An approach to back pain...

...the WMA approach to the assessment and treatment of back pain

Dr Mike Cummings MB ChB DipMedAc
Musculoskeletal Physician
Medical Acupuncturist
Medical Director BMAS
Associate Editor Acupuncture in Medicine
Honorary Clinical Specialist UCLH

www.medical-acupuncture.co.uk
https://journals.sagepub.com/home/aim
Medicine (Leeds) 1987
Musculoskeletal Medicine
RAF Medical Officer 1989–96
Acupuncture 1993–
Director of Education BMAS 1997–
Editor Acupuncture in Medicine 1999–
Medical Director BMAS 2001–
Expert Adviser NICE CG88 2007–09

Disclosure – no conflict of interest
mike.cummings@btinternet.com
goo.gl/6XQeXv
Mobile friendly site map

- Home
  - Latest News
- Mobile friendly site map
- Who are the British Medical Acupuncture Society?
  - Who are BMAS?
  - Council
    - Medical Director
      - London office
      - Northwich office
      - Annual Report
      - Code of Practice
      - Affiliation
      - Academic Associates
      - Make a donation or bequest
        - Donate Online
- Acupuncture in Back Pain
- BMAS Points Resource
- Members
  - Members Area
  - Request Password
  - User Registration
  - BMAS Awards/Accreditations

Log In | Home | Mobile friendly site map | Search
Dr Mike Cummings

Mike is Medical Director of the British Medical Acupuncture Society (BMAS). This is a full time post that involves running the BMAS London Teaching Clinic (LTC), co-ordinating and lecturing on BMAS courses in Western medical acupuncture, acting as an associate editor for the Medline-listed journal *Acupuncture in Medicine*, and representing the BMAS at various academic and political meetings. Mike is an Honorary Clinical Specialist at the Royal London Hospital for Integrated Medicine, which is part of the University College London Hospitals NHS Foundation Trust, where he supports acupuncture services.

His principal academic and clinical interest is musculoskeletal pain, and in particular, needling therapies in the treatment of myofascial pain syndromes.

After completing his medical degree at Leeds, and several hospital jobs in the north of England, Mike joined the Royal Air Force for a six month and half year short service commission as a medical officer. A substantial portion of the workload for a general duties medical officer (GDMO) in the RAF is musculoskeletal medicine. Mike came across acupuncture by accident whilst working as a GDMO. He followed his interest in musculoskeletal medicine and acupuncture on retiring from military service, and finally found himself occupied full time in the field of acupuncture.

Read Mike's profile in the Leeds University Medical School Alumni magazine from 2003.
Read a description of how Mike unexpectedly got into acupuncture in *Toby Murcott's book - The Whole Story* from 2005.

Mike edits and writes on the BMAS Blog.

### Publications


---

**Downloads**

Piriformis Syndrome - a paper from the archives (reference 4 on the list above).


XV Congreso Sociedad Española del Dolor, Palma de Mallorca, 24-26 May 2018 Acupuncture for Chronic Pain - notes to accompany lecture.

Electroacupuncture summary on a single white board, Lanzhou 2018.

The problem with sham, Madrid 2019.

Gramado 2019 slides: the needle; the neck; the back.

---

**Conferences**

Nordic Medical Acupuncture Congress programme, Copenhagen 2019.

European Congress for Integrative Medicine programme, Barcelona 2019. ECIM Workshops.

---

**Social media**

**Tweets by @drmike001**

Mike Cummings
@drmike001

Atheroma 2019 bmas.blog/2019/06/19/ather...

**Tweets by @Acupunct_Med**

Acupunct Med
@Acupunct_Med

Effect of Mongolian warm acupuncture on the gene
Academic Associates

As part of its mission to promote acupuncture within healthcare the British Medical Acupuncture Society has chosen to make some of its resources available to acupuncture practitioners who are already members of another national acupuncture organisation or in a full time academic post, and who are not eligible to be members of the BMAS. This will permit use of specified BMAS resources to facilitate academic pursuits such as education, research or continuing professional development.

**Academic Associateship offers:**

- Full online access to *Acupuncture in Medicine* (impact factor 2.637)
- BMAS Points Resource
- Access to webcasts & CPD modules related to the BMAS Spring & Autumn Meetings
- Members rates at meetings

**The cost is £36.00 per year.** Proof of membership of a recognised acupuncture organisation must be submitted to support a request for academic associateship, and at each renewal.

