The Future of Acupuncture

What is the future of acupuncture and other traditional medical practices within modern healthcare?

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Medical Director BMAS
Musculoskeletal Physician
Medical Acupuncturist

Associate Editor *Acupuncture in Medicine*
Honorary Clinical Specialist UCLH

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https://journals.sagepub.com/home/aim

Disclosure – no conflict of interest

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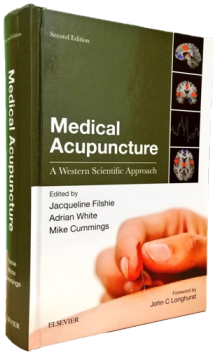
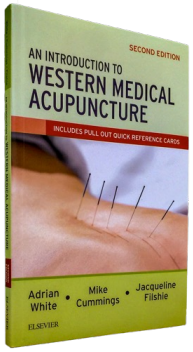
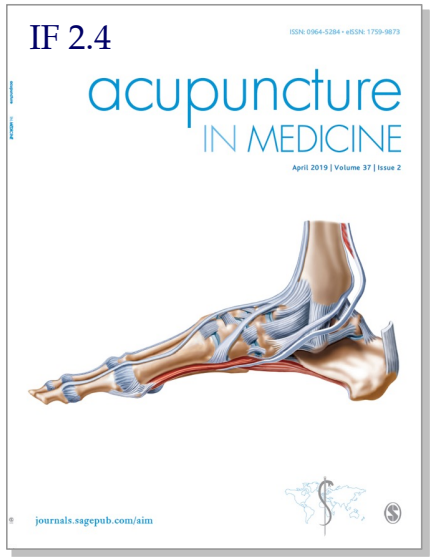
CV

Western medicine	1982–7
Musculoskeletal medicine	1986–~
Acupuncture	1993–~
First publication	1996
Director of Education BMAS	1997–~
Editor & reviewer, associate editor	1999–~
First SR published	2001
Medical Director BMAS	2001–~
Adviser NICE CG88	2008–9
Blogger	2018–~







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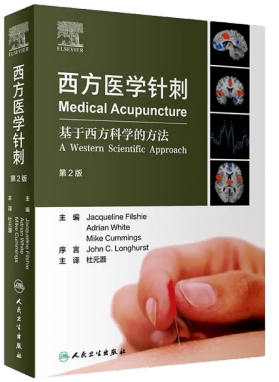
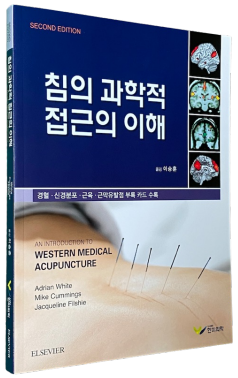
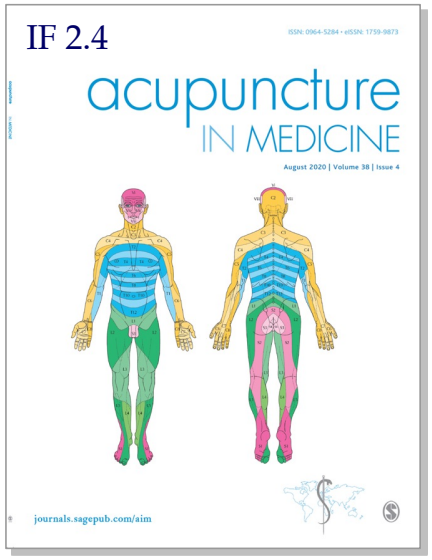
Publications

- ~111 total
- ~90 in peer reviewed journals
  - 8 systematic reviews
  - 1 Cochrane review
- 17 textbook chapters
- 5 textbooks
- full list at goo.gl/6XQeXv





- bmas.blog
  - ✧ research blog since 2018



The BMAS Blog

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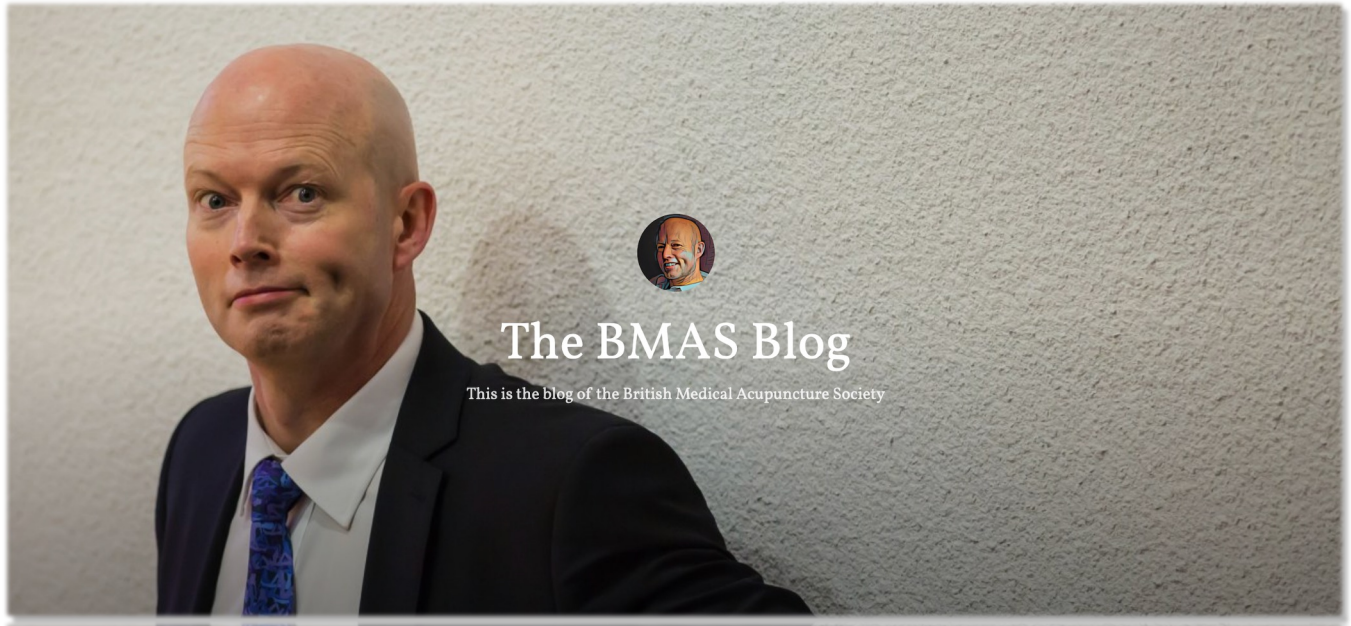

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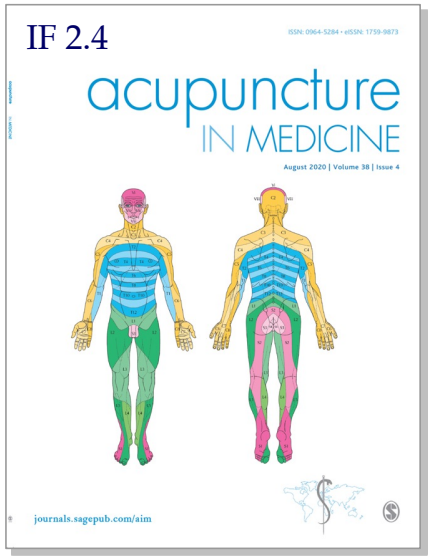

Plan

Topics

- Global use
- Real world data
- Reductionism
- Capitalism

…

- Effect vs risk
- Perspectives E&W
- Pearls
- Bottom lines

Fritillaria imperialis
Royal Botanical Gardens
Kew

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Global use of acupuncture

What percentage of the population use acupuncture?

- in the West
  - Denmark 22% 36% (‘ever use’ 2021; n=11 346)
  - England 11% (‘lifetime’ 2005; n=7630)

Møller *et al*. *BMC Complement Med Ther* 2024.

