E-RESOURCES FOR EVIDENCE-BASED PRACTICE

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Objectives

• Describe E-Resources to use for evidence-based nursing (EBN) practice
• Identify strategies to improve searching skills to find appropriate evidence on the web to improve patient care

Thank you to Janet Schnall for the content of her slides.

Presentation web site

• http://guides.lib.uw.edu/bothell/EResourcesEBP

What is evidence-based practice?

• Evidence based medicine is the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients.
• The practice of evidence based medicine means integrating individual clinical expertise with the best available external clinical evidence from systematic research.


Evidence-Based Practice

The EBM Triad
5 Steps for EBN Practice

• 1. Convert your information into an answerable question (PICO)
• 2. Search the literature for the best available evidence
• 3. Evaluate search results for validity and usefulness
• 4. Apply the findings to your clinical practice along with clinical expertise and patient’s perspective to plan care
• 5. Evaluate your professional performance (self reflection; audit; peer assessment)

What makes good evidence?

- Good
  - Based on scientific research
  - RCT
  - Systematic review
  - Meta-analysis
  - Clinical guidelines

- Shoddy
  - Opinion
  - Consensus
  - Because it’s been done this way for 100 years

Why do nurses need to do EBP?

• Results in better patient outcomes:
  - Failure to use evidence results in lower quality, less effective and more expensive care.
  - Standards of practice and “best practices” change over time
  - Keeps practice current and relevant
  - Increases confidence in decision making

Barriers to Nurses using EBP

• Lack of time
• Lack of value of research in practice
• Lack of understanding of electronic databases
• Lack of computer skills
• Difficulty understanding research articles


Lots of Evidence Pyramids!

Evidence Pyramid

- Systematic Reviews, Meta-Analyses
  - Cochrane
- Evidence Summaries, Evidence Guidelines
  - DynaMed, Joanna Briggs Library, Nursing Reference Center, Natural Standard, NGC
- Randomized Controlled Trials (RCTs), Cohort Studies, Qualitative Studies
  - MEDLINE/PubMed, CINAHL
- Background Information, Expert Opinion
  - Textbooks
How to Locate E-Resources

- Ask your librarian
- Washington licensed nurses: HEAL-WA.org
- Oregon: Resources for Non-OHSU Oregon licensed health professionals
  - http://www.ohsu.edu/xd/education/library/orhp.cfm
- Alaska: http://lilam.alaska.gov/sled
  - Providence, ANMC, and Fairbanks hospital nurses have CINAHL.
- Idaho: ProQuestHealth and Medical Complete
  - www.lili.org
- Others: check with your public or State library

Search for the Best Evidence to Answer the Question

Search Databases Efficiently for Research Journal Articles

- MEDLINE Complete/PubMed
  - ebscohost.com OR pubmed.gov
- CINAHL/CINAHL Complete
  - ebscohost.com

MEDLINE Complete/PubMed

ebscohost.com OR pubmed.gov

- PubMed includes MEDLINE (1940's+)
- Indexes 5,000 biomedical journals
- Covers all aspects of biosciences and healthcare
- 75%-80% of citations have abstracts
- Updated 5x/week

Two MEDLINE/PubMed Strategies for Finding Evidence-Based Citations

1. Use Publication Type of Article limits
   - Randomized Controlled Trial
   - Meta-Analysis
   - Practice Guideline
   - Clinical Trial
   - Consensus Development Conference

2. Use Clinical Queries

MEDLINE Complete Search Screen

Q: What frequency of turning is recommended to prevent pressure ulcers in hospitalized patients with recent CVA and reduced mobility?
Strategy #1: Limit to RCTs under Publication Type

Conduct a search in PubMed to bring up the “filters” on left side of the page.

