

TSNRP ★ news

From the Director

SPRING/SUMMER 2017



Lt Col Jennifer Hatzfeld

The TriService Nursing Research Program (TSNRP) was established by a congressional directive, together with \$1 million of funding, in 1992. That is the year we claim as the beginning of TSNRP—so “Happy 25th Anniversary to us!”

But, as with most monumental events, the beginning of TSNRP didn’t happen with a single event. In fact, I’ve been reminded lately that big changes are usually a result of a series of small, incremental changes made by a relatively large group of people over time. A key example is the amazing accomplishment by the National Aeronautics and Space Administration (NASA) of putting a man on the moon. It is often highlighted how quickly the project developed from President Kennedy’s initial challenge in 1961 to Neil Armstrong’s famous lunar walk in 1969. But there were many critical math and science breakthroughs that occurred in the years before, and an army of hard-working contributors (including Katherine Johnson, Dorothy Vaughan, and Mary Jackson, highlighted in the movie “Hidden Figures”),

that were all required to make that single achievement possible.

It occurs to me that the same is true with TSNRP. Our history didn’t start 25 years ago, although it is nice to have a date to celebrate. It happened well before then with nurses who were passionate about research, like LTC Phyllis J. Verhonick and CAPT Karen Rieder, then later with a group of frustrated nurses who would meet each year at AMSUS conferences to figure out how to get research funding for military nursing, and many others who made small contributions over time. We have tried to capture some of these individuals and memories in this issue of the newsletter, and we are looking to see how we can capture some of that legacy in the Dissemination Course as well as partnering with the National Museum of Health and Medicine (previously known as the Armed Forces Medical Museum at Walter Reed) to include the history of military nursing research. I think it’s important to know about our history to make sure that we build on what has already been accomplished and put our current challenges into perspective.

The current strength of TSNRP isn’t all related to the actions that happened many years ago either. It’s a result of individual military nurses developing and applying good science over the past 25 years to

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TSNRP News is published twice each year by the TriService Nursing Research Program. It is available online at www.usuhs.edu/tsnrp/ newsletters.

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address critical issues in military nursing practice. That's one of the reasons we think it's important to highlight individual investigators and their projects. Sometimes major policy changes are made as a result of a single project, but more often a single project is only a small piece of a larger puzzle that will require more research, more evidence, and more collaborators to change nursing practice. Sometimes it feels that our individual efforts don't amount to much, but from my unique perspective as the TSNRP Executive Director, it is clear that the combined efforts of all military nurse scholars make a difference.

I look forward to the next 25 years of TSNRP with excitement. This year, we not only celebrate a rich history and a strong program, but we will also hold a strategic planning meeting to chart out a course for the future. Many changes have occurred during the past 25 years, and it is critical to make sure that TSNRP is staying current with the science as well as the personnel policies and medical infrastructure that have evolved over time. I'm not sure what changes that might ultimately include, but it will certainly be a lively discussion and require a diversity of perspectives to make sure the next generation of military nurses can continue to foster excellence in military nursing.

I trust this newsletter will serve as an inspiration to keep contributing to military nursing—perhaps finishing a project with excellence or putting in the hard work to submit a proposal for funding. For some it may be to submit an abstract for the first time to present your work at a course or conference, or even just taking the first step to start a project on your unit. Whatever your level of influence or expertise, don't forget that your small contribution can be a critical part of a much larger accomplishment. That's how you get to the moon—and that's how TSNRP really began.

Happy Anniversary!

Lt Col Jennifer Hatzfeld, PhD, RN, APHN-BC, USAF, NC

Congratulations



CAPT Lisa Braun, NC, USN, a nurse scientist from Naval Medical Center, Portsmouth (NMCP) with Navy USUHS Class of 2017 DNP students following her promotion to Captain. CAPT Braun is the Navy Nurse Research Specialty Leader and USUHS DNP Phase II Site Director at NMCP. Left to right: LT Patricia Smith, LT Samantha Jennings, CAPT Lisa Braun, LCDR Monica Hall, and LT Alawah Davis.



TSNRP RIGs Spring Report

Megan Foradori, RN, MSN

TSNRP is proud to support military nurse-led research interest groups (RIGs), teams that connect multidisciplinary researchers and clinicians with common interests for collaboration, mentoring, and education. Hard at work on their current initiatives, RIG members are pleased to offer a report on their activities for this newsletter.

The teams are looking forward to participating in another iteration of the TSNRP Research and Evidence-Based Practice Dissemination Course, always a highlight of the RIGs' year.

This year, the four established RIGs and two pre-RIGs will host a series of networking breakfasts. With three groups hosting on Wednesday and three hosting on Thursday, each team will have the chance to savor the rare treat of meeting in person. The course attendees will enjoy the RIG activities they have come to expect from this event, including topical breakout sessions for all six teams and large group plenary presentations by exemplary researchers in each RIG: Anesthesia, Biobehavioral Health, En Route Care, and Military Women's Health. RIG handouts will be available at the course, so attendees who have not previously engaged with these teams can become involved and encourage colleagues interested in these areas to do the same.

In addition to the Dissemination Course preparations, the RIGs have been working on projects laid out in their 2017 RIG annual plans, a new RIG requirement this year. Lt Col Jennifer Hatzfeld, USAF, NC, TSNRP's

Executive Director, asked each RIG's leadership team to prepare a document with accomplishments from the previous year, planned activities for 2017 with associated deliverables, a budget for requested support, and the team's goals and vision for the future.

The annual plans allowed the groups to highlight their planned projects for this calendar year. The **Anesthesia RIG** is finishing its handbook for anesthesia care in austere environments and planning another general membership meeting at this fall's American Association of Nurse Anesthetists conference. The **Biobehavioral Health RIG** is preparing for a team project on military nurse researcher social networks, and a subcommittee is putting together an educational session on the survey approval process. The **En Route Care RIG** is coordinating a special issue of en route care manuscripts for *Critical Care Nurse* and a set of training papers for *Clinical Simulation in Nursing*. The **Military Women's Health RIG** will be working on a Delphi study (a systematic forecasting method that relies on a panel of experts), bringing together military women's health experts in research, practice, policy, and advocacy to create a military women's health and readiness agenda for the future.

The RIGs look forward to the spring rollout of their new website, which will foster their collaboration efforts. The website will include public and private interfaces to allow members and others to engage directly with RIG content.

Currently, two teams are in the preliminary stages of forming RIGs in the areas of military family care and administrative issues.

The **Military Family Health and Readiness** group is working on a scoping literature review, one of the required activities for proposed RIGs, to pin down related topics of interest for their future work. Team leads CDR Abigail Yablonsky, NC, USN; LCDR Allyson Whalen, NC, USN; LT Whitney Brock, NC, USN; LTC Kristal Melvin, AN, USA; and LTC (ret) Janice Agazio, AN, USA, have been using an online review tool to sort and classify existing literature in their area of interest. They have led a series of telephone meetings for all those interested in the possibility of a Family RIG, featuring guest speakers and updates on team progress.

The group interested in standing up a RIG to explore **Military Health Systems/Nursing Administration** issues, led by COL Carla Dickinson, AN, USA, will focus on the "big rocks" of policy and leadership. The group hopes to bring in translational research; overarching policy issues; and topics relevant to nursing leadership, such as retention, career development, infection control, and assessing/maintaining competencies.

The RIGs continue to thrive, and members look forward to these collaborative efforts in 2017 and beyond. If you are interested in learning more about the TSNRP RIGs, contact Megan Foradori at megan.foradori.ctr@usuhs.edu. ★

25th Anniversary

TSNRP Celebrates 25th Anniversary by Looking at History

Shannon Sarino, TSNRP Outreach Coordinator

In 1988, nurses holding doctorates from the Army, Navy, and Air Force began meeting informally at the Association of Military Surgeons of the United States meeting. In 1990, the three Services formed the Federal Nursing Research Interest Group, which later became the TriService Nursing Research Group (TSNR Group). In 1991, the TSNR Group and the Nurse Corps Chiefs

met with the National Center for Nursing Research (now the National Institute for Nursing Research) to discuss a coordinated strategy for nursing research. And in 1996, the Department of Defense (DoD) Authorization Act authorized TSNRP as part of the DoD health care program, established at the Uniformed Services University of the Health Sciences.

That brief history of the humble beginning of TSNRP sounds very simple, in theory. But it took a lot of work and cooperation to create a program that, 25 years later, has funded more than \$100M in grants to DoD nurse scientists.

According to Patrick DeLeon, PhD, MPH, JD, former chief of staff for U.S. Senator Daniel K. Inouye, the impetus for that first \$1M in funding was to provide money to nurses in defense who are not currently, but would like to be, involved in research.

“The purpose has always been for nurses in the field to get research,” Dr. DeLeon said. “Sen. Inouye really liked the concept of nursing in the Department of Defense, and he could see how nurses had positively affected his life. For TSNRP, someone had a great idea and we found a vehicle to put it in.”



A poster presentation from the first Research and Evidence-Based Practice Course, held in 2014

1992

- Tri-Service Nursing Research Group (TSNRG) holds first meeting on 8 January at Walter Reed Army Medical Center.
- Awards eight grants, totaling \$974,363.

