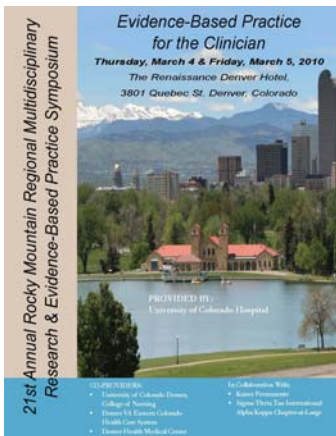


# Research and EBP News

## 21ST ANNUAL ROCKY MOUNTAIN REGIONAL MULTIDISCIPLINARY RESEARCH AND EVIDENCE-BASED PRACTICE SYMPOSIUM

Kathy Oman, RN, PhD, CEN, FAEN—Research Nurse Scientist, Professional Resources



Watch for the brochure to be sent electronically and in hard copy in December!

The 21<sup>st</sup> Annual Rocky Mountain Research and EBP Symposium planning is well under way. The conference will be held at the Renaissance Denver Hotel on March 4<sup>th</sup> and 5<sup>th</sup> 2010.

A record number of abstracts (93) were submitted this year; abstract reviewers used a new software program that greatly facilitated the review process. We accepted 28 abstracts for podium and 56 for poster presentations. The breadth of the topics is exceptional.

Four workshops will be offered on Thursday:

1. Using Research and EBP in Leadership Practices
2. Symptom Clusters: How can they inform clinical practice?
3. Integrative Health in Conventional Settings: the Evidence, Challenges, and Opportunities.
4. Research, EBP, Program Evaluation, and Quality Improvement: Ethical, Logistical, and Dissemination Issues.

Two excellent keynote speakers will be presenting on a variety of topics:

1. Dr. Jacqueline Jones will be speaking on Thursday on “Transforming Practice Environments for Patient Centered Care: An Australian Experience.
2. The Friday morning keynote will be Dr. Sean Clarke speaking about the impact Nurse-Physician collaboration has on patient outcomes and safety.

For complete details and registration information visit [www.uch.edu/researchEBPsymposium](http://www.uch.edu/researchEBPsymposium)

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### CAROLYN’S CORNER

#### PRACTICE-BASED EVIDENCE: WHAT IS IT ALL ABOUT?

Carolyn Sanders, RN, PhD—Vice President for Patient Services and Chief Nursing Officer

Evidence-based practice has become a tenet of care delivery at our hospital for well over a decade. It means that our actions and patient care interventions are based on the conscientious and judicious use of current best evidence. We have all been taught that the best level of evidence in healthcare is the “randomized controlled trial” while “observational studies” are not as strong. However, in the clinical setting we often find ourselves in situations where we do not have the

benefit of randomization or a controlled environment. Rather we find ourselves in the world of clinical reality where we try incorporating the best evidence into our practice experiences and sometimes, it just doesn’t fit. Occasionally, the best evidence contradicts clinical judgment; it might not account for unique and clinical characteristics of patients and can sometimes negate patient preferences. We then ask ourselves if the best-practice is the ONLY

best treatment for our patients. If the answer is “no”, what do we do? We can employ a methodology called “practice-based evidence” (PBE). This methodology, while not new, is an emerging trend in healthcare research. Practice based evidence “incorporates scientific evidence as well as practitioner and patient experiences and the known sources of variance in patient outcomes” into our treatment practices.<sup>1</sup>

*Continued on page 4*

## REDUCING CATHETER-ASSOCIATED URINARY TRACT INFECTIONS (CA-UTI)

Mary Beth Flynn Makic, RN, PhD, CNS, CCNS  
 Research Nurse Scientist, Professional Resources

Hospital acquired urinary tract infections (UTIs) are a significant health care concern. Up to 25% of hospitalized patients undergo urinary catheterization yearly and estimates indicate that nearly 10% who have indwelling catheters develop UTIs. An episode of symptomatic UTI was predicted to cost \$676.00 in 2007 and catheter-related bacteremia to add nearly \$3,000 to the hospital costs. Beginning in November, 2008 the Centers for Medicaid and Medicaid Services (CMS) will no longer reimburse hospitals for nosocomial UTIs. It is vital to both patient and financial outcomes that UCH develop strategies to reduce indwelling urinary catheters duration and prevent CA-UTIs. There are two projects exploring current practice within UCH and methods to reduce CAUTI. These are multi-disciplinary quality improvement project funded by UCH intramural grant funds.