Strategy #2: Clinical Queries Link: Found on the PubMed Advanced Search Page

New! PubMed Video Tutorials for Nurses
https://www.nlm.nih.gov/bsd/disted/nurses/

http://libguides.hsl.washington.edu/pubmed
CINAHL or [CINAHL Complete] cinahl.com

- Cumulative Index to Nursing and Allied Health Literature
- Provides coverage from 1982 [1937] to date, of nursing and 17 allied health disciplines literature
- [1400+ in full text, and 5400+ journals indexed] including virtually all English-language nursing journals
- Can easily search for Research articles

CINAHL Complete: Enter search terms

CINAHL Limit Your Results Screen

CINAHL Publication Type Limits

- Clinical trial
- Critical path
- Meta analysis
- Meta synthesis
- Practice guidelines
- Research
- Standards
- Systematic review

CINAHL Results

To see the Full Text, when no is link available --click on the article title

Scroll down to, and click on the “DOI” link to view the full text
CINAHL vs MEDLINE

**CINAHL**
- Coverage: 1937
- Indexes 5,400 journals
- Focuses on nursing and allied health literature
- CINAHL Thesaurus with more nursing terms
- Has peer-reviewed limit
- Includes cited references at end of many refs

**MEDLINE**
- Coverage: late 1940’s+
- Indexes 5,600 journals
- Focuses on biomedical literature
- Uses MeSH as its controlled vocabulary
- No peer-reviewed limit (but the majority of articles are from peer-reviewed, scholarly journals)
- No cited references

Locating E-Journals
- Check with your library for access to full-text e-journals
- Check with your State or Public library
- HEAL-WA for WA state nurses heal-wa.org
  - Includes CINAHL Complete and MEDLINE Complete
  - A-Z Journals: 9,000 full-text journals

Open Access and Free Journal Sites
- BioMed Central biomedcentral.com
  - Independent publishing house providing immediate free access to peer-reviewed biomedical research
  - Includes BMC Nursing, etc.
- PubMed Central pubmedcentral.gov
  - National Library of Medicine’s free digital archive of biomedical and life sciences journal literature
- Free Medical Journals freemedicaljournals.com
- HighWire Press highwire.stanford.edu
  - Provides full-text to over 1,000 peer-reviewed scientific, medical and social science journals.

Search for Practice Guidelines
- National Guideline Clearinghouse guideline.gov
- Nursing Reference Center ebscohost.com
- MEDLINE/PubMed pubmed.gov
- CINAHL cinahl.com
- Advanced Google or Google Scholar google.com/advanced_search scholar.google.com
Clinical Practice Guidelines

• Systematically developed statements of appropriate care designed to assist the practitioner and patient make decisions about appropriate health care for specific clinical circumstances
• Usually based on the most current available research if from reputable, authoritative organizations
• Developed using widely varying standards
  ◆ Cost may be considered as well as health outcomes or politics

National Guideline Clearinghouse
guideline.gov

• Initiative of the Agency for Healthcare Research and Quality (AHRQ)
• Database of clinical practice guidelines and related documents
• Free
• Updated weekly
• Voluntary participation

Guideline Summary

Guideline Comparison

Searching for Practice Guidelines in:

MEDLINE/PUBMED

CINAHL
Search for Evidence Summaries

- DynaMed
  ebscohost.com/dynamed
- UpToDate
  uptodate.com
- Joanna Briggs Institute Library
  ovid.com
- Nursing Reference Center
  ebscohost.com

DynaMed
www.ebscohost.com/dynamed

- Provides summaries of the best evidence for over 3,500 clinical topics
- Can quickly browse and find key recommendations
- Updated daily
- Monitors content of over 500 journals and systematic review databases
- Available for PDA and mobile devices

pressure ulcer search

DynaMed: Prevention--Repositioning Section

DynaMed: Treatment Overview

DynaMed: Treatment, detailed
Levels and Grades of Evidence

<table>
<thead>
<tr>
<th>Grade of recommendation</th>
<th>Level of evidence</th>
<th>Interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1a</td>
<td>Systematic review of randomized controlled trials</td>
</tr>
<tr>
<td>B</td>
<td>2a</td>
<td>Systematic review of cohort studies</td>
</tr>
<tr>
<td>C</td>
<td>4</td>
<td>Case series</td>
</tr>
<tr>
<td>D</td>
<td>5</td>
<td>Expert opinion without explicit critical appraisal or based on physiology or bench research</td>
</tr>
</tbody>
</table>