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- in the East
  - China 15% (preference for treating MSK pain CHARLS 2023; n=10 346)

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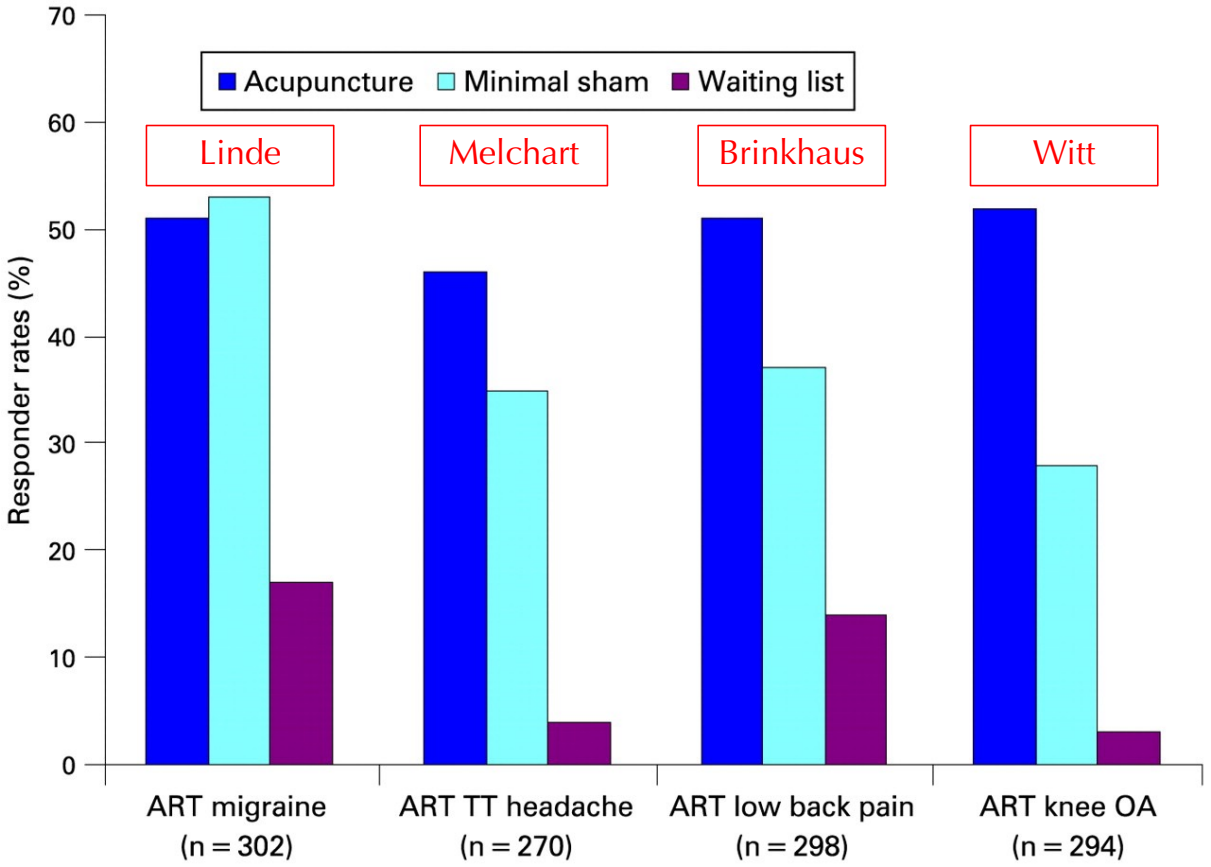
- What percentage could respond to treatment?
  - ~50% ie NNT 2
  - ~16% of adults might avoid treatment

Cummings M. Modellvorhaben Akupunktur. *Acupunct Med* 2009.

McLenon and Rogers. The fear of needles: A systematic review and meta-analysis. *Journal of Advanced Nursing*. 2019;75:30–42.

Figure 1 Responder rates in the Acupuncture Randomised Trials (ART) trials after 8 weeks from baseline (9-12 weeks in ART migraine and tension-type (TT) headache); responder rates were defined (post hoc) as a 50% or greater reduction in the primary outcome measure. Acupuncture and minimal acupuncture were significantly superior to waiting list in all trials. Acupuncture was superior to minimal acupuncture only in ART knee osteoarthritis (OA).



Cummings, M. *Acupunct Med* 2009;27:26-30

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Figure 2 Responder rates in the comparative trial (COMP) at 9-12 weeks from baseline, and the German Acupuncture trials (GERAC) at 6 months from baseline; responder rates were defined as: >=50% reduction in migraine days (COMP and GERAC migraine); >50% reduction in headache days (GERAC tension-type (TT) headache); >=33% improvement on Chronic Pain Grade Scale questionnaire (CPGS) or >=12% improvement on the Hanover Functional Ability Questionnaire (GERAC low back pain); and >=36% improvement in Western Ontario and McMasters Universities Osteoarthritis Index (GERAC knee osteoarthritis (OA)). Acupuncture and sham acupuncture were both significantly superior to standard therapy in GERAC low back pain and GERAC knee OA. There were no other statistically significant differences between groups.