The first year long project was from October 2008-2009 and focused on nursing practice or nursing driven interventions to reduce CAUTI. This project involved several phases: 1) Evaluation of our current practices for urinary catheter management; 2) Evaluation of baseline CA-UTI prevalence on 2 med/surg units, 3) Explore best practice to reduce CA-UTIs; 4) Incorporate best evidence into hospital policy and procedure and disseminate practice changes to nursing staff; and 5) Develop, implement, and evaluate a more focused intervention to reduce CA-UTIs on a medical/surgical nursing unit. The purpose of this quality improvement study was to test the effectiveness of a multifaceted nurse-driven intervention to decrease catheter-associated urinary tract infections (CA-UTI) in hospitalized patients.

The multidisciplinary team conducted an extensive review of the literature to guide practice changes. Opportunities to improve practice focused on several key findings in the literature: Question the need for a foley; if a foley is needed, place the device using optimal aseptic technique, secure the device to the patient's leg, and maintain the drainage bag below the level of the bladder at all times; remove the foley as soon as clinically possible. The project occurred in two phases. Phase 1: hospital wide changes in practice addressing insertion and care of the indwelling urinary catheter. HealthStream was used to provide consistent education, the policy and procedure was updated, and products were evaluated to reflect best evi-

dence and standardized. Phase 2 involved a more focused nursing driven intervention on the 9<sup>th</sup> floor AIP. Journal clubs, focused education sessions and patient and family flyers were developed. A bladder scanner was also purchased for the 9<sup>th</sup> floor to better assess bladder volumes and the need to insert a urinary catheter.

Data were collected on the intervention unit only (9<sup>th</sup> floor). Data collection occurred in three periods. While the overall decrease in CAUTIs is not statistically significant, the change in practice related to less catheter days were statistically and clinically significant in this project. Mean catheter days post intervention on the

General Surgery and Pulmonary units combined were 3.5 days before the intervention and 2.3 days post intervention  $t= 4.04 p < 0.0001$ . Thus while the impact on CAUTIs remained small, the removal of the indwelling catheter more early was a significant positive change in practice.

*Continued on page 3*

	Pulmonary Unit	Surgical Unit
Baseline Data Dec 08-Feb 09	77 patients avg 3.6 catheter days Range 0-18 days CA-UTI rate = 3.6 Insertion location ED 16% Unit 4% ICU 1% OR 59% Other 20%	140 patients avg 3.4 catheter days Range 0-31 days CA-UTI rate = 4.2 Insertion location ED 4% OR 92% Other 4%
April to June 2009	93 patients (59% surgical) avg 2.7 catheter days Range 0-17 days CA-UTI rate = 0 66% foley removed in 48 hours Insertion location ED 12% Unit 3% ICU 1% OR 71% Other 12%	123 patients avg 3.1 catheter days Range 0-23 days CA-UTI rate = 5.5 62% had foley removed in 48 hours Insertion location ED 4% OR 96% Other 10%
August to October 2009	85 patients (100% surgical) avg 2.6 catheter days Range 0-23 days CA-UTI rate = 0 46% foley removed in 48 hours Insertion location ED 14% OR 72% Other 14%	122 patients avg 2.1 catheter days Range 0-12 days CA-UTI rate = 3.95 66% had foley removed in 48 hours Insertion location ED 8% OR 88% Other 4%

## REDUCING CATHETER-ASSOCIATED URINARY TRACT INFECTIONS (CA-UTI) CONTINUED FROM PAGE 2

In addition to the findings, we changed indwelling urinary catheter products to be more streamlined, reducing the need for nurses to break the system for clinical monitoring of urine output and removed silver alloy catheters as the evidence is inconclusive as to the benefit of silver in preventing CAUTIs. The change in products, specifically removal of silver alloy catheters as the primary indwelling urinary catheter resulted in an approximate savings of \$52,000/year.