Multiple examples located online at [http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3124652/](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3124652)

**DynaMed Guidelines**

- Guidelines:
  - comparison of J guidelines
  - National Pressure Ulcer Advisory Panel (NPUAP) guidelines on prevention and treatment of pressure ulcers can be found at [www.npuap.org](http://www.npuap.org)
  - International guidelines
  - Pressure ulcer staging and treatment: recommendations for the management of pressure ulcers
  - International guidelines
  - Pressure ulcer staging and treatment: recommendations for the management of pressure ulcers

**UpToDate**

- Respected evidence-based research database
- 3,000+ documents across seven publication types:
  - Evidence Summaries (majority)
  - Evidence-Based Recommended Practices
  - Evidence-Based Recommended Practices
  - Systematic Reviews
  - Systematic Reviews
  - Consumer Information Sheets
  - Systematic Reviews
  - Technical Reports
- Limited by publication type or 17 subject areas
- Database records were created as far back as 1998 but may have undergone revisions to provide the highest level of evidence.
- Updated weekly
- From the School of Translational Science based within the Faculty of Health Sciences at the University of Adelaide, South Australia.

**UpToDate: Repositioning Interval**

- Repositioning interval — Typically, a few-hour interval is recommended for repositioning. It has been demonstrated that skin erythema and ischemic changes can occur in healthy adults in less than two hours on a standard mattress. Skin and soft tissues with tender soft surfaces at baseline can develop measurable changes with even shorter intervals of pressure. Whether a few-hour frequency versus a longer interval is optimal is unclear, particularly when a high-quality support surface is being used[1]. A Cochrane systematic review included only three trials evaluating the effects of any repositioning schedule or different patient positions with respect to the incidence of pressures ulcer in the adult population[2]. All three trials were at high risk of bias[3]. Two trials compared the 30' and 60' interval positions using similar repositioning frequencies. A pooled analysis found no difference in the risk of developing pressure ulcer for 30' interval versus the standard 90' position. The third trial compared differing repositioning frequencies. No significant differences in the incidence of pressure ulcers were found for repositioning every two versus every three hours on a standard mattress, or between four and every six hours on viscoelastic foam. However, each of these studies was underpowered to detect meaningful differences. Whether any of these interventions are cost-effective remains unclear. A recent study of 642 nursing home residents at risk for pressure ulcer and managed on a high density foam mattress found no difference in pressure ulcer incidence for those turned at two versus every three hours[4].

**Continuous rotation** — Continuous lateral rotation was originally developed to enhance respiratory function in ventilated patients, but has been advocated for some of the prevention and management of pressure ulcers. Continuous lateral rotation is achieved with a mechanical bed that continuously rotates around its longitudinal axis. Observational studies indicate medical improvements in healing rates when continuous lateral rotation is added to an

**Joanna Briggs Library**

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- 3,000+ documents across seven publication types:
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  - Evidence-Based Recommended Practices
  - Best Practice Information Sheets
  - Systematic Reviews
  - Systematic Reviews
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Joanna Briggs Library - Evidence Summary

Clinical Bottom Line (section 2.5 pages)
- Reposition every 2 hours, with musical cue reminder

Nursing Reference Center

- Point-of-care EBP nursing resource
- Includes Evidence-Based Care Sheets
  - Evidence-based summaries on key topics incorporating the best available evidence through rigorous systematic surveillance
- Also includes full-text journals and texts; practice guidelines; skills and procedures; patient education materials; CE, and more
Use a Meta-Search Engine to Find Evidence Sites

- Allows you to search multiple other search engines simultaneously and combine the results

TRIP Database
tripdatabase.com

- Metasearch engine
- Performs a simple search of more than 75 databases
- Finds evidence based resources
- Searches Cochrane, National Guideline Clearinghouse, Bandolier, etc.

TRIP search

SUMSearch 2
sumsearch.org

- Simultaneously searches free Web resources including PubMed, Database of Abstracts of Reviews of Effects (DARE), and the National Guideline Clearinghouse for evidence-based healthcare information.
- Results are grouped by category: original studies, systematic reviews, and guidelines.