To apply to become an Academic Associate please contact the BMAS Head Office on 01606 786782 or by email admin@thebmas.com
Mobile friendly site map

Who are the British Medical Acupuncture Society?

Acupuncture in Back Pain

BMAS Points Resource

Members

Patient information

Find a Practitioner

Training & Education

Register For Courses

London Teaching Clinic

Northwich Training Centre & Teaching Clinic

Shop

Acupuncture in Back Pain

BMAS Points Resource

Members

Who are the British Medical Acupuncture Society?

Who are BMAS?

Council

Medical Director

London office

Northwich office

Annual Report

Code of Practice

Affiliation

Academic Associates

Make a donation or bequest
  ■ Donate Online

Latest News
An approach to back pain...

Definition
Evidence based medicine – evidence based medicine is the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients.

Editorial
Evidence based medicine: what it is and what it isn't
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.
By best available external clinical evidence we mean clinically relevant research, often from the basic sciences of medicine...
Good doctors use both individual clinical expertise and the best available external evidence, and neither alone is enough.
Without clinical expertise, practice risks becoming tyrannised by evidence...
Evidence based medicine is not restricted to randomised trials and meta-analyses.
An approach to back pain...

Physiology
- Local effects
- Segmental
- General

Thomas Lundeberg
- physician
- scientist
- cartoonist
An approach to back pain...

Assessment of (presumed) musculoskeletal pain

- History
  - said to contribute about 90% to the diagnosis
  - Red flags
- Examination (Look, Feel, Move)
  - focused on mechanical loading of tissues to provoke patient recognition of symptoms
    - the fine filiform needle provides the best tissue specific loading
- Special investigations (mostly imaging)
  - confirms clinical impression, but rarely reliable without a good clinical assessment
- Treatment response
  - may take up to 3 cycles of treatment and response to reach a conclusion in tricky cases
PAIN MECHANISMS

Drawings by Mike Cummings

copied in the style of Tom Lundeberg

PFC  prefrontal cortex
FC   frontal cortex
SSC  somatosensory cortex
LS   limbic structures
HT   hypothalamus
PAG  periaqueductal gray
SC   spinal cord
PAIN MECHANISMS

PERCEPTION

Modulation

nociception

guads

muscle

knee

joint

PFC  prefrontal cortex
FC  frontal cortex
SSC  somatosensory cortex
LS  limbic structures
HT  hypothalamus
PAG  periaqueductal gray
SC  spinal cord
An approach to back pain...

Assessment of (presumed) musculoskeletal pain

- **History**
  - said to contribute about 90% to the diagnosis
  - Red flags

- **Examination (Look, Feel, Move)**
  - focused on mechanical loading of tissues to provoke patient recognition of symptoms
    - the fine filiform needle provides the best tissue specific loading

- **Special investigations (mostly imaging)**
  - confirms clinical impression, but rarely reliable without a good clinical assessment

- **Treatment response**
  - may take up to 3 cycles of treatment and response to reach a conclusion in tricky cases
An approach to back pain...

Assessment of (presumed) musculoskeletal pain

- History
  - Pain history
    - Site
      - Central vs lateralized
      - Deep vs skin level
    - Character
    - Radiation
    - Onset
    - Severity
    - Duration
    - Special times of occurrence
    - Aggravating factors
    - Relieving factors
    - Associated symptoms
P1  disc
vertebral body
dura

P2  muscle
facet / SIJ

P3  nerve root
facet / foraminal
muscle
An approach to back pain...

Assessment of (presumed) musculoskeletal pain

- **History**
  - said to contribute about 90% to the diagnosis
  - Red flags

- **Examination (Look, Feel, Move)**
  - focused on **mechanical loading of tissues** to provoke patient recognition of symptoms
    - the fine filiform needle provides the best tissue specific loading

- **Special investigations (mostly imaging)**
  - confirms clinical impression, but rarely reliable without a good clinical assessment

- **Treatment response**
  - may take up to 3 cycles of treatment and response to reach a conclusion in tricky cases
Mechanical loading of tissues

Examination

○ Observation
  ✧ Weight bearing activity may result in obvious pain

○ Tissue loading
  ✧ Stretch
  ✧ Loading via weight distribution or position
  ✧ Loading via resisted contraction of muscle
  ✧ Loading via bony impingement
  ✧ Loading via palpation of tenderness
  ✧ Loading with a filiform needle
Mechanical loading of tissues