Ongoing areas for continued improved remain to continue to reduce CAUTIs through nursing driven interventions. Specifically, nurses ensuring the Statlock™ securement device is consistently used, emptying the drainage bag often and before transport, ensuring the drainage bag is always below the level of the bladder, ensuring optimal aseptic technique during placement of the catheter and most importantly, advocating for removal of the indwelling urinary catheter as soon as possible.

The second project team members, again represent an interprofessional group; team members are: Mary Beth Flynn Makic, RN, PhD; Kathleen Oman, RN, PhD; Heidi Wald, MD, MSPH; Michelle Barron, MD, Kelly Bookman, MD, Nancy Chang, RN, Regina

Fink, RN, PhD; Teri Hulett, RN, Susan Mandell, MD, Fred Severyn, MD, Robin Scott, RN, MS, . The focus of this quality improvement study will focus on reducing the number of indwelling urinary catheters placed. Since the best way to prevent CAUTIs is to avoid placing a catheter, the team had embarked on a project with the Emergency Department (ED) and Inpatient Operating Room (OR) Services to explore ways to reduce the use of urinary catheters. The project is focused primarily in the ED and OR practice areas as more than 80% of devices are placed in these practice areas. The team will explore the development of a decision support tool to guide the insertion of indwelling urinary catheters optimally resulting in a 20% reduction in catheter insertions in the study units and a decreased incidence of related CAUTIs. Specific aims of the project are: 1) to explore current decision making regarding placement of indwelling urinary catheters in the ED and OR, and identify facilitators and barriers to use of alternatives to urinary catheters for bladder management; 2) to develop decision support tools to guide the insertion of indwelling urinary catheters for the ED and OR; and 3) to assess the acceptance of the tools by frontline providers and test their effectiveness on the utilization of

indwelling urinary catheters and incidence of CAUTIs at UCH.

This project will use focus groups consisting of interprofessional clinical members from the ED and OR to develop an evidence-based clinical support decision tool for placement of indwelling urinary catheters. As the clinical needs of patients in the ED and OR differ, the tools will be tailored for each clinical setting. The tools will be accompanied by implementation of systems' changes that will support use of the tool (e.g. replacing indwelling urinary catheters with straight catheters in ED supply carts). Data on catheter usage and CAUTI rates will tracked and reported to the clinical staff in these two practice areas.

Prevention of nosocomial infections, specifically CAUTI's requires a re-examination of our current practice. Re-evaluating the true need for an indwelling urinary catheter device is a great place to start. If an indwelling urinary catheter is needed for clinical management, how the device is placed, managed, and early removal may positively impact patient outcomes.

## UNIVERSITY OF COLORADO DENVER, COLLEGE OF NURSING RESEARCH ACTIVITIES UPDATE

Karen Sousa, PhD, RN, FAAN

Professor and Associate Dean for Research, University of Colorado Denver, College of Nursing

The College of Nursing has gone through an extensive process to develop a strategic plan to reestablish our national relevance. Traditionally, the College of Nursing has been recognized for its research impact especially in the area of qualitative research. This past year after a wide-ranging review of all faculty's publications, abstracts, and presentations two major research initiatives were identified. They are **Biobehavioral Science** and **Nursing Care Systems**. Examples of our current faculty programs of research are understanding how electronic health records can enhance nurse-to-nurse communication, how personalized messaging via smart phones can improve health behaviors, understanding symptom clusters in acute and chronic illnesses, the effect of red raspberry tea on cervical tissue, cognitive behavioral therapy for chronic insomnia, therapeutic massage for the management of pain, and self-management of patient with type 2 diabetes.

With our commitment to become a strong presence, the Office of Research and Extramural Affairs (OREA) and the Center for

Nursing Research (CNR) are providing a research environment and infrastructure that assists faculty in strengthening their individual research programs. The CON's OREA and CNR provides faculty with comprehensive research support services such as budget preparation, pre-award submission assistance, shepherding research projects through the Institutional Review Board process, managing financial statements, statistical analysis and so on. Faculty were extremely productive in writing grants and the OREA set an all-time record (71) in the number of new submissions and continuations processed in 2008-2009. The CON was awarded 4 NIH grants and a Robert Wood Johnson Nurse Faculty Scholar Award. Examples of the NIH grants are Dr. Corwin's grant titled *Psychoneuroimmune Contributions to Postpartum Depression* and Dr. Sousa's grant, *Pediatric Quality of Life: Is It Lost in Traducción?* The faculty have also been active participants in the Colorado Clinical Translational Science Institute. Dr. Matthews and Dr. Neu were funded by the CCTSI to explore the nature of sleep/wake patterns in moth-

ers of children during maintenance treatment for Acute Lymphocytic Leukemia. We are vigorously establishing collaborations across the campus.