TSNRP TIMELINE





In the 20th anniversary newsletter issue, COL (ret) Catherine Schempp, AN, USA, TSNRP Executive Director from 1997 to 1999, said, “I view my tenure as TSNRP’s first Executive Director as a truly memorable experience in which I served as a change agent to ensure the long-term viability of TSNRP and to build on this key research initiative.”

And CAPT(ret) Patricia Kelley, NC, USN, TSNRP Executive Director from 2003 to 2006, said of her experience that she was “always inspired by

the wonderful and exciting ideas that nurses put forth to improve the science, and was honored to facilitate and support nurse researchers in achieving their goals.”

In the last 25 years, TSNRP has grown from a program with an annual budget of \$1M to a program that now offers several educational opportunities through the TSNRP Resource Center while managing many grants for active duty and retired nurse scientists. And as the TSNRP staff moves forward with

strategic planning to envision what the next 25 years will look like, we take this year to celebrate the accomplishments of those involved with TSNRP and remember our ambitious beginning.

If you have an anecdote about your first TSNRP-funded grant or a particularly meaningful interaction with TSNRP, we want to hear from you! Email your story—and photos—to shannon.sarino.ctr@usuhs.edu for inclusion in the Fall/Winter 2017 newsletter! ★



Participants at one of TSNRP’s first Grant Camp courses

1993

- Develops marketing strategies and grant-writing workshops.

1994

- Leadership position begins rotating between the Service branches on a yearly basis.
- Develops guidelines for sponsors to guide novice researchers; guidelines for letters of intent; and forms for interim, annual, and final reports.

1995

- Institute of Medicine reviews TSNRG and recommends continuing the group.
- Uniformed Services University of the Health Sciences (USU) Graduate School of Nursing establishes a working relationship with TSNRG.

1996

- TSNRG is authorized as part of the Department of Defense (DoD) health care program.
- Name changes to TSNRP.
- Civilian nurse researchers join TSNRP scientific merit review panels.



Fifteen Things that Happened in 1992

- 6 January:** The U.S. Government urges doctors to stop using silicone breast implants, outlining the health effects.
- 26 January:** Americans with Disabilities Act goes into effect.
- 26 January:** Super Bowl XXVI: Washington Redskins beat Buffalo Bills.
- 8 February:** 16th Winter Olympic Games open in Albertville, France.
- 27 February:** Tiger Woods, 16, becomes the youngest PGA golfer in 35 years.
- 3 March:** Republic of Bosnia and Herzegovina is established.
- 31 March:** Battleship USS *Missouri*, on which the Japanese surrender took place, is decommissioned.
- 7 May:** 27th Amendment is ratified, prohibiting Congress from raising its salary.
- 9 May:** Final episode of *Golden Girls* airs on NBC.
- 25 July:** 25th Summer Olympic Games open in Barcelona, Spain.
- 24 August:** Hurricane Andrew hits South Florida; 35 die.
- 12 September:** Aboard Space Shuttle *Endeavour* for STS-47, Mae Jemison becomes the first African-American woman to go into space.
- 3 November:** Bill Clinton (D) wins the U.S. presidential election over President George H. W. Bush (R).
- 3 December:** The Greek oil tanker *Aegean Sea*, carrying 80,000 tons of crude oil, runs aground in a storm while approaching La Coruña, Spain, and spills much of its cargo.
- 4 December:** President George H. W. Bush orders 28,000 U.S. troops to Somalia in Northeast Africa.

1997

- LTC Catherine Schempp becomes TSNRP's first Executive Director.
- Executive Director position begins rotating among branches every 2 to 3 years.
- Develops a mandatory training program for post-award grants management.

1998

- Develops and implements research priorities.

2000

- Lt Col Diep Duong becomes Executive Director.

2001

- Establishes Research Pods or Regional Groups.
- Redefines mission, identifying four goals:
 - Increase military nursing research capacity.
 - Expand the breadth and depth of the research portfolio.
 - Develop partnerships for collaborative research.
 - Build an infrastructure to stimulate and support military nursing research.



Examining Treatment for Chronic Lower Back Pain

COL Ann M. Nayback-Beebe, AN, USA

In the U.S. Armed Services, mechanical low back pain (LBP) is a significant public health problem that affects mission readiness and the health, fitness, and morale of military Service members (SMs). It is one of the principal reasons SMs seek care in the deployed setting, and between 2000 and 2009 it was the primary diagnosis for more than 7 million ambulatory care visits and 31,625 hospitalizations. Current estimates are that approximately 25% of people with acute LBP experience recurrent episodes over the course of a year and 7% to 10% progress to a chronic state.

In 2011, the Army Pain Task Force reported that military health care providers overprescribed opioid analgesic medications for the treatment of chronic pain. This trend resulted in higher rates of opioid abuse, misuse, and addiction, as well as the development of performance-altering side effects among SMs. Therefore, as we gain a better understanding of the physiologic basis of chronic pain perception and

transmission, exploring alternatives to traditional pharmacologic pain management—such as complementary integrative medicine (CIM)—and documenting treatment effectiveness is the next logical step.

Our Study

The Biomodulator™ is a novel handheld device approved by the U.S. Food and Drug Administration that delivers pulsed electromagnetic frequency (PEMF) therapy for the symptomatic relief and management of chronic, intractable pain and post-traumatic pain. PEMF has shown efficacy in small-scale studies examining muscle recovery and function in injured athletes, pain control, and treatment of musculoskeletal pain and dysfunction. However, to date, no rigorous studies have demonstrated its efficacy in the treatment of chronic LBP symptoms in a military population. Therefore, our research team conducted a prospective, randomized, two-group pilot study whose primary aim was to determine

whether usual care (UC; medication management + LBP education) along with adjunctive PEMF therapy, delivered via the Biomodulator™ device, was more effective than UC alone in reducing chronic LBP symptoms and analgesic medication use in military SMs.

Our study also sought to determine whether UC + PEMF produced any variability, beyond UC alone, in symptoms of depression, anxiety, and post-traumatic stress disorder (PTSD), which often accompany chronic pain. Another aim of the study was to assess the feasibility of the research design and the acceptability of the treatment interventions to guide the development of a future full-scale study.

Participants

We recruited 75 military SMs with a 3-month or greater history of chronic persistent or intermittent LBP symptoms from a large military treatment facility in the southern United States to participate in the

2002

- Celebrates 10th anniversary with Senator Daniel Inouye of Alaska.

2003

- CAPT Patricia Watts Kelley, NC, USN, appointed Executive Director.
- Implements the Pilot Project Award program.
- Publishes first newsletter.
- Holds first Evidence-Based Practice Course.
- Holds first Grant Camp.

2004

- Introduces a new and improved website, www.usuhs.edu/tsnrp.

2005

- Institutes a 2-day workshop for prospective researchers not yet ready to produce a proposal.



Research Spotlight, *continued*

study. The mean age of participants was 38, and the age range was 19 to 60. Sixty-nine percent of participants were male, 78.7% were married, and the majority identified their race or ethnicity as Caucasian, followed by 18.7% identifying as Hispanic. With regard to military rank, 53.3% of the sample were enlisted SMs and 38.7% were officers. Table 1 describes

key LBP indicator characteristics regarding duration and intensity of pain symptoms, interference with sleep and work, and opioid medication prescription history at baseline for each group in the sample. When asked about their prior use of CIM to treat their chronic pain symptoms, 60% of participants reported prior use to treat their

chronic LBP symptoms, and of those, 28.9% had tried multiple CIM therapeutic modalities. For the full sample, the average length of pain was 62.93 months, with an average intensity of 4 out of 10 reported on the Numerical Rating Scale, which is clinically indicative of moderate pain.

Table 1. LBP Profile at Baseline

	UC + PEMF	UC only
<i>n</i>	39	36
Duration of pain, years		
Mean	6	4
Range	0.4–28	0.3–15
Pain Intensity Numeric Rating Scale (NRS-11)*		
Mean score	4	4
Score range	1–10	0–9
Moderate pain ≥ 5, no. (%)	14 (41)	2 (6)
Moderate pain ≥ 7, no. (%)	6 (18)	5 (15)
Pittsburgh Sleep Quality Index (PSQI)**		
Pain ≥ 3 nights/week, no. (%)	21 (58)	15 (45)
Short Form 12, v.2 (SF-12, v.2)**		
“Quite a bit” or “extreme” interference with normal work due to pain, no. (%)	11 (31)	10 (30)
Medication history**		
Prescribed opioids, no. (%)	8 (22)	4 (12)

UC indicates usual care; UC + PEMF indicates usual care plus pulsed electromagnetic frequency.

* For UC + PEMF, *n* = 34; for UC only, *n* = 33.

** For UC + PEMF, *n* = 36; for UC only, *n* = 33.

2007

- LTC Deborah J. Kenny becomes Executive Director.
- Experiences budget challenges due to congressional delay with defense appropriation funding. No grant awards are funded for the year.

2009

- Lt Col Marla De Jong, USAF, NC, appointed Executive Director.
- *Battlefield and Disaster Nursing Pocket Guide* is published.
- Receives permanent funding with a \$6 million obligation from Army, Navy, and Air Force Nurse Corps Chiefs.
- Redefines research priorities.

2010

- Establishes two research interest groups (RIGs) to replace Regional Groups.
- Sponsors first Research Strategies for Clinicians course.

2011

- CAPT John P. Maye, NC, USN, appointed Executive Director.
- Biobehavioral Health RIG forms.