Examination of the back

- Observation
  - Weight bearing activity may result in obvious pain

- Tissue loading
  - Stretch – provocation during assessment of RoM: standing or CAT
  - Loading via weight distribution or position – RoM: standing or CAT
  - Loading via resisted contraction of muscle
  - Loading via bony impingement – RoM: standing or modified CAT
  - Loading via palpation of tenderness – TrPs, ligaments, SPs
  - Loading with a filiform needle – TrPs, ligaments, facets
Mechanical loading of tissues

Examination of the back

- Observation
  - Weight bearing activity may result in obvious pain

- Tissue loading
  - Stretch – provocation during assessment of RoM: standing or CAT
  - Loading via weight distribution or position – RoM: standing or CAT
  - Loading via resisted contraction of muscle
  - Loading via bony impingement – RoM: standing or modified CAT
  - Loading via palpation of tenderness – TrPs, ligaments, SPs
  - Loading with a filiform needle – TrPs, ligaments, facets
How do we apply loading

...with our fingers and with a needle
How much pressure do we apply

...with our fingers versus a needle
The acupuncture needle...

Average pressures compared...

<table>
<thead>
<tr>
<th>Digit</th>
<th>Dimensions</th>
<th>Weight applied</th>
<th>Average pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middle fingertip (gentle)</td>
<td>100mm²</td>
<td>150g</td>
<td>0.15kg/cm²</td>
</tr>
<tr>
<td>Middle fingertip (firm)</td>
<td>100mm²</td>
<td>1-2kg</td>
<td>1-2kg/cm²</td>
</tr>
<tr>
<td>Thumb pad (maximum)</td>
<td>200mm²</td>
<td>5-10kg</td>
<td>2-5kg/cm²</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Needle</th>
<th>Dimensions</th>
<th>Surface area of cone tip</th>
<th>Weight before bending</th>
<th>Average pressure at tip</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lilac</td>
<td>0.25x30mm</td>
<td>0.2mm²</td>
<td>30-50g</td>
<td>15-25kg/cm²</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Needle</th>
<th>Dimensions</th>
<th>Surface area of flat tip</th>
<th>Weight before bending</th>
<th>Average pressure at tip</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lilac</td>
<td>0.25x30mm</td>
<td>0.05mm²</td>
<td>25-50g</td>
<td>50-100kg/cm²</td>
</tr>
</tbody>
</table>

1/500 to 1/4000 | 1/50 to 1/400 | 10x to 100x

low diffuse pressure not tissue specific

high localised pressure tissue specific
Mechanical loading of tissues

Examination of the back

- Observation
  - Weight bearing activity may result in obvious pain

- Tissue loading
  - Stretch – provocation during assessment of RoM: standing or CAT
  - Loading via weight distribution or position – RoM: standing or CAT
  - Loading via resisted contraction of muscle
  - Loading via bony impingement – RoM: standing or modified CAT
  - Loading via palpation of tenderness – TrPs, ligaments, SPs
  - Loading with a filiform needle – TrPs, ligaments, facets
    - Is this the pain you are complaining of?
    - Or is it a different pain in the same place?
TrP pain referral patterns

www.medacu.co.uk/triggerpoints.aspx
www.medical-acupuncture.co.uk/triggerpoints.aspx
TrP pain referral patterns

- Sternalis
- Rectus abdominis
- External oblique
- Iliocostalis thoracis
- Multifidus

www.medacu.co.uk/triggerpoints.aspx
www.medical-acupuncture.co.uk/triggerpoints.aspx
TrP pain referral patterns
P1  disc vertebral body dura

P2  muscle facet / SIJ

P3  nerve root facet / foraminal muscle
P2 myofascial

- multifidus
- iliocostalis thoracis
- iliocostalis lumborum pars thoracis
- iliocostalis lumborum pars lumborum
- quadratus lumborum
- piriformis and gluteal muscles

P3 PS (rare)
...using a filiform needle as a tissue specific probe when assessing thoracic spinal pain.

The diagram illustrates 3 safe angulations, targeting:
1. longissimus
2. iliocostalis
3. multifidus & the posterior column
...using a filiform needle as a tissue specific probe when assessing lumbar spinal pain

The diagram illustrates 4 safe angulations, targeting:

1. longissimus
2. iliocostalis
3. quadratus lumborum
4. multifidus & the posterior column
myofascial

symmetrical myofascial pain is likely to be secondary typically longissimus thoracis or trapezius potential underlying problems include:

work-related stress
postural overuse
anxiety
myofascial

Symmetrical myofascial pain is likely to be secondary.