In an effort to promote the CON's research activities on the Anschutz Medical Campus, the CON Faculty Research Committee launched the Research and Scholarship Seminar Series. The seminar series is held the fourth Monday of every month from 8:30-9:30 A.M. in Education Building 2 North. Recent presentation topics included *Living the Life of a Liver Recipient in the Long Term*, *National Data Sets: The Good, The Bad, The Ugly, and Transition Experience in Self Management of a Chronic Illness*. The lectures provide an opportunity for CON nurse scientists to present their research programs and share findings. For additional information on the CON's research activities please contact the OREA office at 303-724-8551.

**MARY'S MESSAGE****TWO PROGRAMS MAKING A DIFFERENCE IN EVIDENCE-BASED PRACTICE USE AT UCH!**

Mary Krugman, RN, PhD, FAAN—Director, Professional Resources

Clinical nurses are now so familiar with our Nurse Residency Program and our Professional Practice Program, UEXCEL, that they often do not realize the significant impact these two programs have had on the use of evidence-based practice by UCH nurses. These two programs encourage nurses at all levels of practice to actively engage in using evidence to improve patient outcomes.

Our graduate nurses start an EBP project at the 6 month point of their one year residency program by attending a

course titled EBP: Beyond the Basics. Residents then continue their EBP journey by working either solo or on a team to identify a clinical issue on their unit and research the evidence to gain knowledge of the problem and a plan for the project. Residents present their completed projects by poster presentation at the annual completion celebration. Projects over the years have made a significant impact on their use of EBP and added value to their units and our hospital. Posters have been presented at national conferences and our annual

Research and EBP Symposium. Conducting EBP projects early in clinical nurses' careers mean they are comfortable asking clinical questions, searching for the literature and taking on challenges to improve patient outcomes.

UEXCEL provides continuous opportunities to gain increased knowledge of EBP, from the annual research competency to working on projects for advancement. Since *all* clinical nurses are members of our professional practice program, any nurse can decide to get involved with a unit based project and

*“Projects over the years have made a significant impact on their use of EBP and added value to their units and our hospital.”*

gain the satisfaction of knowing their participation has made a difference for patients. UEXCEL projects are amazing! Standards are now evidence-based thanks to an army of clinical nurses checking out the levels of evidence to assure they are valid and well-cited. Policies and procedures have improved from using those standby nursing textbooks to current evidence from the literature.

Recently a study was reported in which UCH nursing was the star! In the Spring

of 2007, our hospital hosted a team of two prominent nurse researchers, Cheryl Stetler, PhD, RN, FAAN and Alyce Schultz, PhD, RN, who along with other investigators conducted an in depth study to determine if our nursing work environment really DID use evidence in practice. Study results demonstrated our hospital was identified as the role model site, reflecting a pervasive, integrated presence of EBP at multiple levels of hospital functioning, but most importantly, with clinical nurses at the point of patient care.

Congratulations to all our clinical nurses practicing across our hospital for using evidence to reach best practices in patient care! The title of the article is *Institutionalizing evidence-based practice: an organizational case study using a model of strategic change*, and it can be downloaded at <http://www.implementationscience.com/content/4/1/78>

**CAROLYN'S CORNER****PRACTICE-BASED EVIDENCE: WHAT IS IT ALL ABOUT?** CONTINUED FROM PAGE 1

When we treat our patients, we are producing a continuous flow of clinical and anecdotal results and information that can be viewed as unsystematic observational studies—what a rich form of data to apply to our clinical practice! These data truly reflect the clinical reality of our environment and can teach us new ways of providing care and developing practices. We modify our practice based on the evidence produced by every day care provision----thereby actually producing more evidence.