At 60%, the rate of CIM among military SMs was higher than that found in prior studies, where 39% to 51% of military SMs reported using a CIM modality within the past 12 months. Over the last 5 years, military medicine has increased access to CIM treatment modalities within the military health system (MHS) as the foundation for a new paradigm for maintaining health, treating illness, and improving readiness and performance. This increase in usage is likely a reflection of increased access to CIM modalities within the MHS.

Research Question 1: Does self-treatment with the Biomodulator™, when combined with UC (medication management and LBP education), significantly reduce the intensity of SMs’ chronic LBP symptoms compared to UC alone?

There was no appreciable statistically or clinically significant reduction in pain scores for SMs who self-administered PEMF in addition to the UC regimen of LBP education and medication management. However, although the trend was not significant, pain scores trended

downward during the active treatment phase and the 4-week follow-up phase for participants in the UC + PEMF group. In contrast, pain scores trended upward for the UC-only group during the first 4 weeks, with a steady decline during the 1-month follow-up period. These findings differ from those of a 2016 randomized controlled study by Lee and colleagues, in which PEMF produced significant LBP symptom reduction from baseline to follow-up when compared with placebo.

There are several potential reasons for these findings. First, there were significant differences between groups in mean pain scores at baseline even though participants were randomly allocated to treatment groups. Additionally, the influence of treatment bias for participants enrolled in the PEMF + UC group cannot be overlooked; unlike the UC-only group, these participants received a device to add to their treatment regimen. Kaptchuk and colleagues argued that participants receiving procedures or treatments in addition to UC can experience heightened expectations, and in fact the procedures can bias the results. Future studies in military



The Biomodulator™ is a novel handheld device approved by the U.S. Food and Drug Administration that delivers pulse electromagnetic frequency (PEMF) therapy.

samples should employ a sham device in an effort to negate these heightened expectations.

Research Question 2: Does self-treatment with the Biomodulator™, when combined with UC, significantly reduce SMs’ consumption of oral analgesic medications to treat their chronic LBP symptoms, compared to UC alone?

Participants recorded the amount of opioid and non-opioid analgesic medications consumed over a 4-day

2012

- Begins initiative to expand reach of educational programs.
- Holds Strategic Planning meeting to reevaluate mission, vision, and research and educational priorities.

2013

- LTC Michael Schlicher, AN, USA, appointed Executive Director.
- Develops online webinars for post-award training in response to DoD travel restrictions.
- Publishes first annual report.
- Full final reports published to CINAHL.

2014

- Holds inaugural Research and Evidence-Based Practice Dissemination Course to replace the Phyllis J. Verhonick Nursing Research Course and Karen Rieder Research/ Federal Nursing Poster Session.
- Women’s Health RIG is formed and database is brought online at USU.

2015

- Fast Track Award is reclassified.
- Research and Evidence-Based Practice Dissemination Course attracts more than 400 attendees.



Research Spotlight, *continued*

period at baseline, post-treatment, and 1-month follow-up in a pain medication and exercise diary. We then quantified the amount of pain medication consumed, using the Medication Quantification Scale Version III. The hypothesis was that participants receiving PEMF + UC would have significantly lower consumption of analgesic medications compared with those receiving UC only.

Though the difference was not significant, overall, the PEMF + UC group had a higher mean oral analgesic consumption rate than the UC group at baseline—with an incline throughout the active treatment phase and then a decrease at the last wave of measurement from post-treatment to 1-month follow-up. The UC-only group had an increase from week 4 to week 8 of study participation.

Although the percentage of SMs using medications to treat their pain decreased slightly during active treatment with PEMF + UC, the average amount of medications taken by SMs in this group actually trended upward. We found no studies of adjunctive PEMF in chronic

pain management that examined medication use as an outcome variable of interest. This trend is not consistent with findings from a study of postoperative pain management with PEMF in women with breast surgery, which showed a threefold decrease in the amount of pain medications consumed by those in the active versus sham group by post-op day ($p < .001$). Perhaps these findings can be explained by differences in the unique nature of acute versus chronic pain or the fact that chronic LBP can be activity dependent, necessitating treatment with adjunctive medications intermittently.

Correlations of Chronic Pain

Comorbid mental health conditions are well-established correlates of chronic pain conditions. According to the Biopsychosocial Model of Chronic Pain, patients with a history of chronic depression, PTSD, and anxiety have a psychological vulnerability to developing chronic pain syndromes. Given the 14 years of sustained war and multiple deployments, rates of depression, anxiety, and PTSD have increased dramatically among SMs, as have

chronic pain conditions. Therefore, it was surprising that the baseline mean scores for these comorbid conditions in this sample of SMs were low. Overall mean scores in both treatment groups decreased slightly, representing a clinically and statistically nonsignificant outcome effect.

We found appreciable differences in anxiety severity scores between participants receiving UC + PEMF and those receiving UC alone. The UC group experienced an appreciable decrease in anxiety symptoms during the first 4-week period, with a slight increase during the last 4-week period, while the UC + PEMF group experienced a small but steady increase in anxiety symptoms over the full 9 weeks of study participation. The literature on electroanalgesia in general and on the Biomodulator™ device specifically does not mention anxiety as a potential side effect of treatment; however, we found no studies of PEMF that specifically examined anxiety as an outcome variable. Although self-treatment with a new device in and of itself could raise the anxiety symptoms in this group, one would not expect

2016

- Lt Col Jennifer Hatzfeld, USAF, NC, appointed eighth Executive Director.
- Migrates application process to Grants.gov.

2017

- Celebrates 25th anniversary during Research and Evidence-Based Practice Dissemination Course.





to see a sustained increase during the 4 weeks after active treatment when the PEMF treatment was stopped. Additionally, the greater drop in anxiety symptom severity in the UC group, rather than the small increase in anxiety symptoms in the UC + PEMF group, was most responsible for the significant between-group differences. The mild but sustained increase in anxiety symptoms throughout the course of treatment for the UC + PEMF participants is in contrast to small, clinically insignificant decreases in reported depression and PTSD symptom severity in this group.

Conclusion

This preliminary pilot study examined the efficacy of adjunctive PEMF in treating musculoskeletal LBP in military SMs and found trends in symptom improvement, although these trends were not clinically or statistically significant. The study also uncovered that this sample of military chronic LBP sufferers did not rely on regular

medication consumption to treat their LBP symptoms.

The addition of PEMF to a UC LBP treatment regimen significantly improved physical health–related quality of life in this military sample. In addition, adjunctive PEMF treatment negatively affected SMs’ reported mental health–related quality of life and anxiety symptom severity when compared with UC alone. This finding has not been previously reported in the literature and could affect determinations of who may or may not benefit from treatment with PEMF. This study informed military-relevant scientific knowledge on the use of PEMF as an adjunctive treatment for SMs with chronic LBP symptoms. It showed nurse practitioners and other health care providers that there is not sufficient evidence to recommend prescribing adjunctive PEMF treatment for chronic LBP symptoms in military SMs.

It also showed policymakers that there is insufficient evidence to

support investment in this treatment without further research into its effectiveness. Because this was a small pilot study using UC as a comparator, we recommend that a larger randomized controlled sham clinical trial be supported to definitively examine the effectiveness of PEMF for chronic LBP in military SMs. The results of this pilot study, although statistically and clinically not significant, were promising. They should be viewed in light of the study’s limitations: methodological issues and an inability to control for all confounders in this convenience sample recruited from a single military treatment facility.

Nursing has always been at the forefront of treating patients from a holistic perspective.

Nursing has always been at the forefront of treating patients from a holistic perspective. With the tremendous physical, emotional, and spiritual toll that 14 years of war has taken on our military SMs, the widespread reports of chronic pain among SMs, and the overreliance of military health care providers on opioids to treat chronic pain, the military nursing community has been at the forefront of exploring complementary integrative pain treatment modalities. Military nurse scientists, advanced practice nurses, and clinical nurses continually strive to expand the boundaries of the traditional medical model of pain treatment and are the vanguard of advancing the science of holistic, patient-centered, clinical pain management nursing practice. ★



U.S. Army Reserve Sgt. Christopher Duncan, of Columbus, Ga., spots Pvt. 1st Class Dunta Smith, a logistical supply specialist from Atlanta, as they exercise during their lunch break in the gym in the 335th Signal Command (Theater) headquarters building in East Point, Ga., Jan. 21, 2017. Both soldiers are with Charlie Company, 324th Expeditionary Signal Battalion. (U.S. Army Reserve photo by Staff Sgt. Ken Scar)





Implementing Sleep Apnea Research Findings into Practice

CAPT Dennis Spence, NC, USN

One of the challenges that nurse researchers often face is applying their research findings to practice. One way to achieve that goal is to use an evidence-based practice (EBP) framework, which combines the best available scientific evidence with clinical expertise and patients' preferences to make decisions about health care. The EBP framework can be used to improve processes and quality within a health care organization to promote patient safety or the health of our beneficiaries. At Naval Medical Center San Diego (NMCS), we are taking findings from a TSNRP-funded study and using an EBP framework to implement clinical practice changes for patients with suspected undiagnosed obstructive sleep apnea (OSA). This article will provide a brief overview of our research findings and describe our plan moving forward.

