Integrating evidence, changing practice and closing the research-knowledge gap: An example of how UK clinicians are tackling the issues

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Introduction

- Local health economy
- Musculoskeletal Research Facilitation Group
  - Critically appraised topics (CATs)
    - Changes in clinical practice
    - Subsequent trial
Local health economy

- Acute Teaching Hospital
  - cares for over 600,000 people
  - includes emergency treatments
  - planned operations and medical care

- 2 Local Primary Care Trusts
  - 5 community hospitals
  - cover population of 500,000
  - budget of over £800 million
  - musculoskeletal problems are common
Musculoskeletal disease in Stoke on Trent

- A typical General Practitioner (family physician) in Stoke on Trent will see 2,100 patients with musculoskeletal disease per year
- 21% of the registered population
- 4,400 musculoskeletal consultations in 12 months

(Musculoskeletal Matters October 2009)
Arthritis Research UK Primary Care Centre

- 10 million people have pain and disability due to musculoskeletal problems in the UK
  (Arthritis Care 2004)
- Equates to £3.5 billion annually
  (Department of Health 2006)
- Increasing elderly population means figures will rise
  (ARMA 2009)
- Research into musculoskeletal conditions and chronic pain
  - Joint pain
  - Osteoarthritis
  - Back pain
  - Widespread regional pain
Integrating the evidence

- Healthcare which doesn’t integrate evidence runs the risk of harm but also misses the opportunity to benefit patients
  (Grol and Grimshaw 2003, Dawes 2005)

- How do we best integrate evidence into practice?

- No single strategy is likely to work and may need to be tailored to suit different groups
  (Grol and Grimshaw 2003)
Background to Musculoskeletal Research Facilitation Group

- Survey Community Physiotherapists (Bourne et al 2007)
- Consultant Physiotherapist 2002
- How can we
  - make best use of Masters students?
  - utilise current and best evidence?
  - increase our partnership with researchers?
Musculoskeletal Research Facilitation Group

- Formed in April 2003
- Professionals who have interest in musculoskeletal disease
- Meet every 3 months
  - Information Librarian
  - Nurses
  - Occupational Therapists
  - Physiotherapists
  - Podiatrists
  - Researchers
  - Senior Lecturers in Clinical Research
  - Professors in Physiotherapy
Aims of the group

- 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
- Identify research 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)
Critically Appraised Topic

Specific Clinical question
Critically Appraised Topic

Specific Clinical question → Search the evidence
Critically Appraised Topic

Specific Clinical question → Search the evidence → Appraise the evidence
Critically Appraised Topic

Specific Clinical question → Search the evidence → Appraise the evidence

Clinical bottom line
Critically Appraised Topic

Specific Clinical question → Search the evidence → Appraise the evidence → Clinical bottom line → Consider implications for practice
Critically Appraised Topic

1. Specific Clinical question
2. Search the evidence
3. Appraise the evidence
4. Clinical bottom line
5. Consider implications for practice
6. Evaluate and review
Critically Appraised Topic

1. **Specific Clinical question**
2. **Search the evidence**
3. **Appraise the evidence**

4. **Clinical bottom line**

5. **Consider implications for practice**

6. **Evaluate and review**

7. **Design trial to answer question**
Clinical output

- Clinical bottom line - 2 sentences

- Clinical question- PICO
  - Population, Intervention, Comparator, Outcome

- Results and implications for practice
Feedback

- Disseminated via training events, e-mail and staff meetings
- Clinical bottom lines incorporated into physiotherapy algorithms to inform practice
- Included in electronic Map of Medicine programme
- Where guidelines available e.g. OA Knee incorporated into physiotherapy algorithms
- Dedicated website
Evidence-Based Practice @ Keele
Joint initiatives between Primary Care Sciences and local clinicians

Muscloskeletal Research Facilitation Group

Our multidisciplinary group aims to integrate best musculoskeletal evidence into daily clinical practice across primary and secondary care.

Evidence Based Practice GP Group

A group for local GPs to come together to find evidence-based answers to clinical questions.

If you would like to come to one of the meetings, or know more about the group please contact Mark Porcheret.

News/Up & Coming Events

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CAT Bank

We are part of a group of clinicians and academics from the Centre and local PCTs which look at answering clinical questions. These are called critically appraised topics (CATs). They are then made available to staff and researchers and help to inform clinical practice and the formulation of new research questions within the centre.

Search Methods for one of the CAT questions discussed (FDFs):

- Key words search
- Topic search
- Full list of CATs
- Or using the body search map below:
Achievements to date

- 23 CATs to date
- Answered a broad spectrum of clinical questions
- Publications
- Other groups
- National and international presentations
- Research funding application to evaluate the process
- Funded research trials
“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….my research knowledge and skills have grown “

“On occasion we have asked questions that have changed our practice within the acute hospital. This process has been reassuring and rewarding”

"Joining the CAT group was a career changing event. It made me sit up and take note of what was going on around me, outside of my day-to-day work. It made me question my routine practice. It has demystified research for me”
Overall results of CATs

- No change in practice required
- Change in practice required
- No evidence available
Example of CAT where:

No change in practice required
In adults with chronic low back pain are core stability exercises more effective in improving function and decreasing pain compared to a general exercise program?
In adults with chronic low back pain are core stability exercises more effective in improving function and decreasing pain compared to a general exercise program?

Clinical Bottom Line

There is evidence that spinal stability exercises are as effective as, and not superior to, usual physiotherapy practice, spinal manipulative therapy and general exercises in treating patient with chronic low back pain.
Example of CAT where:

Change in practice required
In the adult population undergoing surgical arthroscopic treatment for knee articular chondral defect, is the use of CPM (continuous passive motion) effective in reducing pain and improving function?
In the adult population undergoing surgical arthroscopic treatment for knee articular chondral defect, is the use of CPM (continuous passive motion) effective in reducing pain and improving function?

Clinical Bottom Line

There is no current robust evidence to support the use of CPM following arthroscopic treatment for chondral defects of the knee. The use of CPM to provide regular movement on the knee is mentioned in several articles and studies, but seems to have been based originally on a study of cartilage repair in animals.
Example of CAT where:

No evidence available
In adults with shoulder joint impingement is the intervention of stabilization exercises and/or postural correction versus any treatment or no intervention effective in reducing pain and increasing function?
In adults with shoulder joint impingement is the intervention of stabilization exercises and/or postural correction versus any treatment or no intervention effective in reducing pain and increasing function?

**Clinical bottom line**
There was no evidence specific to scapula stabilization exercises, but the general summary of the research was that an exercise programme was beneficial with the addition of manual therapy being more effective than exercises alone.
The SUPPORT trial

- **SU**bacromial **im**pingement syndrome and **P**ain: a randomised controlled trial of **exeRcise** and **injecTion**

- Colleagues from Musculoskeletal Research Facilitation group linked with academics from Keele University

- Gained funding to answer our clinical question

- Recruitment of 252 patients with subacromial impingement due to commence November 2010
Summary

- Best evidence generated from clinically relevant questions
- Integrated into practice via multiple strategies
- Dedicated website
- Publications
- Funded research trials
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