This pattern may be secondary to internal disc derangement.
P1 disc vertebral body dura

P2 muscle facet / SIJ

P3 nerve root facet / foraminal muscle
Mechanical loading of tissues

Examination of the back

- Observation
  - Weight bearing activity may result in obvious pain

- Tissue loading
  - Stretch – provocation during assessment of RoM: standing or CAT
  - Loading via weight distribution or position – RoM: standing or CAT
  - Loading via resisted contraction of muscle
  - Loading via bony impingement – RoM: standing or modified CAT
  - Loading via palpation of tenderness – TrPs, ligaments, SPs
  - Loading with a filiform needle – TrPs, ligaments, facets
Dr Mike Cummings

Mike is Medical Director of the British Medical Acupuncture Society (BMAS). This is a full time post that involves running the BMAS London Teaching Clinic (LTC), co-ordinating and lecturing on BMAS courses in Western medical acupuncture, acting as an associate editor for the Medline-listed journal Acupuncture in Medicine, and representing the BMAS at various academic and political meetings. Mike is an Honorary Clinical Specialist at the Royal London Hospital for Integrated Medicine, which is part of the University College London Hospitals NHS Foundation Trust, where he supports acupuncture services.

His principal academic and clinical interest is musculoskeletal pain, and in particular, needling therapies in the treatment of myofascial pain syndromes.

After completing his medical degree at Leeds, and several hospital jobs in the north of England, Mike joined the Royal Air Force for a six month short service commission as a medical officer. A substantial portion of the workload for a general duties medical officer (GDMO) in the RAF is musculoskeletal medicine. Mike came across acupuncture by accident whilst working as a GDMO. He followed his interest in musculoskeletal medicine and acupuncture on retiring from military service, and finally found himself occupied full time in the field of acupuncture.

Read Mike's profile in the Leeds University Medical School Alumni magazine from 2003.

Mike edits and writes on the BMAS Blog.

Publications

Publications

Needling assessment

- **No**
- **Do not attempt direct needling of disc, vertebral body or dura**
O/E

P1

Needling assessment

- No
- Do not attempt direct needling of disc, vertebral body or dura
Needling assessment

- No
- Do not attempt direct needling of disc, vertebral body or dura

O/E
Manual acupuncture
local / segmental
M-BW-25
BL26

Electroacupuncture
local / segmental
BL26
NOT recommended

Electroacupuncture
local / segmental
BL25—BL26
GV3—M-BW-25
Needling assessment

- Recognised pain from needling TrP
O/E

P2 muscle facet / SIJ

Needling assessment

- Recognised pain from needling onto facet joint margins
Dry needling
- quadratus lumborum
- iliocostalis lumborum
- multifidus
- glutei
- piriformis

Electroacupuncture
- local / segmental
- piriformis or glutei

Electroacupuncture
- local / segmental
- multifidus / glutei over facets either side of SIJ
O/E

- P3 nerve root
  facet / foraminal muscle

Needling assessment

- Recognised pain from needling onto facet joint margins
Manual acupuncture
BL25
BL26
GB30
BL37
BL40
2° TrP lateral gastrocnemius
BL56

Dry needling
piriformis
Piriformis syndrome
<10% of true sciatica

Electroacupuncture
local / segmental
multifidus
piriformis / glutæi
hamstrings
gastrocnemius

Rx
WMA approach to assessment and treatment of back pain

- History
  - central vs lateral
- RoM and pain provocation
  - disc loading, facet loading, foraminal compression, muscle stretching
- Needling for reproduction of recognised pain
  - muscle TrPs
  - facet margins, SIJ (posterior or superior aspects)
  - ligament (rarely)
- Treatment
  - dry needling of TrPs
  - local or regional MA
  - local or regional EA
  - periosteal needling on facet margins / articular column
Charting the story from CG88 to NG59

Acupuncture in Low Back Pain

This is a presentation from the BMAS Spring Meeting in May 2017. It describes the story from the speakers' perspective of the events leading up to the recommendation in favour of acupuncture treatment for back pain in the NICE Clinical Guideline CG88, and the subsequent events that lead to this recommendation being reversed in 2016 in NG59 (the update of CG88).
An approach to back pain...

...the WMA approach to the assessment and treatment of back pain

Thank you for listening

Dr Mike Cummings
Medical Director BMAS

To find me type BMAS into Google

FaceBook: Mike Cummings
Instagram: drmike001 / onbmas
Twitter: @drmike001
LinkedIn: Mike Cummings