OSA is characterized by chronic, frequent airway obstruction during sleep. These frequent obstructions result in hypoxia and hypercarbia, which, over time, can contribute to significant morbidity and mortality. An estimated 93% of women and 82% of men with moderate to severe OSA are undiagnosed. Approximately one-third of surgical patients may have undiagnosed OSA. Alarming, one study found that 92% of surgeons and 60% of anesthesiologists failed to identify patients with preexisting or undiagnosed moderate to severe OSA. OSA is associated with increased perioperative morbidity and mortality. Furthermore, it is associated with increased incidence of pulmonary

and cardiac complications, in-hospital mortality, and costs after total joint arthroplasty (TJA).

Research Purpose and Design

My research team recently completed a TSNRP-funded study titled "Is Preoperative Administration of STOP-BANG Predictive of Adverse OSA Parameters?" The STOP-BANG (SB) is a screening questionnaire for undiagnosed OSA (0–8; ≥ 3 high-risk). Patients with a score ≥ 3 are considered at high risk for undiagnosed OSA, and those with a score ≥ 5 have a high probability of having moderate to severe undiagnosed OSA. We incorporated the SB into our preoperative screening process several years ago, and we use the score to help guide our perioperative management of patients. At the same time, NMCS rolled out a continuous respiratory monitoring program (continuous end-tidal carbon dioxide [CO₂] and pulse oximetry) on our medical-surgical units. We included an SB score ≥ 5 as one of the risk factors the medical staff could consider when ordering continuous respiratory monitoring. However, we had a limited number of portable continuous respiratory monitoring stands, and some anesthesia staff (Certified Registered Nurse Anesthetists [CRNAs] and Anesthesiologists) and surgeons wanted more evidence to support using the SB to guide postoperative management. We chose to study patients undergoing TJA (total knees and hips) because this population is at high risk for undiagnosed OSA.



CAPT Dennis Spence

We designed a prospective, observational cohort study to determine whether SB score is associated with and predictive of alterations in postoperative OSA parameters (apnea hypopnea index [AHI], total sleep time with SaO₂ < 90% [T90] and < 85% [T85], and lowest oxygen saturation during sleep [LSAT]). Patients undergoing TJA ($N = 84$) completed the SB and an unattended sleep study preoperatively and for the first 2 nights after surgery (night 0 and night 1). We used multiple linear regression to predict AHI, T90, T85, and LSAT, while controlling for 24-hour opioid consumption, average pain, and sleep quality, and we used a two-way mixed ANOVA to examine differences between SB score categories (< 3, 3–4, ≥ 5) and changes over time. Although it was not an aim of the grant, we also calculated the sensitivity



Demonstration of a WATCH-PAT sleep study. This is one of the devices we used for overnight sleep studies.

and specificity of the SB using the baseline AHI we had obtained.

Research Findings

The rate of undiagnosed OSA in this sample was 50% ($n = 42$). The rates of moderate to severe OSA and severe OSA were 34% ($n = 29$) and 7% ($n = 6$), respectively. Overall, 69% ($n = 58$) had an SB score of ≥ 3 and 32% ($n = 27$) had a score ≥ 5 . The sensitivity and specificity for SB score ≥ 3 were 86% and 46% for OSA, 92% and 37% for moderate to severe OSA, and 31% and 100% for severe OSA. Using an SB score ≥ 5 increased the specificity for mild, moderate, and severe OSA to 85%, 79%, and 72%, respectively. These results are consistent with previous findings.

We found that SB score was predictive of postoperative AHI, T90, and LSAT on night 0 and night 1 ($p < .05$); it was predictive of T85 only on night 1 ($p < .05$). These results indicate that patients

who had a higher SB score had more obstructive (higher AHI) and hypoxemic (T90, T85, LSAT) events during sleep. Patients who consumed more opioids (total morphine equivalents) spent more sleep time with a $\text{SaO}_2 < 85\%$ (T85) on night 0 ($p < .05$). [Figures 1](#) and [2](#) illustrate the impact of different SB scores on sleep parameters.

We found that the AHI was lowest on night 0 ($p = .009$), then rose back to near baseline on night 1 ($p = .84$). Patients with SB score of 3–4 ($p = .01$) and ≥ 5 ($p < .001$) had significantly higher postoperative AHI than those with an SB score < 3 ($p < .05$). T90 was significantly longer than baseline on night 0 ($p = .02$) and night 1 ($p = .02$). Patients with an SB score ≥ 5 had a longer T90 than those with a score < 3 ($p = .021$), but a similar T90 to those with SB scores of 3–4 ($p = 1.0$). T90 was similar in groups with SB scores 3–4 and < 3 ($p = .117$). No time or group differences were found in T85. Patients with SB scores ≥ 5 had lower LSAT compared to those with a score of < 3 ($p = .026$) or 3–4 ($p = .05$).

These results indicate that the AHI and T90 changed over time during the postoperative period and that worsening of sleep apnea parameters was associated with a higher SB score. Patients with a higher SB score (≥ 3) had significantly higher postoperative AHI than those with a score < 3 ; T90 was highest in those with a score ≥ 5 . The LSAT was significantly lower in patients with an SB score ≥ 5 than in those with a score < 5 . The AHI was lowest on the night of surgery (night 0) and rebounded back near baseline on night 1, whereas T90 peaked on night 1. On night 1, patients had, on average, 114 minutes of T90 as compared to only 71 minutes on

night 0 (night of surgery). These findings are important because they suggest that we should be concerned about worsening hypoxemia during sleep on night 1—rather than just on night 0—in patients with OSA and should consider continuing OSA precautions (e.g., continuous end-tidal CO_2), especially in patients with SB scores ≥ 5 beyond night 1.

Taken together, our results confirmed that the SB is a useful tool for screening TJA patients for undiagnosed OSA. The results also indicate that patients undergoing TJA with an SB score ≥ 3 should have perioperative OSA precautions implemented and should be referred for a postoperative sleep study. On a case-by-case basis, anesthesia providers and nurses may want to consider using continuous respiratory monitoring systems (continuous end-tidal CO_2 and pulse oximetry). Patients with an SB score ≥ 5 likely have moderate to severe OSA and may benefit the most from continuous respiratory monitoring. Nursing leaders should track continuous respiratory monitoring use and consider purchasing additional monitors if demand exceeds supply.

Implementing Our Findings

One of the most striking findings was the high rate of undiagnosed OSA. Some selection bias may be involved, because patients who volunteered might have suspected that they had undiagnosed OSA. However, this is a problem with all OSA studies. We believed that although the rate we found may be high, it probably is pretty accurate, because TJA patients in general have more risk factors for undiagnosed OSA. Regardless of whether selection bias occurred, we felt it was

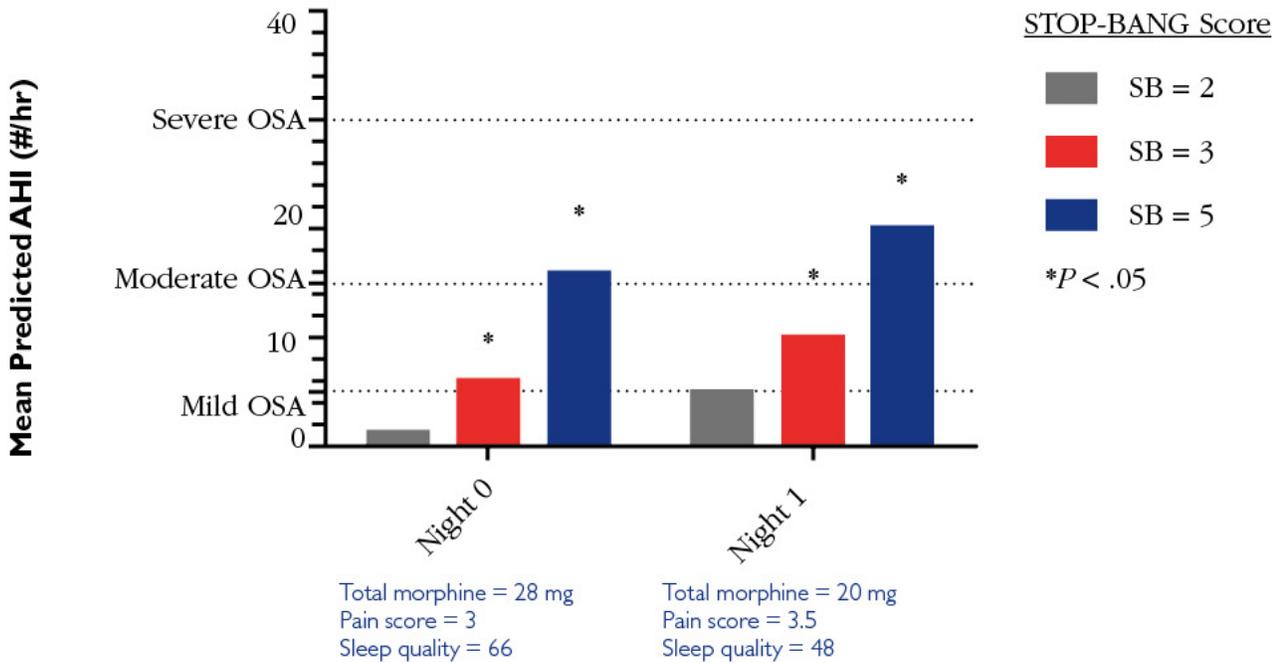


Figure 1. Mean Predicted AHI

Results demonstrate different mean predicted AHI using an SB score of 2, 3, or 5. Total morphine equivalents, pain score, and sleep quality are the average results for each night. Pain scores used a 0–10 scale, and sleep quality ranged from 0 to 100, with a higher score denoting worse sleep quality.

important to do something about our findings. Current guidelines do not recommend preoperative sleep study referral unless the patient has uncontrolled systemic disease. Therefore, we developed an EBP project to implement a process for referring TJA patients with an SB score ≥ 3 for a postoperative sleep study. Our orthopedic surgeons were very happy that we took an interest in the care of their patients and wholeheartedly supported the project. Likewise, we had strong support from the leadership within the NMCSA Anesthesia Department.

