Lesley Pattenden

Biography

Lesley qualified as a physiotherapist from Bristol School of Physiotherapy in the early 1980’s. Since then she has worked in both the NHS and privately within the field of musculo-skeletal out-patients and is currently the Orthopaedic Team Lead at Weston Super Mare General Hospital (NHS). Her acupuncture career began with various short courses in 1992 leading to a Diploma in Acupuncture from Coventry University in 2006. After securing a teaching qualification she has been an experienced AACP tutor for 7 years. She is also Vice-Chair and Director of AACP and has represented AACP at many events including various NICE guideline groups and the Acupuncture Stakeholders Group. Her aim is to continue to promote the use of acupuncture by physiotherapists and maintain this useful modality within the NHS.
AACP, Still Pointing the Way after 30 Years!

Low back pain: practice makes perfect

Lesley Pattenden
AACP, Still Pointing the Way after 30 Years!

Abstract

The use of acupuncture within physiotherapy, particularly for the treatment of musculo-skeletal conditions and particularly LBP, is common. This presentation aims to explore the many variables that need to be considered as part of “dosage” and relate these to the current evidence base in order to make interventions for LBP more efficacious. The presentation will include a demonstration of some of the acupuncture techniques used in the Lumbar Spine and opportunity will be given to discuss the implications of such techniques.
## Learning Outcomes

<table>
<thead>
<tr>
<th>Title</th>
<th>Low Back Pain: Practice makes perfect</th>
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</table>
| **Theoretical Learning Outcomes**                                   | 1. Understand the current evidence base related to the specific variables of dosage  
                                                                           2. Acknowledge how various pain presentations can affect outcomes of interventions with reference to Low Back Pain |
| **Skills to be communicated**                                        | Application of clinical reasoning based on Western Medical Approaches to various clinical presentations encountered in the Outpatient department |
| **Information on practical application of information**              | Various acupuncture techniques on the Lumbar spine and other areas will be demonstrated and discussed |
| **Areas of further learning which may benefit the delegate**         | Pain mechanisms: for example, peripheral/central sensitisation processes, |
| **Summarise key points with emphasis on clinical application**       |                                        |
CPD REGISTRATION FORM

Membership of the AACP is open to Chartered Physiotherapists practising Acupuncture

Surname: CSP registration no:
First Name: HPC registration no:
AACP membership no:

CPD Activity:
Date:
CPD Hours:

Learning Objectives:

Learning Outcomes:
Aims of the session........

1. Explore your current knowledge of acupuncture and LBP
2. To examine the current evidence base and review current guidelines concerning LBP
3. To review the clinical reasoning process and relate it to LBP
4. To review the various techniques associated with acupuncture for LBP

How can you make your practice more effective?

The scale of the problem........

UK population
- lifetime prevalence 70%
- annual prevalence 40%

Recurrences are common and prevalence of LBP has not changed
90% of acute attacks that present for healthcare settle sufficiently to prevent further intervention and return to work within 6 weeks
7% of adults have persisting LBP which restricts function
1 in 15 of the population will consult their GP for LBP
LBP accounts for between 25% and 45% of PT case load


NICE (2009) Guidelines

Recommendations........

1. Consider offering a course of manual therapy including spinal manipulation of up to 9 sessions over 12 weeks.
2. Consider offering a course of Acupuncture up to 10 sessions over 12 weeks (pg 180)
3. Do not offer injections of therapeutic substances into the back
4. Do not offer stand alone formal education programmes
5. Do not offer laser/IF/Therapeutic U/S or TENS routinely

Research............

Systematic Review:

RCT’s (4)
NICE 2013 Review (Due 2016)

How may these affect us?
Scope - what does this suggest?

Low Back Pain and Sciatica: Management of non-specific LBP and Sciatica
Pulse Article (2010) - non adherence to guideline
Of 127 PCT’s - ½ provided funding and 15% offered A/P in GP practices

What Research is NICE likely to consider?


