Internal (within VUMC)

**1/30/2018** Cindy Kildgore RN (VUH Perioperative Services) Presentation. Building the Case for a Perioperative Float Pool. OR Business Management Conference

**3/25/2018** Jennifer Baker APRN NP (VUH Radiology) Presentation. Radiology Nursing Grand Rounds: Intra - Arterial Therapies for Hepatic Malignancies Internal (within VUMC)

**3/28/2018** Cindy Kildgore RN, (VUH Perioperative Services) Presentation. Developing a Flexible Staffing Model to Combat Fatigue and Burnout. AORN National Conference

**3/30/2018** Summer Fitts, BSN, RN, (VCH PACU) Presentation. Tonsils with a Tune: The Effects of Music on Pediatric Post-Operative Anxiety and Pain Internal (within VUMC) and external Society Of Clinical Research Associates

**4/25/2018** Stephanie Abbu, DNP, RN, CNML (VCH Neonatal Services) Presentation. Utilizing Peer to Peer Mentoring to Develop Leadership Talent. NICU Leadership Forum

**4/29/2018** Elizabeth Card, MSN, APRN, FNP-BC, CPAN, CCRP (Nursing Research) Podium presentation. Nursing Research Ethics and special population consideration ASPAN 37th National Conference

**4/29/2018** Summer Fitts, BSN, RN4 (VCH PACU) Poster. Tonsils with a Tune: The Effects of Music on Pediatric Post-Operative Anxiety and Pain ASPAN 37th National Conference.

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<https://redcap.vanderbilt.edu/surveys/?s=Y88R9MATHC>

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