Successful EBP projects include a diverse team and identify stakeholders who can help (or hurt) the project. Therefore, we contacted the NMCSA Anesthesiology Residency Program Director, LCDR Sara Gonzalez, and asked whether she had some residents who would be interested in spearheading the project. She was happy to provide us with two first-year anesthesia residents to take the lead. Reaching out to elicit support from the Anesthesiology Residency Program Director helped strengthen our relationship with our physician

colleagues and allowed the residents to meet the scholarly requirements of their program. Additional team members identified so far include an orthopedic resident, a sleep medicine physician, and a number of CRNAs within the Anesthesia Department.

Our anesthesia residents will co-lead the team while I serve as a mentor/champion. Our tentative plan is to use an SB score ≥ 3 as a trigger for referring TJA patients for a postoperative sleep study. Currently, all of our TJA patients are seen in our Preoperative Clinic, and we

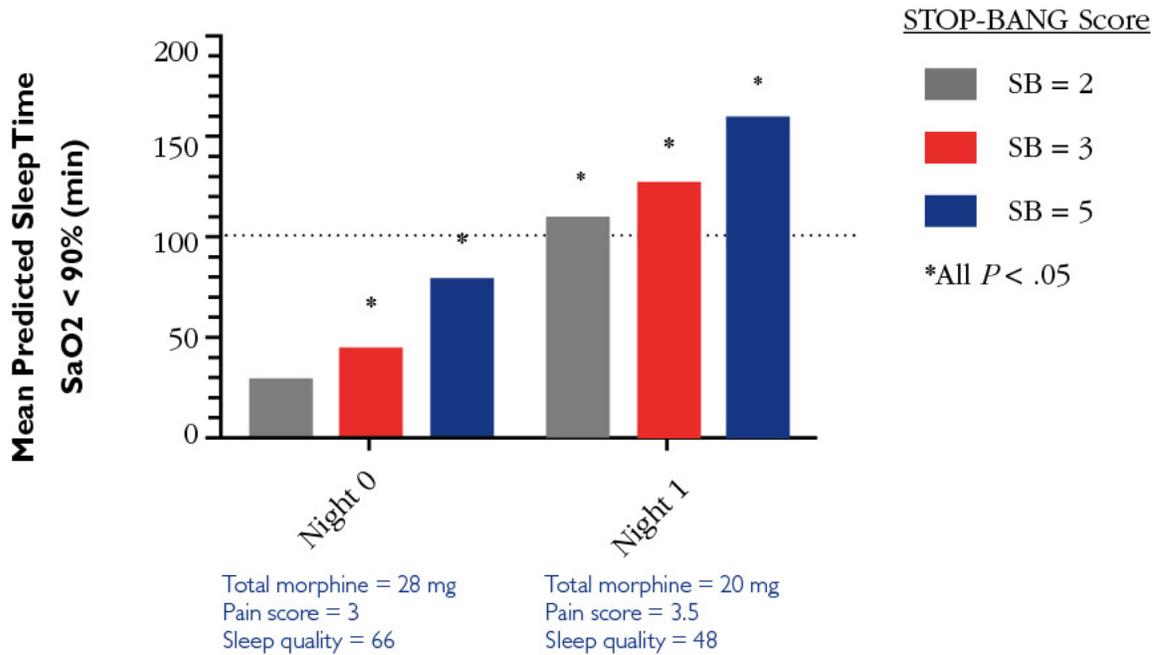


Figure 2. Mean Predicted Sleep Time with SaO₂ < 90%
 Results demonstrate different mean predicted T90 using an SB score of 2, 3, or 5. Total morphine equivalents, pain score, and sleep quality are the average results for each night. Pain scores used a 0–10 scale, and sleep quality ranged from 0 to 100, with a higher score denoting worse sleep quality.

already collect SB scores on all adult surgical patients, so this will not place an additional burden on the patient or the preoperative clinic staff. The team will identify the most efficient method for generating the consult and then educate the staff within the Preoperative Clinic and Anesthesia Department on the new process. They will develop a list of metrics for tracking program success and utilization and report those to the Anesthesia Department leadership. Our long-term goal is to expand the program to other NMCS surgical patients. Our Sleep Medicine

colleagues are very eager to assist in the screening of our surgical patients and to collaborate on future projects.

Undiagnosed OSA is a significant problem we face every day in the operating room. Using our research findings and an EBP framework will allow us (CRNAs and anesthesiologists) to move beyond the surgical drapes and hopefully improve the health of our patients. I hope that within a year, I will be able to report back to our readers on the outcome of this program. If successful, the process

could be spread across the Military Health System. ★

References used in this article are available upon request. If you would like a reference list, please contact CAPT Spence at dennis.l.spence.mil@mail.mil.



Caring for Yesterday's Heroes: Implementation of a Comprehensive Geriatric Assessment Guideline on a Trauma Intensive Care Unit

Lt Col Cheryl L. Lockhart, USAF, NC



Lt Col Cheryl L. Lockhart

In 2015, Landstuhl Regional Medical Center (LRMC) was in the midst of change. For more than a decade, the wounded and ill from the Southwest Asia Areas of Operation (i.e., area of responsibility) had filled the beds of the military's only Level 1 trauma hospital. Aeromedical evacuation missions flew wounded warriors from the battlefields to Germany, where they stayed for hours, days, or even weeks waiting for their flights back home. From 2001 to 2014, more than 61,000 wounded Service members were cared for at LRMC, and in the intensive care unit (ICU), 85% of the patients were wounded warriors.

During 2013, the operations tempo declined, and the number of ICU trauma admissions from the battlefields dropped to 162 patients for the year and to 56 in 2014. The decrease in trauma patients freed up beds for other patients including retirees, veterans, and their family members. In the 24-month period

from January 2013 to January 2015, 279 geriatric patients were admitted to the ICU.

The increase in the geriatric patient population coincided with an increase in geriatric patient safety events. During 2013–2015, three significant skin integrity events and several falls occurred in the geriatric ICU population; one case resulted in a definitive poor patient outcome.

As the clinical nurse specialist on the LRMC ICU, I witnessed first-hand the effects of the rapid population shift on our nursing capabilities. Nurses who were experts at caring for 18-year-olds with war injuries lacked the specific knowledge to care for medical ICU 80-year-olds suffering from multiple comorbidities. At the time, I was also preparing for my final year in my Doctorate in Nursing Practice program and saw this ICU situation as a great opportunity to advance the care provided on our ICU through evidence-based practice (EBP) in combination with my Capstone project. Fortunately, TSNRP offers a Capstone EBP grant that I was subsequently awarded to facilitate the project and support my Capstone.

For the project change model, I selected the Iowa Model of EBP to Improve Quality Practice. I used the safety events data and our geriatric nursing knowledge deficit as the project triggers. Per the model, the next steps were to form a team. I had been discussing the need for this type of project for a few months and had both institutional and

peer support. We all had identified the fact that our lack of geriatric knowledge affected our nursing care, medical care, and pharmaceutical care. Consequently, when I asked committee members to join the project team, several people from the ICU multidisciplinary team volunteered. The final team consisted of our medical ICU director, the ICU acute care nurse practitioner, the ICU registered dietitian, the ICU Pharm PhD, the ICU clinical nurse officer in charge, and an ICU staff nurse. Physical therapy, occupational therapy, the Clinical Information Technology team, the Education and Training staff, and the Center for Nursing Science and Clinical Inquiry team were ancillary members and provided me with expertise and assistance in their areas. My mentors were COL Susan Hopkinson and my Capstone Committee Chairperson, Yvonne Scherer, EdD, RN. This project ultimately affected the entire inpatient environment.

The main focus of the project was preventing patient safety events by educating the staff on the risks unique to the geriatric population, as expressed in the PICO statement: For geriatric patients over the age of 65 admitted to the LRMC ICU (P), did implementing an evidence-based comprehensive geriatric assessment (CGA) guideline for assessment and care planning (I), compared to using the standard adult assessment (C), improve geriatric nursing knowledge and geriatric patient safety (O)? An unstated focus of the project was to develop an appreciation for the geriatric patient



and facilitate the same passion for these patients and their families as we had for our younger wounded warrior population.