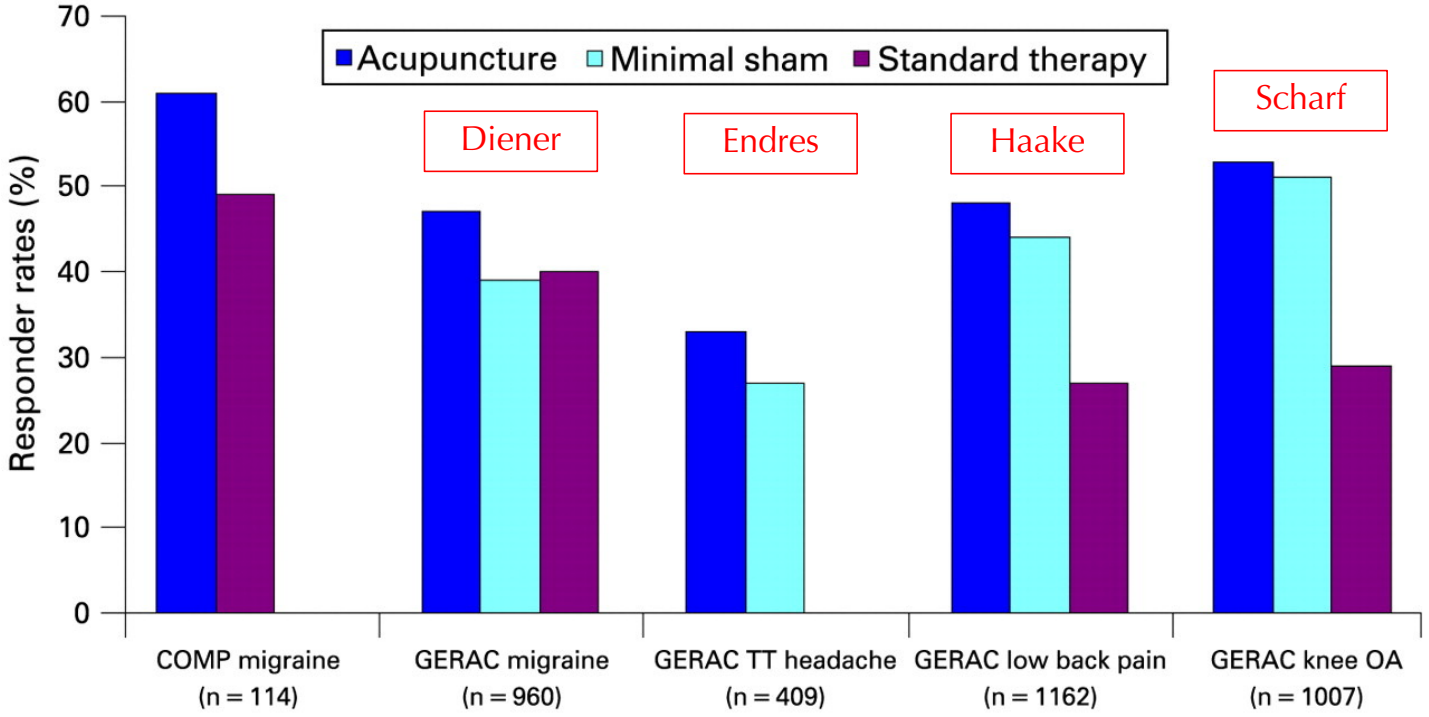

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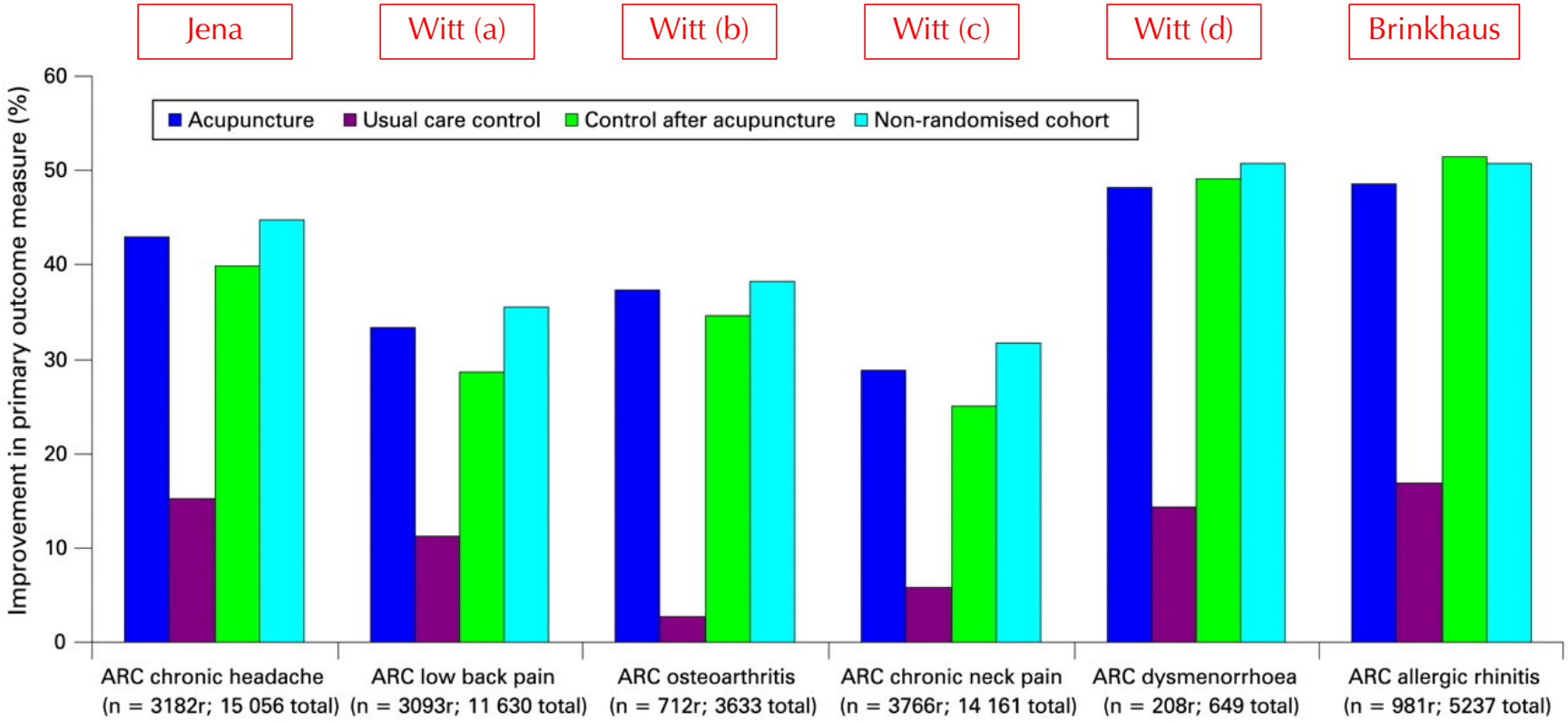
Figure 3 Percentage improvement in the primary outcome measure at 3 months from baseline in the Acupuncture in Routine Care (ARC) trials ("control after acupuncture" is 6 months from baseline -- 3 months usual care followed by 3 months acupuncture treatment). Numbers in brackets are those randomised (r) followed by the total sample including the non-randomised cohort. In all six trials there was a very highly significant difference between acupuncture and usual care alone at 3 months ($p<0.001$).



Cummings, M. *Acupunct Med* 2009;27:26-30

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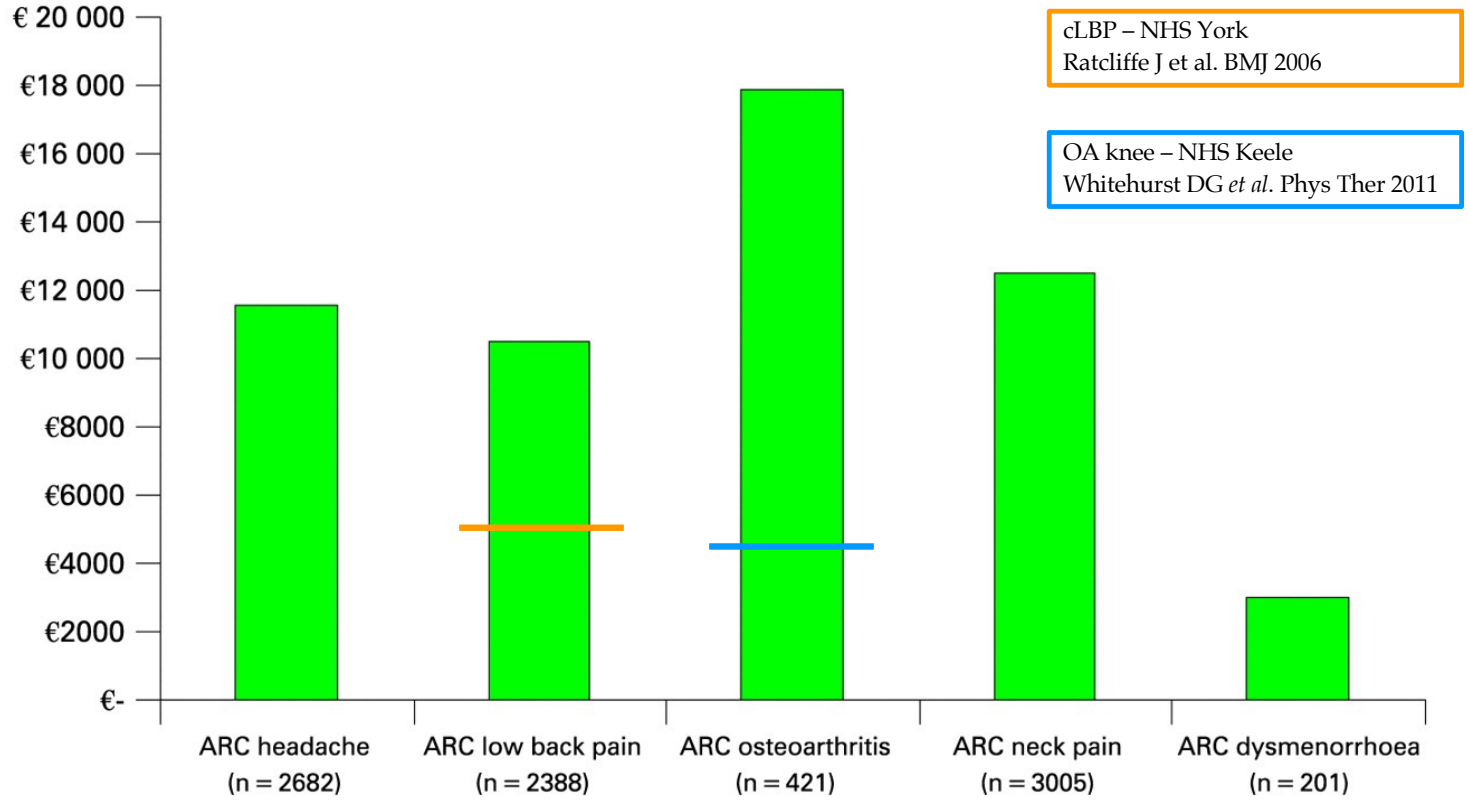
Figure 4 This figure illustrates the cost utility of acupuncture in various conditions, expressed as a cost per quality-adjusted life-year gained at 3 months from baseline, compared with usual care alone. The data are derived from within the Acupuncture in Routine Care (ARC) trials, and represent societal costs (see text under methods).



