Evidence Based Practice in Primary Care:

K Dziedzic¹, K Stevenson², M Porcheret¹,³

¹ Arthritis Research UK Primary Care Centre
² University Hospital of North Staffordshire
³ North Staffordshire PCT
Background

- Clinicians find it difficult to stay on top of the evidence
  - lack of expertise, time and access to resources

- How do we best integrate evidence into practice?
Two approaches in North Staffordshire

- Musculoskeletal Research Facilitation Group (Stevenson)
- Evidence Based Medicine Group (Porcheret)
Musculoskeletal Research Facilitation Group

- Professionals who have interest in musculoskeletal disease
- Meet every 3 months (2003 - )
  
  *Physiotherapists*
  *Occupational therapists*
  *Podiatrists*
  *Nurses*
  *Clinical researchers*
  *Information librarian & information manager*
Aims

- Ensure practice is evidence based
  - ask and answer clinically relevant questions
  - utilise existing research
- Involve staff in research process
  - identify areas for further training
  - build on existing partnerships
Methodology

- Clinicians identify clinical questions
- Use Critically Appraised Topics (CATs) to answer these questions
Critically Appraised Topic (CAT)

- A CAT is developed from a clinical question which is structured and answerable
- It provides a summary of the best available evidence
- Answers the clinical question and provides a ‘clinical bottom line’

(Foster et al 2001, Physiotherapy)
Critically Appraised Topic

Specific clinical question → Search the evidence → Appraise best evidence

Clinical bottom line

Consider implications for practice → Evaluate and review
Examples of completed CATs

- Management of back pain
- Management of knee pain
- Flexor tendon rehabilitation
- Effectiveness of sustained stretching
- Appointment duration

- Eccentric versus concentric exercises
- Telephone consultations
- Hand therapy in arthritis
- Splinting in carpal tunnel syndrome
- Effect of shoulder stabilisation exercises
- Hand arthritis
Is manual physical therapy more effective than other physical therapy approaches in reducing pain and disability in adults post whiplash injury?
Population Intervention Comparator Outcome

Is manual physical therapy more effective than other physical therapy approaches in reducing pain and disability in adults post whiplash injury?
Search terms

Key words searched:

Acceleration-deceleration injury, Active Movement, Active/passive mobilisations/movements, Acupuncture, Acute, sub acute and chronic, Advice and education, Automobile crashes, Cervical spine, Cognitive behavioural therapy, Coping, Disability, Electrotherapy (ultrasound, laser, shortwave diathermy, interferential therapy, Transcutaneous Electrical Nerve Stimulation, infrared), English language, Exercise, home exercise programme – stretching and strengthening, Function, GP care, Guidelines, Hydrotherapy, Manipulation, Massage, McKenzie techniques, Mobilisation(s), Motor vehicle accident, Neck, Pain, Passive Movement, Patient Satisfaction, Physical Therapy, Physiotherapy, Postural correction/stabilisation techniques, Randomised Controlled Trials (RCTs), Range of Movement, Referred arm pain, Rest (collars), Soft tissue injury, Soft tissue techniques, Strength, Systematic reviews, Thermotherapy (ice, warmth, hot packs), Traction, Usual care, Whiplash associated disorder, Whiplash injuries, Whiplash trauma, Whiplash, Whiplash-associated disorders
Methods

Databases
Cochrane, Pedro, Medline, Amed, Cinahl, Embase, PsychInfo, Clinical Evidence, Bandolier, NLH, Professional websites, Clinical Guidelines, NICE

Type of study
Systematic reviews, RCTs, Guidelines, English Language

Timescale
Last 10 years (1996 – September 2006)
## Results of search

<table>
<thead>
<tr>
<th>Database searched</th>
<th>Number of relevant abstracts</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMBASE</td>
<td>162</td>
</tr>
<tr>
<td>Medline</td>
<td>155</td>
</tr>
<tr>
<td>Others</td>
<td>19</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>336</strong></td>
</tr>
</tbody>
</table>
Searching the evidence

- Does the article answer the clinical question?
- 40 articles were appraised
  - using a CASP checklist
    (Critical Appraisal Skills Programme)
    through consensus discussion
Critical Appraisal Skills Programme (CASP)