PBE gives us the opportunity and latitude of accounting for the complexities and variations of our patients, their treatment differences and the environment of care in which we provide these services. Additionally, PBE allows us to evaluate routine clinical practices for effectiveness by asking “does the practice work in the real world?” It keeps some traditions alive while stimulating new knowledge and ways of thinking. Care using PBE

dovetails with our environment because does not mandate cookbook practices but instead acknowledges the unique elements of our clinical practice, preferences of our patients and practicality. In my opinion, the use of PBE assists with the relevancy, translation and applicability of evidence-based practice.

Girard N. Practice-Based Evidence *AORN*, 2008; 87 (1): 15-16

## MAGNET REDESIGNATION: IT'S OUR TIME TO SHINE FOR THE 3<sup>RD</sup> TIME!

Danielle Schloffman, RN, MSN  
Magnet Program Director

UCH has been a Magnet hospital since 2002. Granted by the American Nurses Credentialing Center (ANCC), Magnet designation is the industry gold standard for nursing excellence. Of more than 6,000 hospitals in the U.S. fewer than 30 have achieved three consecutive designations.

UCH submitted 14 volumes (over 3,000 pages) of supporting evidence in October to show how we exhibit the rigorous standards set by ANCC. Our documents passed this first step and we are now preparing for the second phase of the redesignation process - a site visit by Magnet appraisers January 13-15, 2010.

Magnet provides hospitals a frame-

work for excellence. The Magnet model has five components: Transformational Leadership, Structural Empowerment, Exemplary Professional Practice, New Knowledge, Innovations & Improvements and Empirical Outcomes. Within the component of New Knowledge, Innovations & Improvements, hospitals must demonstrate how they integrate research and evidence-based practice into clinical and operational processes. Hospitals must also show how nurses are educated about EBP, enabling them to use the latest evidence to provide optimal patient care and improve work environments. Magnet also requires hospitals to have established and evolving programs re-

lated to EBP and research. In addition, hospitals must evaluate and use published research, generate new knowledge, and disseminate research findings to the community.

To learn more about the specific examples of how UCH demonstrates Magnet excellence in EBP and research, you can read the Magnet documents on the HUB under the Magnet page, or contact Danielle Schloffman, Magnet Program Director at [danielle.schloffman@uch.edu](mailto:danielle.schloffman@uch.edu).



*“UCH submitted 14 volumes (over 3000 pages) of supporting evidence...”*

## EBP BOOT CAMP: MISSION POSSIBLE AN OPPORTUNITY FOR PROFESSIONAL DEVELOPMENT

Regina Fink, RN, PhD, AOCN, FAAN  
Research Nurse Scientist



An Evidence-Based Practice (EBP) Boot Camp was held on May 12th this year with the goal of reviewing EBP principles and engaging participants in critical elements of the process of implementing EBP changes in their work environment. The course provided and expanded on foundational concepts of EBP as a framework for improving practice and patient outcomes. Twenty two UCH participants attended and completed the following objectives:

1. Identify three resources that can be used to build an EBP infrastructure.
2. Identify strategies for incorporating evidence into practice.
3. Describe how to synthesize evidence and apply to policy and procedures.
4. Discuss how EBP improves patient outcomes.
5. Use PubMed as a search engine.
6. Describe how to access other nursing re-

sources available at the Health Sciences website.

7. Perform basic subject, author, and journal searches.

The participants identified a clinical or practice issue and developed goals and a timeline for project completion. Some of the EBP Champions Projects that are currently being discussed and pursued by the champions include:

- Palliative Care in the NICU (Adrienne Isaacs)
- 1 hour Glucose Testing in Pregnant Women (Terry Rendler)
- Improving Sleep Patterns in BMT patients (Lindsey Spencer)
- Using SV as vital sign parameter (Jennifer Chavez)
- Evidence Based Evaluation of CeDAR Practices based on ASAM Criteria Jonathan DeCarlo & Valerie Fuson)

- Professional RN Model in Day Surgery (Anne Soisson & Terri Link)
- RN Role in the Cancer Center (Sue Swanson)
- Care for the Caregiver: Tranquility Room in the Burn Unit (Andrea McFarland)
- Preprinted order set CIWA Guidelines (Danielle Justice)
- The Model Preceptor in the OR (Kaci Meddings)

The next EBP Boot Camp is scheduled for April 5, 2010. Register on the Professional Resources CE website!