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- What percentage could respond to treatment?
  - ✧ ~50% ie NNT 2
  - ✧ NSAIDs NNT 1.6 to 3.0
    - but 1 in 1200 will die prematurely from taking them
    - that figure only includes the risk from gastrointestinal haemorrhage
    - NSAIDs also increase the risk of cardiovascular and renal disease

Cummings M. Modellvorhaben Akupunktur. *Acupunct Med* 2009.

Tramèr *et al*. Pain 2000.

Real World Data

Observations from large retrospective observational cohorts (in Taiwan)…

- acupuncture is associated with a decreased risk of:
  - ✧ coronary heart disease in patients with fibromyalgia (aHR 0.43)
  - ✧ coronary heart disease in patients with rheumatoid arthritis (aHR 0.60)
  - ✧ stroke in patients with depression (aHR 0.49)
  - ✧ Parkinson's disease in patients with depression (aHR 0.39)
  - ✧ stroke in patients with fibromyalgia (aHR 0.53)
  - ✧ mortality following hip fracture surgery (aHR 0.41)
  - ✧ coronary heart disease in patients with osteoarthritis (aHR 0.33)
  - ✧ fracture in patients with osteoarthritis (aHR 0.57)
  - ✧ stroke in patients with migraine (aHR 0.40)
  - ✧ dementia in patients with insomnia (aHR 0.54)

see Retrospective cohorts on BMAS.blog

Bottom lines

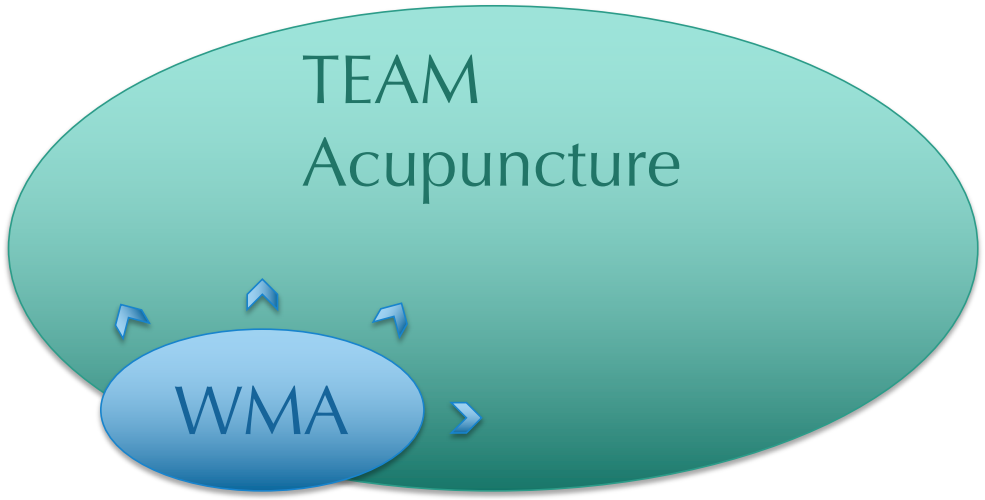
Take home messages regarding acupuncture

- we don't use it enough yet
- it could have a profound effect on public health if scaled up

WMA & TEAM approaches

- Perspectives
  - mechanisms
    - ✧ local needling
      - local & segmental
    - ✧ distal points
      - segmental & general
    - ✧ back shu points
      - often segmental
    - ✧ front mu points
      - often segmental

TEAM – traditional East Asian medicine



WMA – Western medical acupuncture

WMA & TEAM approaches

Perspectives

- the future
  - ✧ greater overlap
  - ✧ expanded knowledge of mechanisms
  - ✧ perhaps a reduction in the more esoteric elements of TEAM

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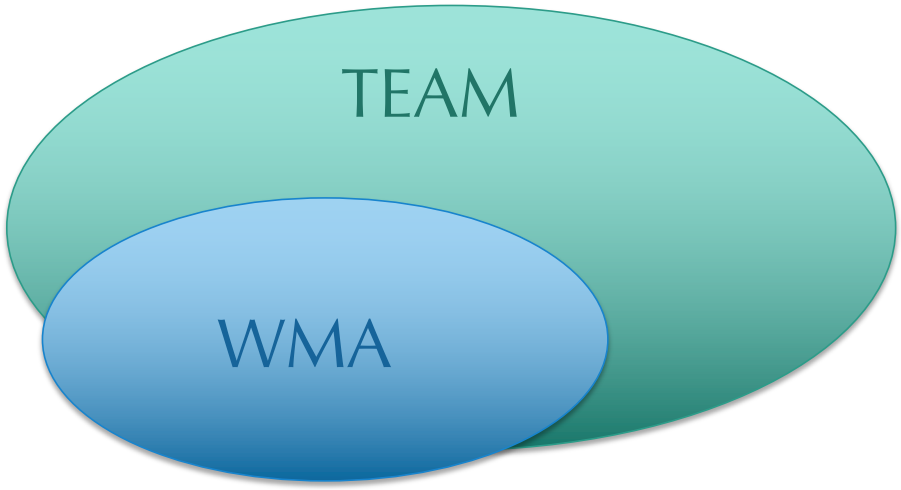

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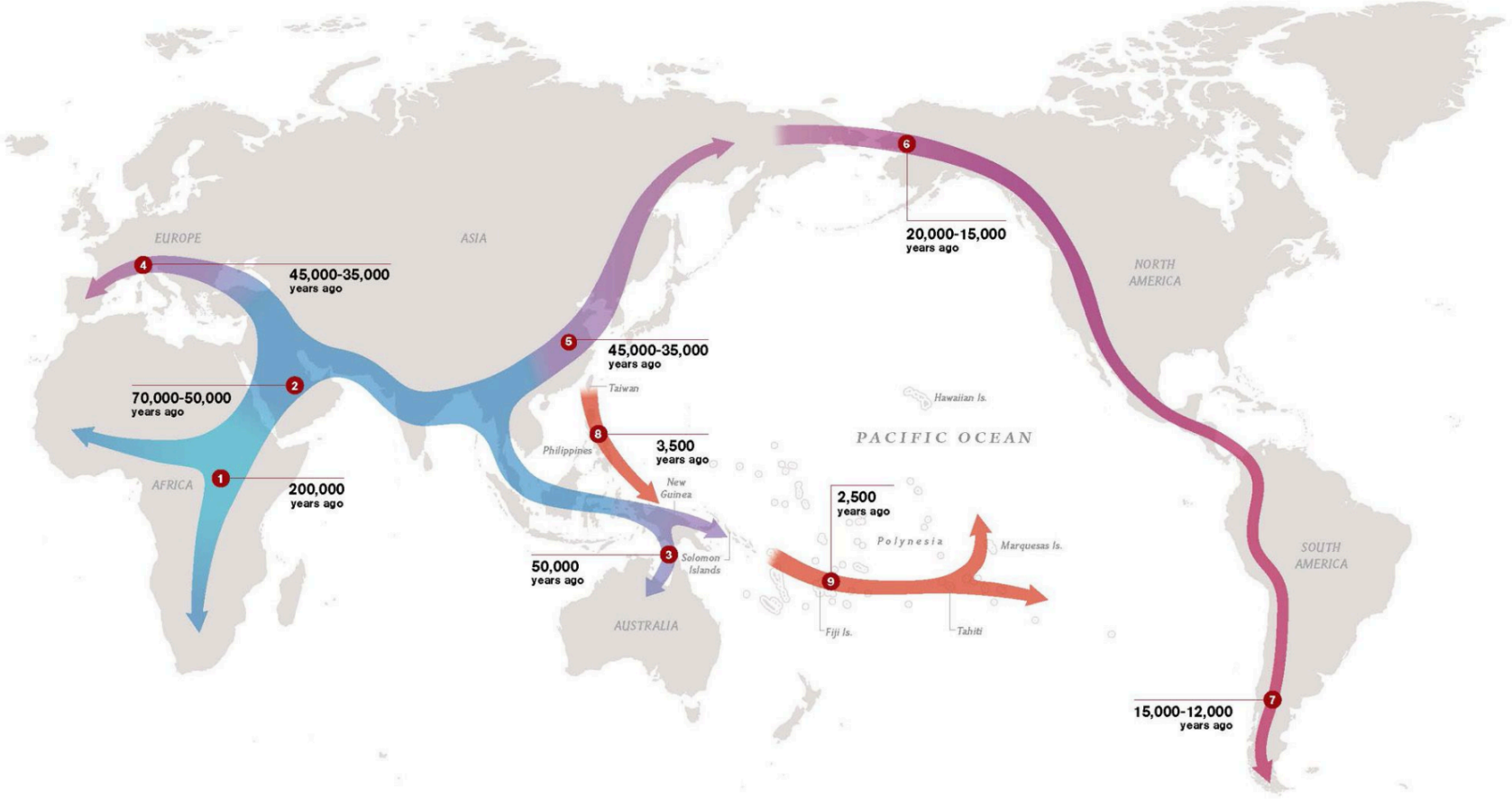