The literature search included geriatric care, risk identification, specialty training, and patient safety and resulted in 10 pertinent articles. I looked specifically for an evidence-based clinical practice guideline that the nursing staff, once trained, could use to identify specific age-related risks for the geriatric patient, implement appropriate risk-mitigation measures, and simultaneously document the process. I found six CGA guidelines that incorporated risk-specific assessments into an assessment process. I ultimately chose CGA guidelines that included the mini nutritional assessment tool, the

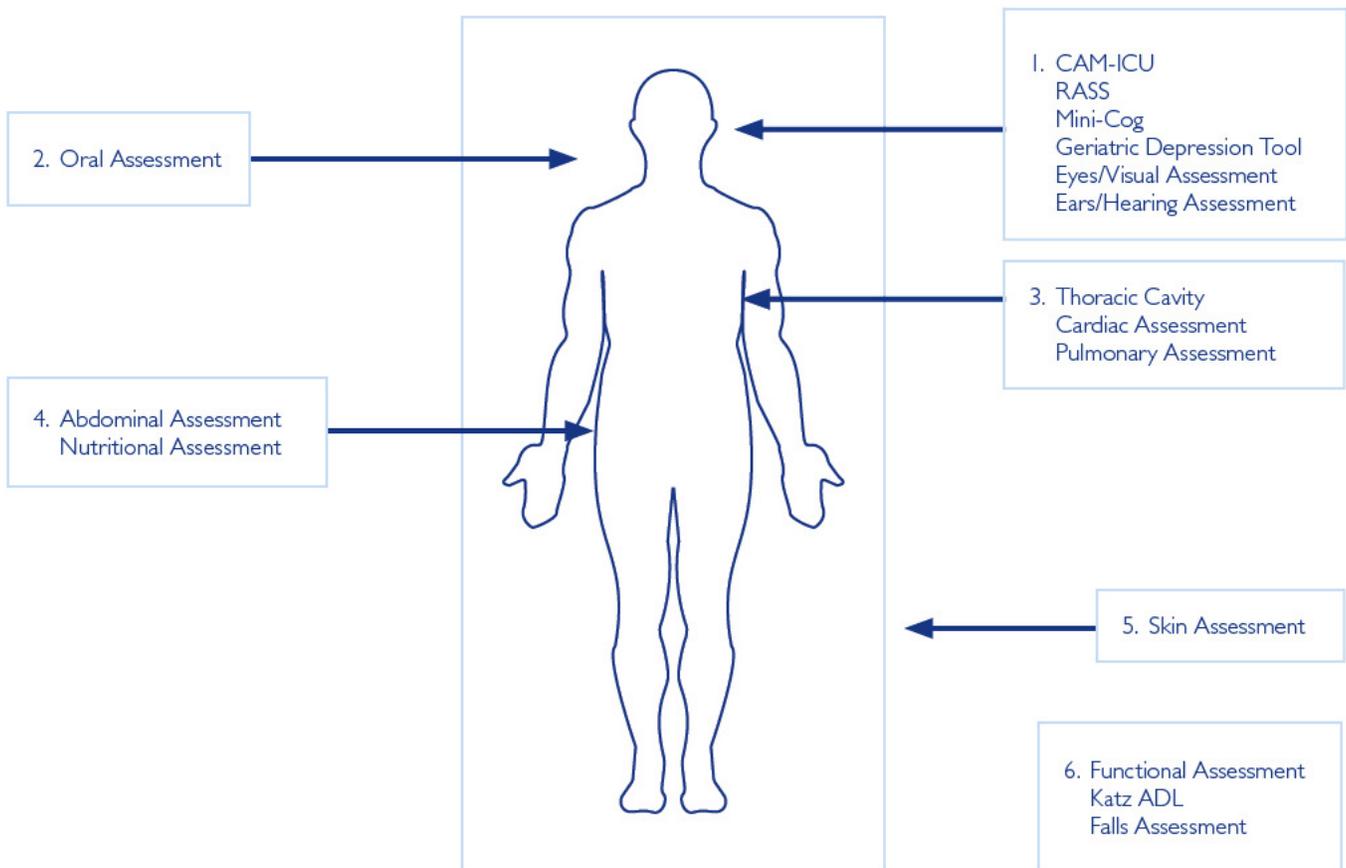
Mini-Cog dementia tool, the Katz Activities of Daily Living function assessment tool, and three other tools. I wanted the nurses to be able to use these tools efficiently and effectively. Thus, I organized them as part of the head-to-toe initial ICU admission checklist and worked with the LRMC clinical systems team to build them into Essentris®, the military's inpatient electronic health record system, as pilot project documentation. This process helped in assessing the project's outcome because I was able to review the assessments and determine the use of the tools and successful risk identification.

My TSNRP grant funded the knowledge acquisition classes. In addition, I used the grant funds to purchase the geriatric training

manikin and supplies, two geriatric simulation suits, simulation recording devices, and course materials. An 8-hour course was developed that provided didactic geriatric training and simulated risk assessment using the CGA checklist. Many of the risk tools required patient question-and-answer segments, which our project team used as an opportunity to encourage our nurses to "get to know" and value the accomplishments of our simulated veteran patients. As part of the simulated assessment process, each assessment was documented in real time in the Essentris pilot as a test patient.

The first outcome measure, knowledge acquisition, was measured by quasi-experimental, within-subjects pre- and post-

Comprehensive Geriatric Assessment Tool





t-tests using the Boltz knowledge and attitude Geriatric Institutional Assessment Profile tool. The number of ICU students was substantially lower than planned due to mission requirements, so the project was expanded to medical-surgical, aeromedical, and clinic nurses for a final count of $n = 21$ students. No significant difference was found for the attitude pre-intervention test (mean [M] = 4.28, standard deviation [SD] = 1.38) and post-intervention test (M = 4.42, SD = 0.97) scores ($t(6), -420, p > .05$). The knowledge portion did indicate that a significant difference in the pre-intervention knowledge test (M = 14, SD = 1.52) and the post-intervention knowledge test (M = 16.7, SD = 1.88) scores ($t(6), -3.35, p < .05$). Several conditions may have contributed to these outcomes, including the low n ; the grading tool for the test, which dichotomized the Likert scale; and a higher level of initial geriatric

knowledge due to organizational age-specific training that occurred just before project inception. Post-course reports submitted by the students stated that they valued the training and found the simulation portion useful.

The other outcome measure, patient safety, demonstrated no new patient falls or skin integrity issues for 3 months following implementation of the project ($n = 78$). Data for an additional 3 months post-intervention are still being compiled.

The committee learned several things that were not captured in the outcome measures. We found that although the Essentris geriatric admission assessment worked to identify the geriatric risks, the nurses did not consistently complete it, because they were already required to do the standard ICU admission. One suggestion would be to have

the geriatric assessments and the standard assessment combined as a geriatric admission note. We also identified the need to have an initial tool to triage the patients who would actually benefit from specialized risk assessment. Many of the over-65 population were very high functioning and did not trigger any risk measures.

The most important lesson that the team learned in this project was that once we identified that we were not providing age-specific care, we were able to initiate a culture change that went far beyond the classes and the documentation. In deciding to focus on our aging warriors and their families, we helped our staff embrace these patients as an important, ongoing, and unique segment of our warrior family. ★



Preventing and Managing Protocol Deviations

When conducting research—or working on an evidence-based practice (EBP) project that requires institutional review board (IRB) approval—things don't always go as planned. In some cases, that results in a protocol deviation, which means that the approved protocol wasn't followed as written. Often the deviation is a relatively minor event—perhaps a form was missed by the patient or there was an unavoidable delay in one of the steps of the project. But sometimes the study team makes mistakes that compromise patient confidentiality; affect the study's internal validity; or even cause harm to a research subject, whether human or animal. These protocol deviations or (if serious) protocol violations are often preventable but still need to be managed to ensure that participants are protected and that the study is successful.

The first opportunity to prevent a protocol deviation is during the design of the project. Understanding the natural flow of the project setting or how the prospective participants engage with the research project is important. If the project relies on secondary data analysis, you need to know the exact details of the data set and the way in which the data are pulled and sent before writing up the protocol. Taking the time to understand these processes and get feedback will help ensure that the design of the project flows well with existing processes and will be easy for the study team and the participants to follow. Also, make sure that you aren't being overly restrictive on the process if you don't need to be. For instance, if the data do not need to be collected at an exact time or date, provide

a time frame when the data will be collected; instead of collecting results after 7 days, state that data will be collected approximately 1 week later. Don't make the process harder on yourself than it needs to be!

Good clinical practice recommends establishing standard operating procedures (SOPs) for research studies. Although the protocol may define how and when the data will be collected, there are other smaller steps that need to be defined to help the study team. These procedures should also include important details about how new study team members will be trained; how the study files will be maintained; and how to ensure that all study team members use the most current versions of the protocol, data collection forms, and informed consent documents. Spending some time to develop a flowchart or checklist for each part of the study (for the study team or the participants) can help ensure that each step is followed correctly. I've found it very helpful to work on this step after submitting the protocol and waiting for approval—just make sure to incorporate any changes that are required. One of the Institutes of the National Institutes of Health has compiled a comprehensive toolkit for clinical researchers that includes examples of SOPs, form templates, and training resources that may be a helpful starting point (see <https://www.nidcr.nih.gov/Research/toolkit/>).

Another important tip to avoid protocol deviations is to conduct a “dry run” of the project before you're ready to begin. Sometimes you might want to design a separate pilot study, but most times, it just takes a “walkthrough” of the process

with the study team to identify some key gaps that could cause problems. Maybe the location of the supplies makes things confusing or the only private room available to consent patients is now occupied. The walkthrough is also helpful for the team to visualize the steps and clarify anything that hasn't already been covered in the protocol or in the SOPs.