**TO REGISTER FOR THIS &/  
OR OTHER CLASSES GO  
TO WWW.UCH.EDU/  
CLASSES\_EVENTS**

## PubMed Changes

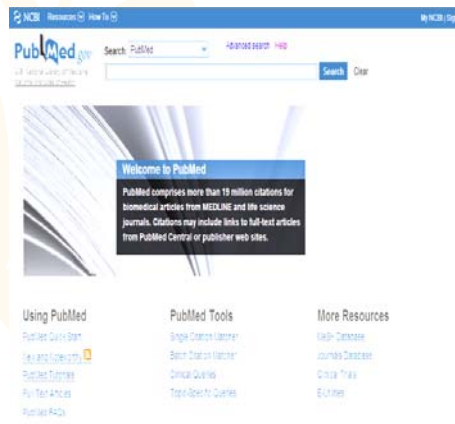
Lisa Traditi, MLS, AHIP

Dept. Head, UC Denver Health Sciences Library

In late October 2009, NLM unveiled a redesign of the PubMed interface. The developers' intent was to simplify the interface, making it easier to use while promoting scientific discovery.

Most of the tools familiar to searchers are still available, although they may be moved or rearranged on the page.

- The blue **NCBI header** includes an NCB Resources pull-down menu, a How To menu, and the sign in for My NCBI.
- The **Search Bar** retains the database selection menu and now includes a link to Advanced Search (recommended) and Help.
- Access to the tools and resource previously found on the PubMed homepage sidebar are now under **PubMed Tools** (like Single Citation Matcher and Clinical Queries) and **More Resources** (like the PubMed Tutorials).
- The Limits, Preview/Index, History and Details



tabs' features are now in **Advanced Search**. All the features, such as Tabs, that you commonly use are still available. Just click on

the Advanced Search link, located just above the search query box on the PubMed main page.

### Search History:

PubMed will hold all your search strategies and results in the Search History. The Search History displays the search number, your search query, the time of search, and the number of citations in your results.

To view the results from a search, click on the number of results.

You can combine searches or add additional terms to an existing search by clicking on the pound sign before the search number, and selecting the appropriate search option: e.g., #2 AND domestic violence.

### Details:

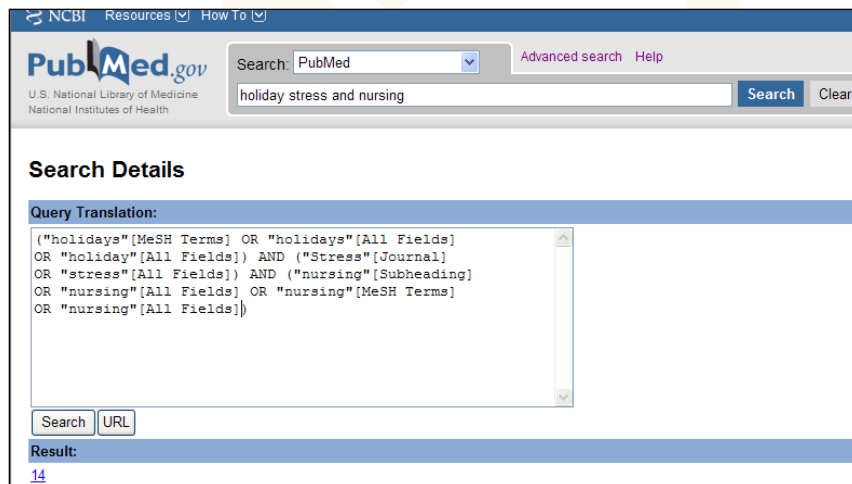
The Details feature lets you view your search strategy as it was translated using PubMed's automatic term mapping. The Details link also appears in your search results on the right hand side of the page.

### Field Searching:

Selecting specific fields to search will provide a more refined search result. Use the Search by Author, Journal, Publication Date, and more section of Advanced Search to limit terms to a specific search field.

### Limits:

Use Limits to further narrow your search to a specific author, journal, year, age range, gender, language and so on. Click on the Advanced Search link and scroll down on the page to see the Limits available to you. Limits also allow you to restrict to specific types of articles such as randomized controlled trials.



