

EBPT: Asking the right question and
finding the answer

Objectives

- Formulate clinical questions that are:
 - Derived from the patient/client's problem(s)
 - Specific
 - Reasonable
 - Relevant
- Use appropriate search engines to find best available evidence to answer the question

Patient Scenario

- 65 year old male reports 2 month history of shoulder pain and difficulty reaching over head after his dog tried to run after a cat and yanked hard on his leash
- Self-referred (direct access)

What do you want to know?

Types of Questions

- Background
 - Normal physiology or behavior
 - Pathophysiology
 - Basic patient diagnostic and treatment information
- Foreground
 - Selection and interpretation of diagnostic tests
 - Prediction of specific patient prognosis
 - Comparative risks and benefits of various treatment strategies
 - Potential outcomes and their measurement

Elements of a good question

- Patient or client
- Diagnostic test or measure, prognostic indicator, intervention, patient outcome
- (Comparison...if available)
- Consequence (what you want to achieve by using the test, measure, prognostic factor, intervention or patient outcome measure)

Examples: Diagnostic Test Question

- Simple: Which is the most accurate special test to use to rule in a rotator cuff tear in a 65 year old male with shoulder pain?
- Comparative: Is the Neer's Test more accurate than the Hawkin's Test for ruling in a rotator cuff tear in a 65 year old male with shoulder pain?

Examples: Measurement Question

- Simple: Is a manual muscle test a reliable and valid measure of shoulder girdle strength in a 65 year old male with shoulder pain?
- Comparative: Is a manual muscle test as reliable and valid as hand held dynamometer for measuring shoulder girdle strength in a 65 year old male with shoulder pain?

Examples: Prognosis Question

- Simple: Does hand dominance predict return to function in a 65 year old male with shoulder pain?
- Comparative: Is hand dominance a better predictor of return to function than duration of symptoms in a 65 year old male with shoulder pain?

Example: Intervention Question

- Simple: Is joint mobilization effective in restoring functional use of the UE in a 65 year old male with shoulder pain?
- Comparative: Is joint mobilization plus exercise more effective than exercise alone in restoring functional use of the UE in a 65 year old male with shoulder pain?

Example: Outcomes Question

- Simple: Is the DASH (Disability of the Arm, Shoulder and Hand) scale sensitive to change in function after physical therapy for a 65 year old male with shoulder pain?
- Comparative: Which scale is more sensitive to change in function after physical therapy in a 65 year old male with shoulder pain: the DASH or the SPADI (Shoulder Pain & Disability Index)?

Finding the Evidence

- General plan of attack
 - Prioritize type of study that can give you the most information
 - Determine which database will be most useful or efficient for your search
 - Identify search terms and their synonyms to use in the search

Finding the Evidence

- General plan of attack
 - Use the search engine features to expand or collapse your search
 - Be prepared to reformulate your question or work with evidence that is indirectly related to your question
 - Aim for the highest quality articles you can find

Sources of Evidence

- Primary
 - Original research reports
 - Found in:
 - Peer reviewed journals
 - Proceedings from professional meetings
 - Theses and dissertations
 - Websites
- Secondary
 - Summary reviews of works of other researchers
 - Found in:
 - Systematic and narrative reviews in peer reviewed journals
 - Text books
 - Practice guidelines
 - Websites

Relevant Search Engines

- General Medical (Healthcare) Databases
 - PubMed
 - CINAHL
 - Cochrane Library
- Physical Therapy Specific Databases
 - PEDro
 - Hooked on Evidence

PubMed

- Produced by the US National Library of Medicine
- “Free” to the public
- Online version of Index Medicus
- Links may be included to online journals
- Comprehensive, but...not all health care journals are indexed, especially in allied health professions

PubMed – Key Features

- Clinical Queries
 - Clinical study by category
 - Find systematic reviews
- MeSH Database
 - Synonyms (keywords) to use for your searches
 - Tutorials
- Comprehensive Limits Option
- Search History Tracking
- “My NCBI” Alert, Storage and Retrieval Option

Cumulative Index to Nursing & Allied Health Literature (CINAHL)

- Primary search engine for allied health literature, especially from journals not indexed by PubMed
- Links may be included to online journals
- Subscription fee

CINAHL – Key Features

- Easy search feature
- CINAHL headings mapping function
- Some different limits options not included in PubMed
- Search history tracking

Cochrane Library

- International collaboration
- Produces systematic reviews and meta-analyses of individual studies
- Rigorous search, selection and quality assessment methodology
- Updated regularly
- Abstracts are free
- Subscription fee for full reviews

Cochrane Library – Key Features

- Easy search feature
- MeSH terms feature
- Full review provided
- Only controlled trials reviewed for intervention questions

PEDro

- <http://www.pedro.fhs.usyd.edu.au/index.html>
- Physiotherapy Evidence Database
- Free access
- Bibliographic details and abstracts of randomized controlled trials, systematic reviews and evidence-based clinical practice guidelines in physiotherapy.
- Most trials in the database have been rated for quality

PEDro – Key Features

- PT relevant drop down menus for searching
 - Type of therapy
 - Body part
 - Subdiscipline
 - Research method

Hooked on Evidence

- APTA database and search engine regarding physical therapy interventions
- Membership required
- Studies of human subjects in English language peer-reviewed journals with at least 1 PT intervention included
- Clinical scenarios to which evidence in the database is linked

Hooked on Evidence – Key Features

- Information is abstracted from articles that addresses key concerns about research design and results
- Clinical scenarios to which evidence in the database is linked
- Articles added to the database by APTA members so some practice areas or interventions may not be well represented

Which articles to choose?

- Relevance to the question posed
- Consistency with contemporary practice
- Ranking on evidence hierarchy
- Peer-reviewed
- Credentials of authors, editors or reviewers
- Disclosure of funding sources or conflicts of interest