GLOBAL JOURNEY

Once modern humans began their migration out of Africa some 60,000 years ago, they kept going until they had spread to all corners of the Earth. How far and fast they went depended on climate, the pressures of population, and the invention of boats and other technologies. Less tangible qualities also sped their footsteps: imagination, adaptability, and an innate curiosity about what lay over the next hill.

https://www.nationalgeographic.org/media/global-human-journey/

The history of ideas

EAST

- Confucius (559-479BCE)
- Laozi (c550 or c350BCE)
- Buddha (483-400BCE)
- Bian Que (401-310BCE)
- Shang Yang (390-338BCE)

WEST

- Pythagorus (570-495BCE)
- Socrates (469-399BCE)
- Hippocrates (469-399BCE)
- Aristotle (384-322BCE)

- Resonance
- mind body harmony

- Reason
- mind body split

Ideas concerning the human body

EAST (up to c1900)

- universal / the cosmos
- connected

Perspective

- macroscopic / influences

- internal locus of control
- self-discipline
- duty to live well
- food as medicine

WEST (up to present)

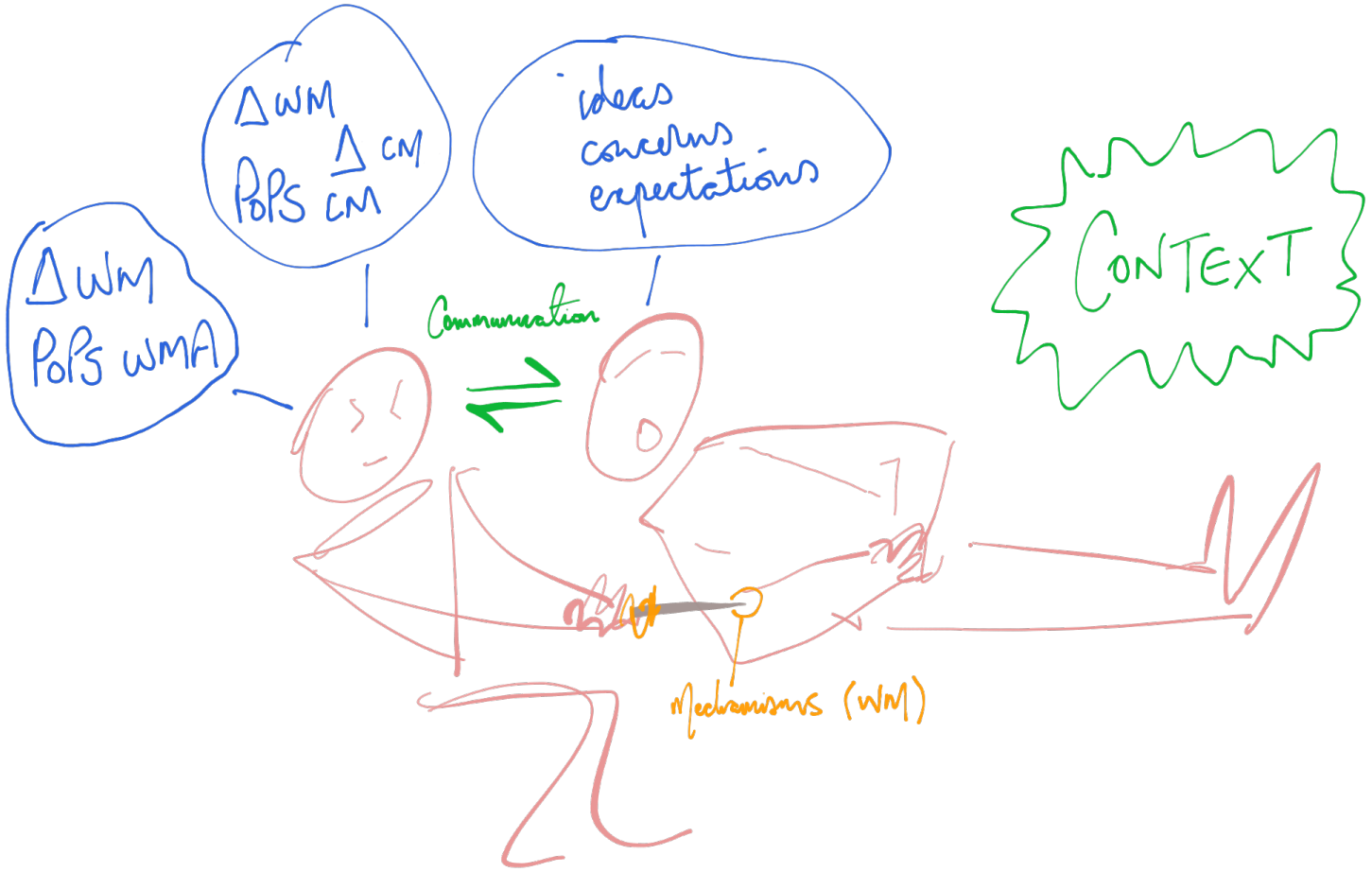
- corporeal / particulate
- separate

Perspective

- microscopic / mechanistic

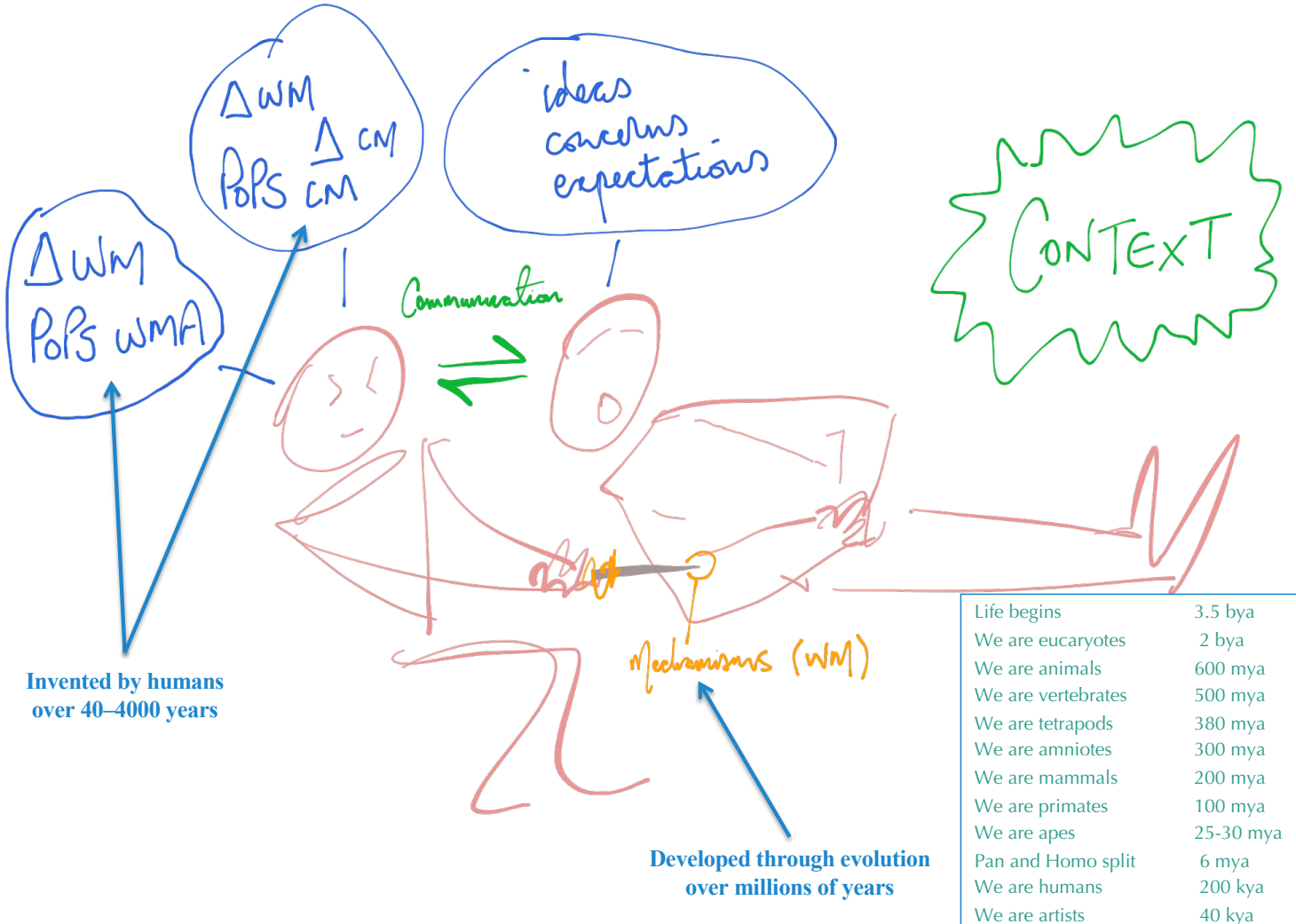
- external locus of control
- dependant