Search for Systematic Reviews and Meta-Analyses Resources

- Cochrane Database of Systematic Reviews
- PubMed Systematic Reviews
- Joanna Briggs Institute Library
- CINAHL

Systematic review vs Meta-analysis

- Systematic review: a literature review of RCTs focused on a single question which tries to identify, appraise, select and synthesize all high quality research evidence relevant to that question.
- Meta-analysis: systematic review combining results of several studies using quantitative statistics.
Cochrane Database of Systematic Reviews

- ‘Gold standard’ for high quality systematic reviews
- Includes full-text
- Abstracts available in CINAHL and MEDLINE/PubMed

Cochrane Systematic Review

Some Cochrane Library Pressure Ulcer Systematic Review Titles

- Repositioning for treating pressure ulcers
- Wound-care teams for preventing and treating pressure ulcers
- Dressings and topical agents for preventing pressure ulcers
- Nutritional interventions for preventing and treating pressure ulcers
- Support surfaces for pressure ulcer prevention
- Risk assessment tools for the prevention of pressure ulcers
- Educational interventions for healthcare professionals to prevent pressure ulcers

Finding Systematic Reviews and Meta-Analyses in PubMed

- USE CLINICAL QUERIES: SYSTEMATIC REVIEWS
- LIMIT TO TYPE OF ARTICLE: META-ANALYSIS
- Conduct a search to see the Article Types options
Finding Systematic Reviews in the Joanna Briggs Library

Finding Meta Analyses and Systematic Reviews in CINAHL
- Limit search to Publication Types: Meta Analysis and/or Systematic Review
- Scroll down in the Publication Types box to see the full list of types. You can select multiple items either by holding down the control key (Ctrl) on a PC, or the Apple button on a Mac computer.

Searching for Evidence Pyramid

Navigating the Web Beyond Basic Google to Find Evidence?
- Google google.com
  - Largest search engine: over 25 trillion pages
  - Relevance ranking based on link analysis
- Google Advanced Search www.google.com/advanced_search
- Google Scholar scholar.google.com

Google Advanced Search Features
www.google.com/advanced_search
- File Format, i.e. pdf
- Date, i.e. pages updated in last 3 months
- Occurrences, i.e. terms appear in title
- Domain, i.e. .gov, .org, .edu
- Links, i.e. pages that link to the page

Advanced Google Search for Guidelines
Google search limiting to .org sites

Google Scholar

- scholarship.google.com
  - Searches for scholarly literature, including peer-reviewed papers, theses, books, abstracts and technical reports
  - Finds articles from academic publishers, professional societies, universities, etc. as well as scholarly articles on the web
  - "Cited by" link identifies if that have cited the original
  - Access to full text only available with subscription
  - Caution: Not a reliable sole source for searching scholarly literature

Google Scholar Search Result

Must Evaluate Web Resources: Evaluation Strategies

- Evaluate using Criteria for Evaluating Web Resources
- Determine the type of site by analyzing Web Site Addresses
- A User's Guide to Finding and Evaluating Health Information on the Web
  - www.mlanet.org/resources/userguide.html

Criteria for Evaluating Web Sites

- Authority
- Accuracy
- Objectivity
- Currency
- Coverage
- Design

Analyze the Website Address

- edu
- org
- com
- gov
- net

The URL (Uniform Resource Locator) includes the name of the host computer which can indicate the purpose of the web site.
List of E-Resources for Ambulatory Care From Janet Schnall in 2014. Handout located online at http://media.hsl.washington.edu/media/schnall/AmbCare2014handout.pdf

**FINAL THOUGHTS**

- Remember key resources to find evidence for your clinical practice: PubMed/MEDLINE and CINAHL
- NGC, TRIP
- DynaMed, Nursing Reference Center
- Cochrane Database of Systematic Reviews, Joanna Briggs Library...
- Apply the findings to your clinical practice along with your clinical expertise and patient’s perspective to plan care

**QUESTIONS?**

PowerPoint: http://guides.lib.uw.edu/bothell/EResourcesEBP

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Thank you!