To select more than one option from a list, hold down the Control key and point and click. To turn off the existing limits, click on the Remove link under Limits Activated before running your next search.

## More Resources

### Clinical Queries

This specialized search query with built-in search research methodology filters is intended for clinicians. Select from Therapy, Diagnosis, Etiology, or Prognosis.

### Systematic Reviews

This feature is provided to help clinicians locate systematic reviews and similar articles. Citations from journals specializing in clinical review studies are also included. The

resulting retrieval can be further refined using PubMed's Limits e.g., English language.

### Medical Genetics

Filters provided to help clinician locate clinically relevant research on medical genetics.

### MeSH DATABASE

PubMed's MeSH (Medical Subject Headings) Database is available on PubMed's sidebar menu or from the Search pull-down menu. This database displays MeSH terms in a hierarchical structure and lets users select terms for searching. In addition you can directly attach subheadings and limit terms to a MeSH Major Term.

When you enter a term that is not a valid MeSH term, the MeSH Database will check against the MeSH Mappings and display the

associated MeSH term.

### Single Citation Matcher

Use the Single Citation Matcher to look for a single citation. This feature is a fill-in-the-blank form that lets you enter journal citation information to locate a single citation, or items from a particular volume or issue of a journal.

*Continued on page 7*

**PubMed Changes** (continued from page 6)

Lisa Traditi, MLS, AHIP

Dept. Head, UCDenver Health Sciences Library

**Get Help When, Where and How You Need It**

Staff at the Health Sciences Library is available to help you.  
All you have to do is ask!

Check out the **HSL's webpage** –

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*Holidays and closures*)



**Kudos**

Kyra Fahlstrom RN BSN level II RN from the Burn Trauma ICU will be attending the American Burn Association National Conference, March 9-12, 2010 in Boston, MA for a poster presentation of her project titled "Burn Unit Places a Nurse Driven Resuscitation Protocol on Trial, the Jury is Out". Co-author is the nurse educator of the Burn Trauma ICU, Camy Boyle, RN BSN. Krya's work explored the benefit of nurse driven burn resuscitation protocol (NDBRP) for burn injured patients (burn >20%). The quality improvement project compared patient outcomes of the current standard of practice which involved burn resuscitation based on the Parkland formula, but was predominantly driven by physician orders. Variations in practice experience, both nursing and physician (ie: nurses new to burn trauma ICU, interns/residents, etc) resulted in inconsistencies in resuscitation practice as well as less than optimal patient outcomes associated with both over and under resuscitation. Kyra used a multidisciplinary approach for this practice improvement project. She conducted a review of the literature and developed a protocol for nurse driven resuscitation. The protocol was reviewed by the Burn Unit process improvement committee and the unit began to use the protocol in July 2009. The results of the project found that from January 1-December 31, 2008, a total of 53 patients were admitted with

20% or greater TBSA burns, electrical injury, and/or inhalation injury. At 24 hours post injury, 47% were over-resuscitated and 11% were under-resuscitated when compared to the Parkland formula calculation. The documented complications within the first five hospital days were pulmonary edema 15%, AHTN/ACS 9%, ALI/ARDS 26%. Average ICU/ventilator days were (20)/(18.5). At 24 hours, 35 lactate levels were documented; 24 had a lactate  $\geq 2$ , indicating poor prognosis. Since July 1, 2009, 6 patients were resuscitated with the NDBRP. The following was observed at 24 hours: over-resuscitated (3), under-resuscitated (2), lactate  $\geq 2$  (1) and within the first five hospital days: ARDS (2), AHTN (1). While, it is difficult to definitively state advantages/disadvantages of the NDBRP due to recent implementation; however, early patient outcomes show an improvement in resuscitation practices. Implementation of the NDBRP improved nurses' awareness and assessment of fluid status during resuscitation. Krya and the burn trauma team continue to use the NDBRP to manage burn injury patient resuscitation needs and she continues to track patient outcomes and the effectiveness of the change in practice.



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**TRIVIA QUESTION:**

Qualitative researchers frequently talk about "data immersion" in the analysis phase of their research. What does this term mean? The first person to email the correct response to [regina.fink@uch.edu](mailto:regina.fink@uch.edu) will win a Starbucks coffee card!