- seeking magic bullets
- poly pharmacy

Overview of the treatment room interaction



△	diagnosis
PoPS	Principles of Point Selection
WM	Western Medicine
CM	Chinese Medicine

Overview of the treatment room interaction



△	diagnosis
PoPS	Principles of Point Selection
WM	Western Medicine
CM	Chinese Medicine

Life begins	3.5 bya
We are eucaryotes	2 bya
We are animals	600 mya
We are vertebrates	500 mya
We are tetrapods	380 mya
We are amniotes	300 mya
We are mammals	200 mya
We are primates	100 mya
We are apes	25-30 mya
Pan and Homo split	6 mya
We are humans	200 kya
We are artists	40 kya
We are farmers	10-12 kya
We are city dwellers	9 kya

Heying H, Weinstein B. *A hunter-gatherer's guide to the 21st century: evolution and the challenges of modern life*. Swift Press 2022.

WMA & TEAM approaches

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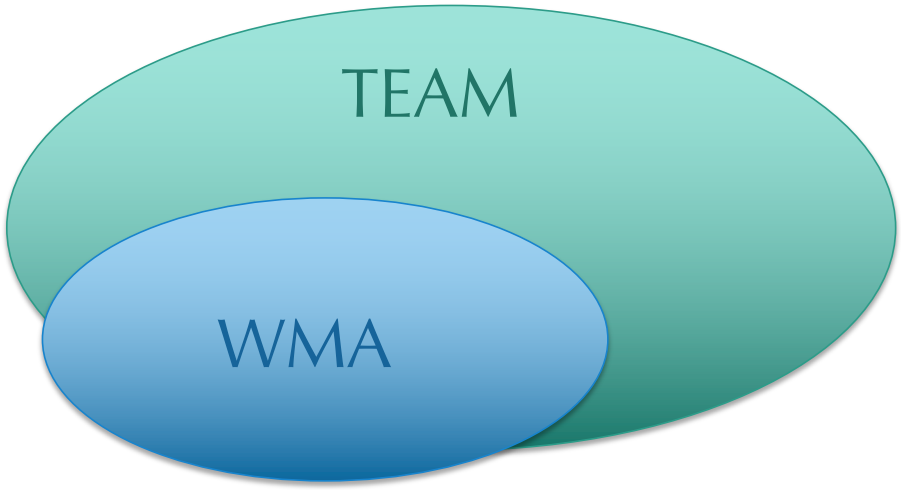
TEAM – traditional East Asian medicine



WMA – Western medical acupuncture

Bottom lines

Take home messages regarding acupuncture

- we don't use it enough yet
- it could have a profound effect on public health if scaled up

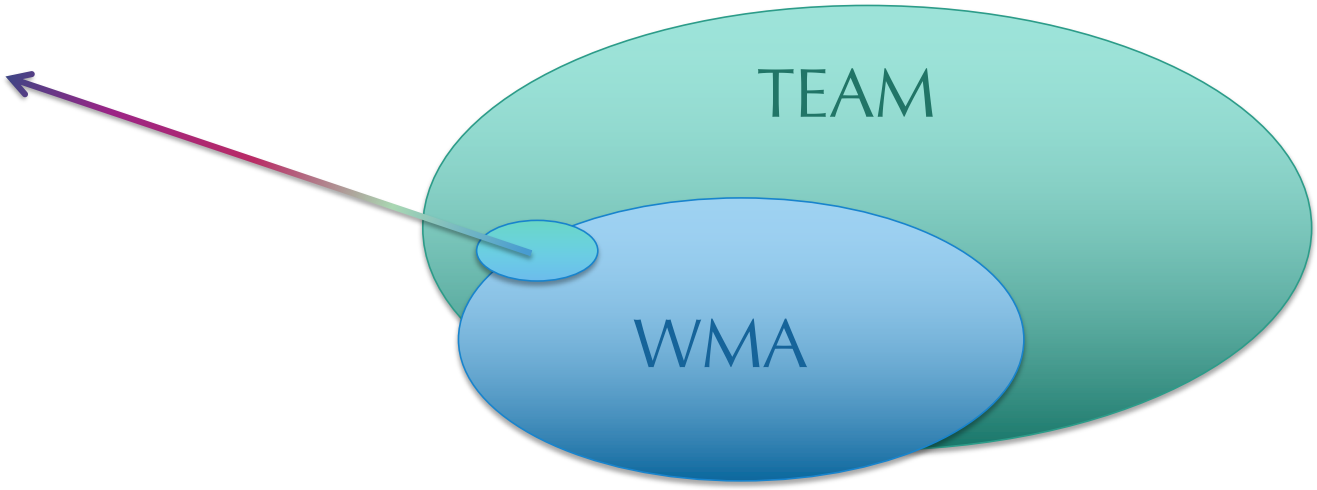
- Eastern and Western approaches will continue to overlap
  - ✧ we are stronger as a profession in the overlap