Acupuncture Trialist Collaboration

**Aim** To determine effect sizes of A/P in 4 common conditions with chronic pain states

**Data** 29 trials data - 17922 patients

**Outcome** Superior to sham and no control

“reasonable referral option for effect”

“statistical significance between true A/P and sham”

“indicate effect is more than placebo but other factors for effect are important contributors”

STRICTA GUIDELINES: Standards for reporting Interventions in Clinical Trials of Acupuncture
2001, 2002, revised 2010

1. Acupuncture Rationale
2. Details of needling
   I. Number of needles
   II. Names/location
   III. Depth of insertion
   IV. Response sought
   V. Needle Stimulation
   VI. Time
   VII. Needle diameter/length/type
3. Treatment Regimen
4. Other components
5. Practitioner Background
6. Control

How do you choose your points?

Recipes/protocols......
Points you are familiar with.....
TCM associations.......
Western Scientific theory- and what do we mean by this?

Clinical Reasoning v Technical Operation
Questions to ask yourself?........

What structures will the needle penetrate? What is the state of the tissues? Do you want to needle locally? Or should you just use distal points? What stimulation are you wanting to perform? What indications does your patient give you regarding needling? Why? Why? Why do we do anything?

Layering technique....

• Peripheral effects?
• Segmental/spinal effects?
• Add a layer...
• Supraspinal effects?
• Sympathetic Outflow?
• Central Sympathetic effects?
• Immune effects?

Bradnam (2007)

"multisensory pain modulation"

Campbell (2013)

Points (dermatomes, myotomes, sclerotomes)

<table>
<thead>
<tr>
<th>Point</th>
<th>Dermatome</th>
<th>Myotome</th>
<th>Sclerotome</th>
<th>Peripheral Nerve</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST 36</td>
<td>L4/5</td>
<td>L4/5</td>
<td>T4/5</td>
<td>Deep Peroneal</td>
</tr>
<tr>
<td>LR 3</td>
<td>L4/5</td>
<td>L5/S1 or S2/S3</td>
<td>T5/S1</td>
<td>Medial/Lateral Plantar Nerve</td>
</tr>
<tr>
<td>GB 30</td>
<td>L2/L3/S2</td>
<td>L5/S1/S2</td>
<td>T4/5/L/S1</td>
<td>Inferior Gluteal Nerve/Oblurator</td>
</tr>
<tr>
<td>GB 39</td>
<td>L4/L5/S1</td>
<td>L4/L5/S1</td>
<td>L4/L5/S1</td>
<td>Superficial Peroneal (PL/PB) Deep Peroneal (PT)</td>
</tr>
<tr>
<td>BL 23</td>
<td>L2/L3</td>
<td>L2/3</td>
<td>L2/3</td>
<td>Local Segmental (dorsal/rami)</td>
</tr>
<tr>
<td>BL 52</td>
<td>L2/3</td>
<td>L2/3</td>
<td>L2/3</td>
<td>Local Segmental (dorsal/rami)</td>
</tr>
</tbody>
</table>

Lumbar Spine Points- examples

Examples of Points related to spinal segments........ (White 2008)

<table>
<thead>
<tr>
<th>Level</th>
<th>Dermatome</th>
<th>Myotome</th>
<th>Sclerotome</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>BL 21/22</td>
<td>BL 21/22</td>
<td></td>
</tr>
<tr>
<td>L2</td>
<td>BL 23/B25/GV 4</td>
<td>B23/GV 4</td>
<td></td>
</tr>
<tr>
<td>L3</td>
<td>SP 9/10/ 3</td>
<td>SP 10</td>
<td>SP 9</td>
</tr>
<tr>
<td>L4</td>
<td>ST 36/SP 6/3P</td>
<td>B25/ST 36/SP 10</td>
<td>GV 3/ BL 25</td>
</tr>
<tr>
<td>L5</td>
<td>ST 36/LR 3</td>
<td>ST 36/BL 54</td>
<td>ST 36/ LR 3</td>
</tr>
<tr>
<td>S1</td>
<td>SP 6/LR 40</td>
<td>SP 6/SP 9/RG 3</td>
<td>LR 3</td>
</tr>
<tr>
<td>S2</td>
<td>SP 6/10 31</td>
<td>SP 6/SP 9/RG 3</td>
<td>LR 3</td>
</tr>
</tbody>
</table>