Staying actively engaged through the data collection process is very important for the Principal Investigator. Setting up a process and schedule to review and observing the steps in the protocol can help ensure that the process is being followed. This quality assurance approach is an important element to ensure the internal validity of the study and to identify problem areas that could result in a protocol deviation.

If you do discover a protocol deviation, the most important first step, as with any other adverse event, is to make sure the participants are safe. The next most important step is to contact the IRB office to report the protocol deviation and follow their guidance on how to report it. After you contact the IRB, you may need to take a little time to understand the contributing factors and the extent of the problem. But informing the IRB right away ensures they are aware of the event and shows that you are being diligent in following protocol. If the project has been funded by another organization, it is important to report the deviation to the funding agency as well. Depending on the nature of the deviation, it could be reported in the next progress report or may require a special notification.



Educational Programs

If the project is funded by TSNRP, feel free to contact your grants manager to find out what steps should be taken.

Good clinical practice recommends establishing standard operating procedures (SOPs) for research studies.

If multiple protocol deviations occur on the same study, that is usually a sign that a problem exists with the protocol, the study team, or both.

Even if the deviations are relatively minor, take the time as a team to look at the trends and find out how best to prevent them systemically. If you are testing an intervention, remember that deviations during the research phase mean that it would probably be even more difficult to translate that intervention into clinical practice.

Protocol deviations are often preventable, but as an investigator, I have been a part of a few protocol deviations and understand that sometimes they are a natural result of conducting research in “real life.”

Being prepared to manage these deviations is an important skill for anyone working on a research project, but if (or when!) a protocol deviation occurs, it can also help prevent more serious protocol violations later in the study or on a future project. Whether you are new to research or have conducted research for many years, take some time to prevent and prepare for protocol deviations before you begin each project. ★



Evidence-Based Practice Course Comes to Tripler Army Medical Center

Shannon Sarino, TSNRP Outreach Coordinator

Approximately 30 nursing professionals came together 2–3 March 2017 at Tripler Army Medical Center (TAMC) for TSNRP’s Evidence-Based Practice (EBP) Course.

The course was taught by CAPT(ret) Maggie Richard, NC, USN, and CDR Kenneth Wofford, NC, USN, and focused on the importance of evidence for the advancement of nursing practice. Attendees began with a review of EBP and the historical evolution of EBP before

moving on to EBP methodology and principles.

Hosted by the TAMC Center for Nursing Science and Clinical Inquiry, the EBP Course encouraged attendees to work through the EBP process with their own identified research questions.

When they registered for the EBP Course, attendees developed a research, or PICO (population, intervention, comparison, outcome), question based on their own clinical

nursing practice. Throughout the sessions, as the attendees met with TAMC librarians to review literature searches and broke into smaller groups with the course faculty, they were encouraged to continue to work through their PICO question.

As the course came to a close, attendees presented their PICO questions to the entire group, reviewing the work that had been done to refine the research question and noting how they planned to move forward with their research. ★



Evidence-Based Practice (EBP) Course attendees listen to a lecture from CDR Kenneth Wofford at the beginning of the EBP Course, held 2–3 March 2017 at Tripler Army Medical Center.



WRNMMC Course Teaches Evidence-Based Practice Skills

CDR Virginia Blackman



CAPT(ret) Maggie Richard with EBP Course student attendees

Nurses from across Walter Reed National Military Medical Center (WRNMMC) inpatient and outpatient settings came together 6–7 October 2016 for 2 days of intensive work learning how to apply evidence-based practice (EBP) concepts and strategies to clinical problems. The TSNRP-sponsored course was taught by CAPT(ret) Maggie Richard, NC, USN, and CDR Ken Wofford, NC, USN, a faculty member at the Uniformed Services University of the Health Sciences Graduate School of Nursing.

The course provided an opportunity for direct mentorship from EBP experts, enabling the 12 participants to overcome obstacles, gain confidence in their skills, and clearly identify the steps needed to move their projects forward. WRNMMC clinical librarians Sarah Cantrell and Michele Mason-Coles provided information on search strategies for identifying relevant literature and tips on “how to get the most help from a clinical librarian” when beginning an EBP project or encountering any sort of clinical question. As the

“host nurse scientists,” CDR Virginia Blackman, NC, USN, and CDR Bill Danchanko, NC, USN, provided attendees with current information on the oversight process for EBP projects at WRNMMC. This will ensure that accurate delineation is made between research and EBP, and all projects are conducted with appropriate oversight for both

patient protection and to ensure that results can be published. The course was held in the meeting room spaces of the United Service Organizations on base at Naval Support Activity Bethesda. The TSNRP staff ensured a smooth-operating course, managing all of the logistics and guaranteeing that all participants were able to maximize their learning.

Attended by both junior and more senior staff, the TSNRP EBP Course at WRNMMC validated the importance of nurses at all levels using best evidence to guide practice that will optimize patient outcomes. Further, nurses learned many of the specific skills and processes needed to shepherd an EBP project from “great idea!” to completed, published project. Through building and strengthening cohorts of nursing leaders proficient in EBP, TSNRP is helping to advance nursing practice! ★



EBP Course faculty and attendees



From the Grants Managers

Post-Award Education and Proactively Managing a Grant: Striving for Excellence

Pam Moses, TSNRP Program Manager

Just as TSNRP invests in military nurse scientists through Research and Evidence-Based Practice (EBP) Grant Camp, EBP courses, and other educational events, we also provide education to military nurse scientists after they receive funding. From 2000 to 2012, TSNRP held a Post-Award Grants Management Workshop, where newly awarded Principal Investigators met with the TSNRP Executive Director, TSNRP staff, and subject matter experts to learn about grants management in the federal context. Participants reported that the 3-day course was useful in helping them to understand the relationships between the federal and U.S. Department of Defense guidance and TSNRP requirements. They also appreciated receiving face-to-face assistance from the TSNRP Executive Director and meeting the grants managers assigned to their projects. However, in 2013 there was a significant travel restriction, so we changed the interactive workshop to a virtual platform. The workshop modules are available on the TSNRP website, and all new Principal Investigators are required to take the training.

For 2017, we have developed a new 2-hour Post-Award Workshop that will be integrated into the Research and Evidence-Based Practice Dissemination Course. The workshop will once again give participants time to meet with the TSNRP staff and talk through some

of the most important aspects of managing a grant. In addition, we have created a *Post-Award Grants Management Handbook* that contains key information for conducting a TSNRP study, such as reporting requirements, how to make changes to an existing grant, and how to navigate the secondary regulatory approval process. The handbook also includes workbook features to assist Principal Investigators with tracking study activities and managing resources. We have developed this handbook with the hope that TSNRP-funded nurse scientists and their teams will refer to it frequently and will find it to be a helpful resource for conducting their projects.

For all current TSNRP investigators, proactively managing a project's timeline and budget is critical. While there are often unanticipated events that occur, it is important to make sure that principal investigators evaluate potential issues with the timeline and the budget from the very beginning of the project.

Investigators' most frequently encountered challenge with their timeline is the amount of time needed to get initial institutional review board (IRB) approval and begin data collection. IRB approval is an important issue that the grants managers evaluate in the first interim (6-month) report. If the start letter hasn't been issued by that

time, TSNRP will reach out to find out what can be done to assist in the process.

For all current TSNRP investigators, proactively managing a project's timeline and budget is critical.

A common budget issue occurs when investigators have extra funds available at the end of the period of performance. TSNRP obligates the entire budget amount when the grant is awarded; therefore, remaining award funds cannot be returned to TSNRP. Consequently, it is very important for investigators to carefully track their spending and anticipate throughout the research project how much funding will remain. If enough time is left on a project, potential changes can be made to the award that could contribute to the approved project aims and ultimately benefit TSNRP. Grants managers look closely at the budget information when they review the annual progress reports, and the grantee organization also tracks that information closely. However, the Principal Investigator is in the best position to know when it would be appropriate to begin a discussion about possible remaining funds. ★



TSNRP Resource Center Continues to Develop Training Opportunities for Nurse Scientists

Shannon Sarino, TSNRP Outreach Coordinator

The TSNRP Resource Center is hard at work developing a full complement of courses to meet the needs of TSNRP's nurse scientists.

In April 2017, TSNRP will hold its annual **Research and Evidence-Based Practice (EBP) Dissemination Course** at the Turf Valley Resort in Ellicott City, Maryland. A record-breaking 144 abstracts were submitted for the Karen Rieder and Phyllis J. Verhonick Research and EBP Poster Session: 63 research abstracts, 59 EBP abstracts, and 22 "other." In addition to the poster session and breakout sessions, the Dissemination Course will feature keynote lectures from Patricia Grady, PhD, RN, FAAN, director of the National Institute of Nursing Research, and Col (ret) Regina Aune, USAF, NC, an Air Force flight nurse in Vietnam and an early member of the TSNRP Advisory Board.

TSNRP will hold the **Research and EBP Grant Camp**, designed to provide information critical for writing successful grant proposals, on 10–14 July at North Island Naval Air Station in San Diego, California. The Grant Camp is for military nurses with master's or doctoral degrees and graduate nurses who plan to submit a TSNRP research grant application. Registration for this course closes on 31 May.

The Resource Center is planning a revised **EBP Course**, to be held in Portsmouth, Virginia, in fall 2017. Stay tuned for more information about the course and how to register.