Risks of reductionism

Perspectives

- risks of reductionism
  - ✧ combined with capitalism
  - ✧ PTNS

TEAM – traditional East Asian medicine



WMA – Western medical acupuncture

Example – PTNS

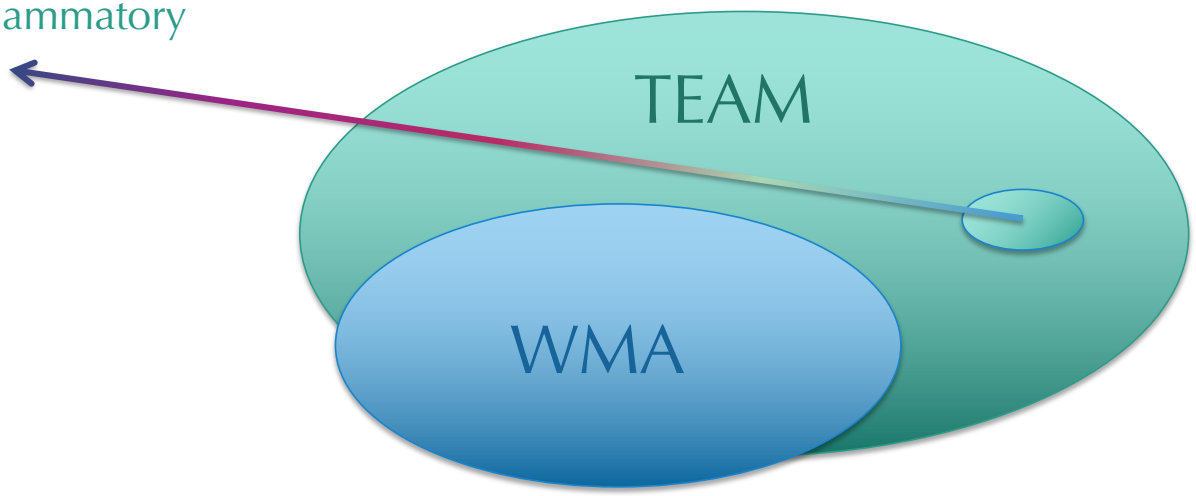
Posterior tibial nerve stimulation

- originally called SANS
  - developed by American urologist (Stoller) who studied acupuncture
- EA in region of SP6 or KI7
- available in most NHS hospitals
  - used for overactive bladder and faecal incontinence
  - 10 weekly sessions provided
- the lead self-destructs after single use
  - cost of leads >£30 each

Pearls from tradition

- Perspectives
  - pearls from tradition
    - vagal anti-inflammatory effects

TEAM – traditional East Asian medicine

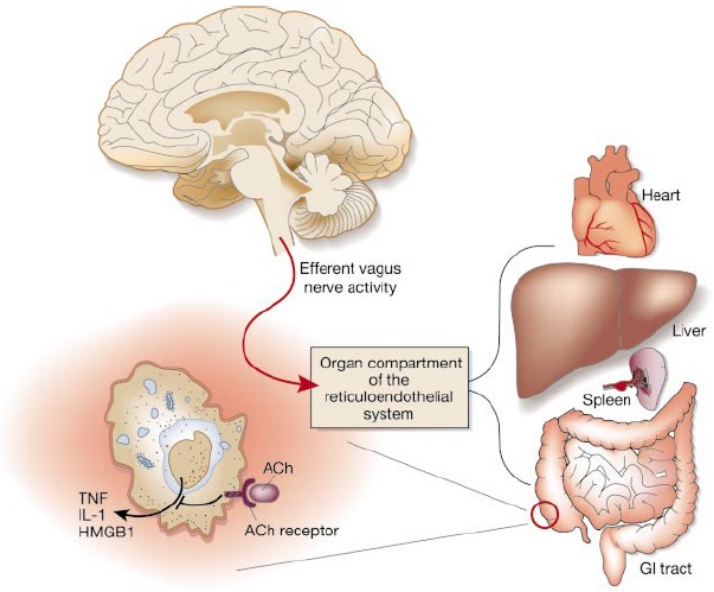


WMA – Western medical acupuncture

Acupuncture & Inflammation

Basic science

- MA & EA have measurable effects in models of inflammation
- Vagal stimulation & the α7nAChR
- EA at ST36 in septic shock



Tracey *Nature* 2002

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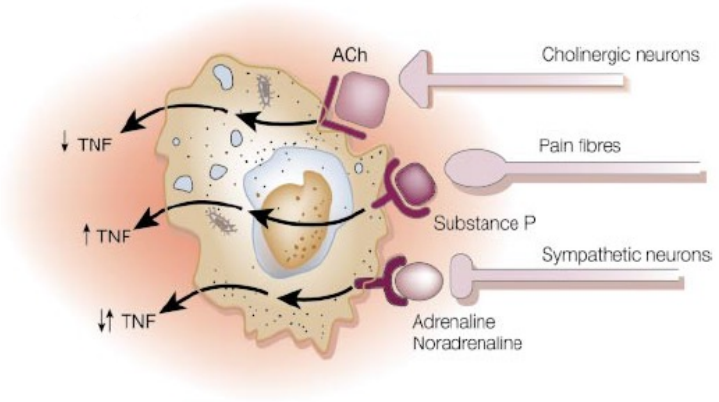

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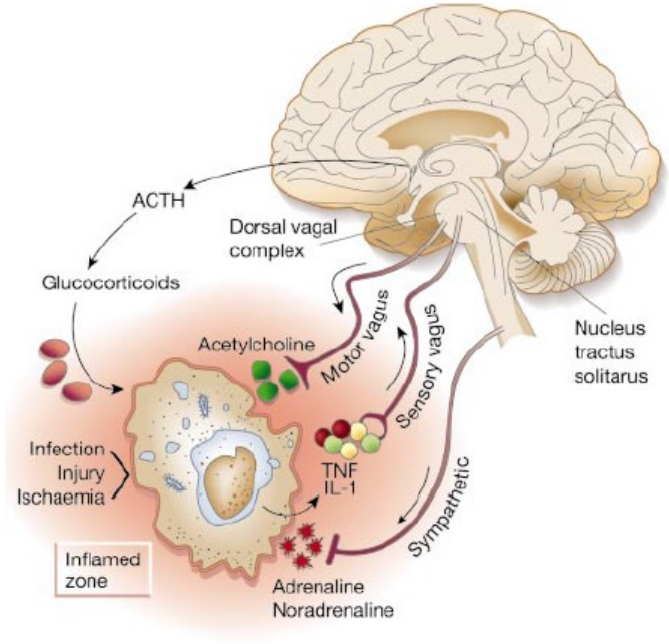

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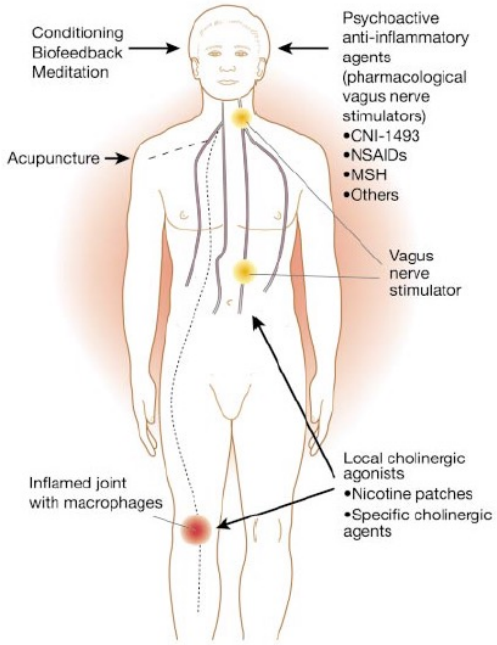