Neural Anatomical Unit
Key issue: Discussing the metaphysical concepts of points and meridians in the framework of modern scientific language

<table>
<thead>
<tr>
<th>Classification</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muscle Spindle rich</td>
<td>Around 60% of acupuncture points are located in muscle</td>
</tr>
<tr>
<td>Cutaneous receptor rich</td>
<td>Hands, Face, Feet (sensory homonculus)</td>
</tr>
<tr>
<td>Tendon Organ Rich</td>
<td>Around joints, wrist, elbow, knees</td>
</tr>
</tbody>
</table>

http://www.hindawi.com/journals/ecam/2012/429412
Peripheral Sensitisation......

- Increased synaptic activity causing sub threshold stimulus to produce response
- Reflects functional states of circuits in the CNS
- CNS distort/amplify degree, duration, extent of pain
- Stimulus ↑ pain in segmentally related TP’s

Central Sensitisation

Central sensitisation refers to the amplification of sensory signals within the central nervous system, leading to increased pain perception. Key contributors include increased synaptic activity, functional states of circuits in the CNS, and amplification of pain signals. Stimuli that previously did not cause pain can now evoke pain in related areas due to changes in synaptic activity.

Structural....

- Helen Langevin - connective tissue effects
- Tom Myers - Anatomy Trains
- Gil Hadley-Fuzz - "strolling under the skin"
- MfTP’s

“Opening or Shutting the pharmaceutical box in the brain”

Inflammatory mediators and neurotransmitters play a role in peripheral sensitisation and central sensitisation. This includes cytokines, cytokine receptors, and other inflammatory molecules that contribute to the amplification of pain signals in the nervous system.

Evidence for...........
3. Frequency of sessions- Sherman (2009)
4. Total number of sessions- Ezzo (2000)
7. Other Factors:
Witt (2011)- being female, living in a multi person household, failure of other therapies before study, former positive experience
Witt (2010) Therapeutic relationship (not training or length of qualification)
Harris (2009) Genetics –effect of mu receptors and difference in opioid metabolism
Pearce (2006) Acupuncture time line model

**Physical Procedure | De Qi/Technique**
--- | ---
1+ needles | Selection of Points
Consider patients perception of pain | ?Sensory/? Affective
May be affected by the state of the patient | Nervous, immune-suppressed etc

DIFFERENT CONDITIONS (in WM) MAY REQUIRE DIFFERENT DOSES AS EFFECT MAY RELY ON MANY MECHANISMS (local/segmental/extrasegmental/central/immune effects)

Think THRESHOLD v TOLERANCE

Let’s review a point....BL 25....
(40mm needle angled obliquely towards spinous process)

- Location: 1.5 lateral to the lower border of L4
- Skin
- Thoracolumbar fascia
- Muscles: multifidus, iliocostalis lumborum
- ?longissimus thoracis
- ?fibres/thoracolumbar fascia Lat. Dorsi
- Quadratus Lumborum
- Bone
L/SP Points........

Local – BL 20-35, BL 48-54, Ah Shi, Extra points- HJJ, Yao Yi, Yuo Yan

Segmental: L5/S1- GB 30, GB 31, GB 34, GB 41, GB 43, BL 60-67,

Extra Segmental- KI channel/SP channel, LR channel, AND all channels in arms/ head. GV 20.

Sympathetic- HT 7, PC 6, LU 9
Acupuncture and the Emerging Evidence base: Contrived Controversy and Rational Debate

3 areas of Research
1) Safety and the risk of serious adverse events
2) Clinical Efficacy and Effectiveness
3) Physiologic Action

References......
- AACP website (must be on aacp.org.uk)
- (username/password)
- On-line databases
- Access to AIM
- Choose article-abstract - "full text"
- Then look at references - it will denote what is free/on Google scholar

Thank You for listening.......!

MacPherson / Hammerschlag (2012)