- appraisal tool for systematic reviews
- appraisal tool for randomised controlled trials
- appraisal tool for qualitative research studies
- appraisal tool for economic evaluation studies
- appraisal tool for cohort studies
- appraisal tool for case control studies
- appraisal tool for diagnostic test studies
Results

10 articles identified
4 articles reviewed relevant to clinical question


Clinical bottom line

- Manual therapy may have a role in the early management in reducing pain intensity
- In chronic whiplash manual therapy may reduce pain
  - when combined with exercise it may improve function and reduce long-term pain compared with manipulation alone (CSP Guidelines)
- Active patient involvement and McKenzie approaches are less costly and more effective than standard advice leaflets in terms of resources related to physiotherapy
- Whiplash is a risk factor associated with vascular accidents following manipulation, however adverse events are reported to be low
Dissemination

- Training events, e-mail and staff meetings
- Clinical bottom lines incorporated into algorithms to inform practice
- Where guidelines available e.g. whiplash - incorporated into algorithms
Clinical algorithms

- Guidelines for practice
- Long term conditions
- Incorporate local consensus, outcome measures and best evidence from CATs
Links with researchers

- Gaps in the literature identified
- Designing new trials
- Systematic reviews
- Further questions

Is manual physical therapy used in conjunction with exercise more effective than exercise alone in reducing pain and disability in adults post whiplash injury?
‘Being involved in the group has been a very positive experience. Initially I felt daunted at being the only Occupational Therapist and felt that I had very little knowledge in this area and had nothing to offer the group. The group environment is extremely supportive and my research knowledge and skills have grown, and I am still learning! I would recommend this type of group to colleagues and advise them to attend even if they are the only representative of their profession’
Achievements

- Model has been adapted by other clinical groups

A new multidisciplinary approach to integrating best evidence into musculoskeletal practice

Kay Stevenson M.Phil Grad Dip Phys SRP MSCP,¹ Lesley Bird MCSP MBA,² Panagiotis Sarigiovanis MSc BSc SRP MCSP,³ Krysia Dziedzic PhD,⁴ Nadine E. Foster BSc(Hons) Physiotherapy, MCSP, DPhil, PGCE⁵ and Carol Graham DIP COT⁶

¹Consultant Physiotherapist, Physiotherapy Department, University Hospital of North Staffordshire, Stoke on Trent, North Staffordshire, UK
²Clinical Lead for Musculoskeletal Services, North Stoke Primary Care Trust, Stoke on Trent, North Staffordshire, UK
³Senior Physiotherapist, North Staffordshire Combined Healthcare Trust, Stoke on Trent, North Staffordshire, UK
⁴Senior Lecturer in Physiotherapy, Primary care Sciences, Keele University, keele, Staffordshire, UK
⁵Senior Lecturer in Therapies (Pain Management), Primary Care Sciences Research Centre, Stoke on Trent, North Staffordshire, UK
⁶Occupational Therapist Clinical Specialist, North Stoke PCT, Stoke on Trent, North Staffordshire, UK
Evidence based medicine group
The “5S” searching hierarchy

- **Systems**
- **Summaries**
- **Synopses**
- **Syntheses**
- **Studies**

**Examples**
- Computerised decision support
- Evidence based textbooks
- Evidence based journals
- Systematic reviews
- Original journal articles
McMaster

? Systems - Clinical Knowledge Summaries

Summaries - Clinical Evidence

Synopses - Journal Evidence Based Medicine

Syntheses - BMJ Updates – Cochrane SRs

Studies - BMJ Updates – pre-appraised

Studies – Pub Med clinical queries
McMaster Knowledge Refinery

130 journals scanned

Critical appraisal filter

Clinical relevancy filters

Clinical evidence

J EBM – 6 issues / year

BMJ updates – 1-2 / week - searchable
Benefits

- Clinicians engage with the available evidence
- Identify gaps in the evidence
- Improves partnerships and networking
- Greater understanding of research and clinical issues
- Tailored training
Challenges

- Time consuming
- Needs good leadership
- Needs support
- Ensure relevance of questions to all professionals involved
- Ensure questions are reviewed
- Managing clinical change if required
Acknowledgements

University Hospital of North Staffordshire
North Staffordshire Primary Care Research Consortium