In addition to the 2017 courses, the Resource Center is creating new **Post-Award Grant Management Training**, including new online videos, which we expect to debut on the TSNRP website late this year.

We will supplement the online training with a Post-Award Workshop and Post-Award Handbook for all new investigators.

Lastly, save the date! Pending approval, the 2018 **Research and EBP Dissemination Course** has been scheduled for 30 April–4 May 2018 at the La Quinta Riverwalk in San Antonio, Texas. More information will be available in the fall. Plans are also under way to explore bringing the Dissemination Course to the West Coast in the spring of 2019.

If you have questions about courses or suggestions for other material the Resource Center can create to benefit you, please contact Kemia Duncan, deputy program manager, outreach and education, at kemia.duncan.ctr@usuhs.edu. ★

More Congratulations



Congratulations to Lt Col Laurie A. Migliore, who recently pinned on her new rank while deployed.



Published Articles and Presentations by TSNRP Nurse Scientists

Published Articles

Army

Ketz, A. K., Byrnes, K. R., Grunberg, N. E., Kasper, C. E., Osborne, L., Pryor, B., Tosini, N. L., Wu, X., & Anders, J. J. (2016). Characterization of macrophage/microglial activation and effect of photobiomodulation in the spared nerve injury model of neuropathic pain. *Pain Med* (Epub ahead of print 6 Aug). doi: 10.1093/pm/pnw144

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Lystrup, R. M., **West, G. F.,** Olsen, C., Ward, M., & Stephens, M. B. (2016). Pedometry to prevent cardiorespiratory fitness decline—Is it effective? *Mil Med* 181(10), 1235-1239.

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Patrician, P. A., **McCarthy, M. S.,** **Swiger, P.,** Raju, D. **Breckenridge-Sproat, S.,** Su, X., Randall, K. H., & Loan, L. A. (2016). Association of temporal variations in staffing with hospital-acquired pressure injury in military hospitals. *Res Nurs Health*. (Epub ahead of print 9 Dec). doi: 10.1002/nur.21781

Podlog, L. W., & **Brown, W. J.** (2016). Self-determination theory: A framework for enhancing patient-centered care. *J Nurse Pract* 12(8), e359-e362.

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Navy

Williams, R., Williams, M., Stanton, M. P., & Spence, D. (2017). Implementation of an obstructive sleep apnea screening program at an overseas military hospital. *AANA J* 85(1), 42-48.

Air Force

De Jong, M. J., Dukes, S. F., Dufour, K. M., & Mortimer, D. L. (2017). Clinical experience and learning style of flight nurse and aeromedical evacuation technician students. *Aersp Med Hum Perform* 88(1), 23-29.

Presentations

Army

Dickinson, C. (21-24 September 2016). "Identifying correlates and factors of nursing teamwork in a military hospital." 2016 Army Nurse Corps Association (ANCA) Convention, San Diego, California.

Hopkinson, S. (21-24 September 2016). "Development of an instrument to characterize nurse leader communication behavior." 2016 ANCA Convention, San Diego, California.

Lewis, P. (21-24 September 2016). "The effect of smoking on healing and limb perfusion among military traumatic amputees." 2016 ANCA Convention, San Diego, California.

Melvin, K. (21-24 September 2016). "Exploring the amount and types of trauma exposure in military spouses." 2016 ANCA Convention, San Diego, California.

Reed, J., & Attilo, P. (21-24 September 2016). "Abnormal citrullination of brain proteins: A long-lasting consequence of head trauma and blast injury." 2016 ANCA Convention, San Diego, California.

Weidlich, C. (21-24 September 2016). "Nurse-led cognitive behavioral therapy for insomnia in service members with PTSD in a residential treatment program." 2016 ANCA Convention, San Diego, California.

Yauger, J. (21-24 September 2016). "Iron accentuates reactive oxygen species generation without inducing a polarization shift within microglia." 2016 ANCA Convention, San Diego, California.

Navy

King, H. (14-18 August 2016). "Global health engagement missions aboard US naval hospital ships: Perceptions of mission readiness." Military Health System Research Symposium, Kissimmee, Florida.



Kudos

Congratulations to new Army Nurse Corps officers selected for a PhD program:

- CPT Melissa Miller (starting fall 2017)
- CPT Jeff Ransom (starting fall 2017)

Congratulations to the CY17 Air Force Medical Service Health Profession Education Program selects:

- PhD Nursing Science:
 - Maj Theresa Bedford
 - Maj Regina Owen
 - Capt Stephanie Raps
 - Maj Tonya Spencer
- Advanced Development—Acquisitions and Nursing Research Fellowship:
 - Maj Daniel Bevington

MAJ (ret) Mary McCarthy, AN, USA (Madigan Army Medical Center), and **COL (ret) Lori Trego, AN, USA** (San Antonio Military Medical Center), were both inducted as Fellows of the American Academy of Nursing during the October 2016 National Congress.

COL Jennifer Coyner, AN, USA, received the 2016 9A Proficiency Designator.

LTC Ann Ketz, AN, USA, was designated a Fellow in the American Society for Laser Medicine & Surgery, Inc.

TSNRP congratulates all of these nurse scholars on their recent accomplishments!

Promotions

The following military nurse scientists recently received promotions in military rank. Please join us in congratulating these exceptional military nurses.

Army

- Carla Dickinson to COL (O-6)
- Pauline Swiger to LTC (O-5)

Navy

- Lisa Braun to CAPT (O-6)
- Heather King selected for CAPT (O-6)

Air Force

- Jennifer Hatzfeld selected for Col (O-6)
- Antoinette Shinn selected for Col (O-6)
- Candy Wilson selected for Col (O-6)



Special Topics

Sigma Theta Tau International Revives Federal Chapter

Lt Col Shawna Greiner, USAF, NC

Sigma Theta Tau International (STTI) is a nursing honor society dedicated to leadership, research, and the support of global health initiatives. STTI provides a number of membership benefits, including recognition, member publications, continuing nursing education opportunities, career assistance, and other products and services. However, one of the most important benefits of membership is the ability to get connected and stay involved with other nurses who are dedicated to excellence in nursing.

Most STTI chapters are associated with a specific nursing school, but STTI also has a federal chapter named Tau Theta. If you have ever been an STTI member and would like to be a part of the federal chapter, you are welcome to join. The process is simple: You can maintain your original STTI

membership and either add Tau Theta or convert (or renew) to Tau Theta membership. If you aren't already an STTI member, you can apply for membership as a nurse leader if you have demonstrated achievement in nursing through administration, education, global health, clinical practice, publication, research, or another area of the profession.

The Tau Theta Chapter was approved in 2003, with the primary mission of supporting and connecting nurses practicing in the federal health care system. We conduct much of our business "virtually" via the Internet, and we encourage Tau Theta members to use our social networking sites to connect with other members throughout the world. This global community of nurse leaders has never been more important than



it is today, as we work together to ensure a bright future for the nursing profession and global health.

If you would like to apply for or amend your STTI membership, you can do so at STTI's website at <http://www.nursingsociety.org/why-stti/stti-membership/apply-now>. To stay up to date with upcoming events, you can connect with the [Tau Theta Chapter](#) on Facebook—search for "Sigma Theta Tau, Tau Theta Chapter." ★

Retirements

TSNRP congratulates **COL Vinette Gordon** on her recent retirement from the Army. COL Gordon served as the Deputy Corps Chief for the Army Nurse Corps and is a former member of TSNRP's Executive Board of Directors.

Congratulations are also due to **COL Denise Hopkins-Chadwick** on her recent retirement after 30 years of service to the Army and Army Nurse Corps. COL Hopkins-Chadwick was also a long-serving member of the TSNRP Advisory Board.

In addition, please join us in wishing the very best to **LTC MeLisa Gantt, LTC Felicia Rivers,** and **LTC Meryia Throop** on their recent retirement from Army service.

TSNRP also congratulates **CAPT Jacqueline D. Rychnovsky** on her recent retirement from the Navy and the Navy Nurse Corps.



MEDICAL MUSEUM SCIENCE CAFÉ 2017



THE TRISERVICE NURSING RESEARCH PROGRAM

25 Years of Supporting Excellence in Military Nursing



TUESDAY, JULY 25, 6-7 PM

The TriService Nursing Research Program (TSNRP) was started in 1992 to foster nursing research within the military. Today, the program is supported by the Nurse Corps in the Army, Navy, and Air Force, and supports military-relevant nursing research and collaboration among the Services on common research interest topics. Join TSNRP Executive Director U.S. Air Force Lt Col Jennifer Hatzfeld, PhD, RN for a unique insight into the world of nursing research within the U.S. military.



National Museum of Health and Medicine
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Events and Deadlines

Calendar

July 2017

Research and Evidence-Based Practice (EBP) Grant Camp

10–14 July 2017
Naval Air Station North Island
San Diego, California

*Registration deadline is
31 May 2017.*

Fall 2017

EBP Course

Revised Curriculum
(pending approval)
Portsmouth, Virginia

April–May 2018

Research and EBP Dissemination Course

30 April–4 May 2018
(pending approval)
San Antonio, Texas

Know Your Research Specialty Leaders

Your research specialty leaders are a valuable resource for current research requirements and initiatives throughout the military, the U.S. Department of Defense, and the Federal Nursing Services.

U.S. Army

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FOSTERING EXCELLENCE
IN MILITARY NURSING