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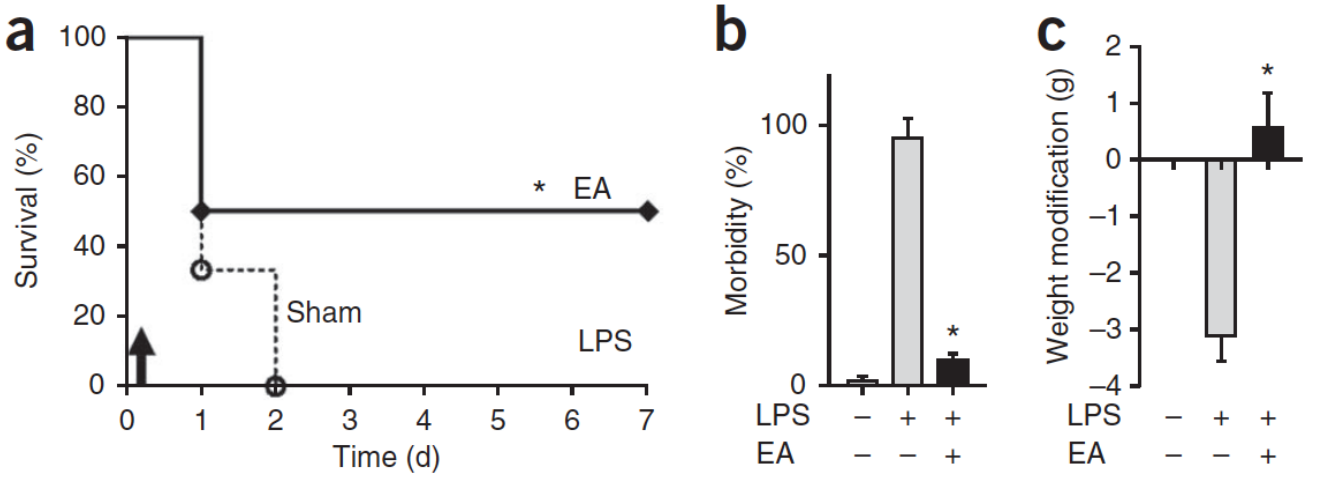

Torres-Rosas *et al Nature Med* 2014

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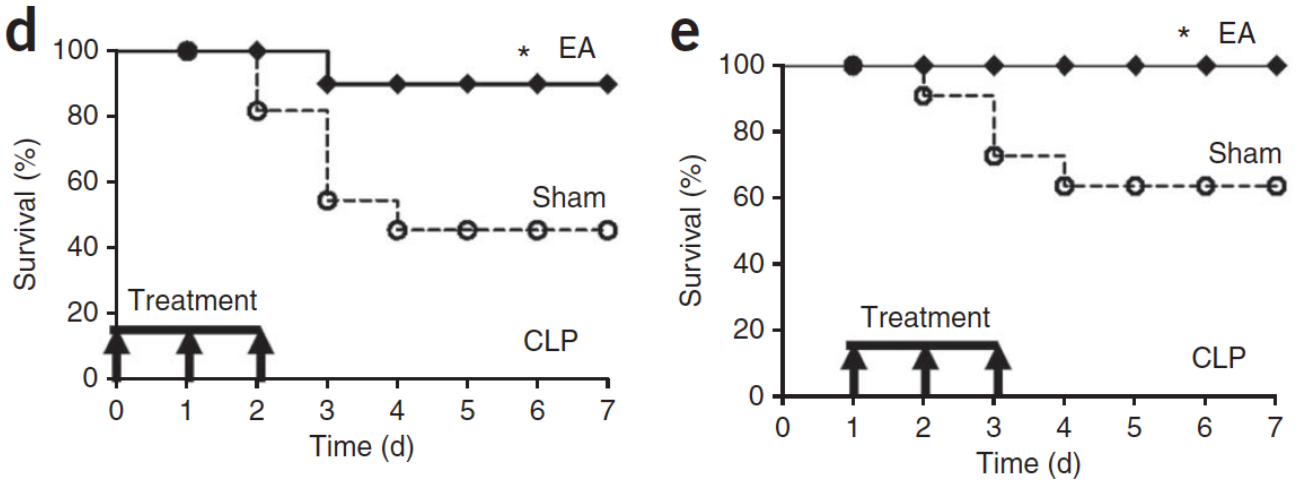


Torres-Rosas *et al Nature Med* 2014

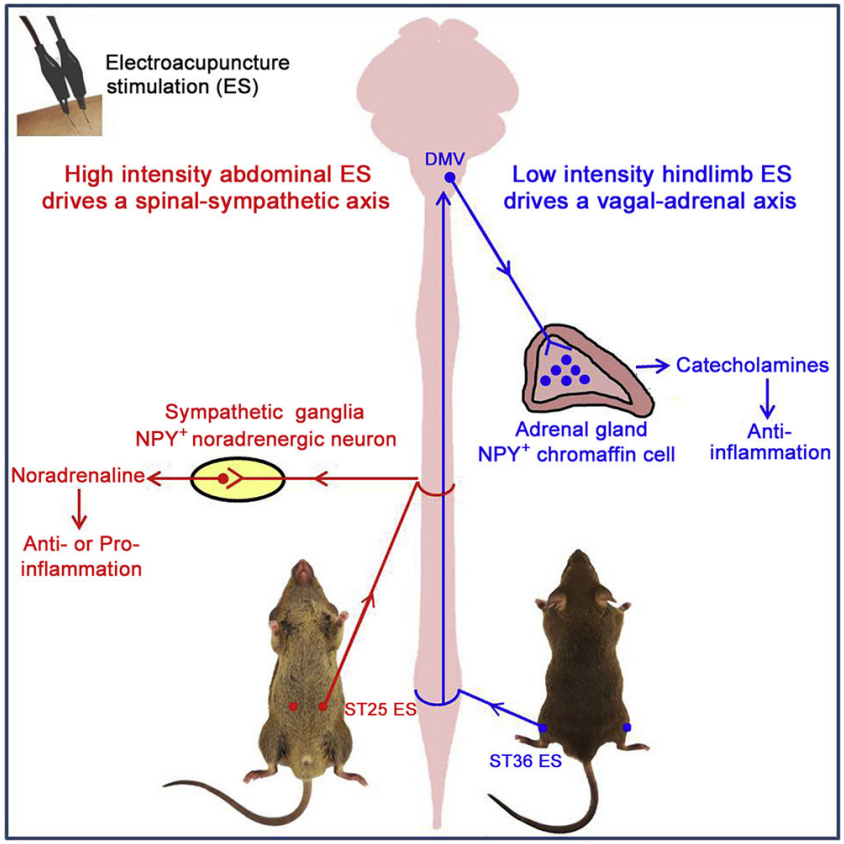
Acupuncture & Inflammation

Basic science

- Vagal stimulation & the α7nAChR
- EA at ST36 vs ST25 in septic shock

2 September 2020

Liu *et al* *Neuron* 2020



Acupuncture & Inflammation

Basic science

- Vagal stimulation & the α7nAChR
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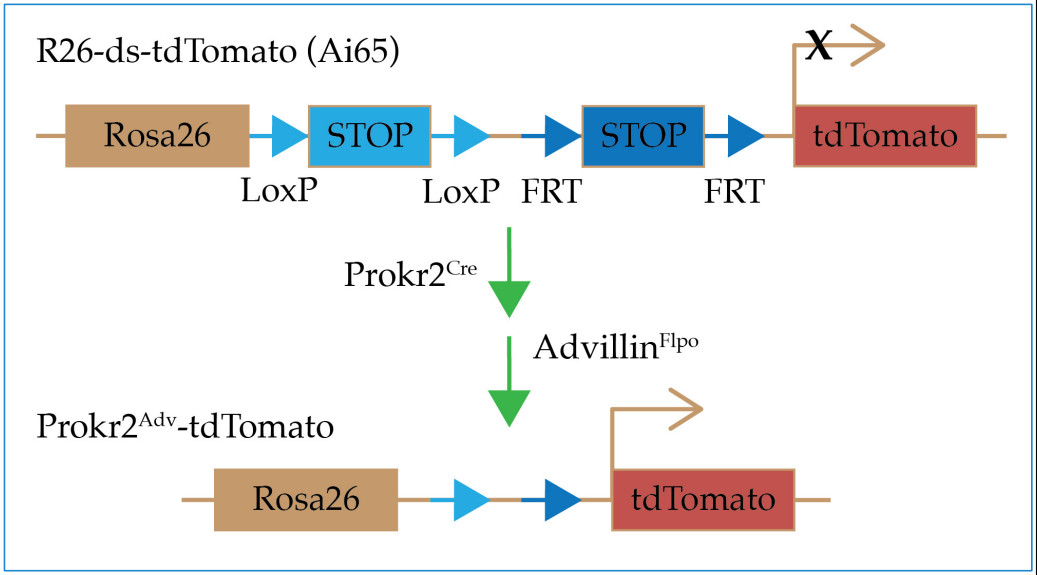
18 October 2021

Liu *et al Nature* 2021



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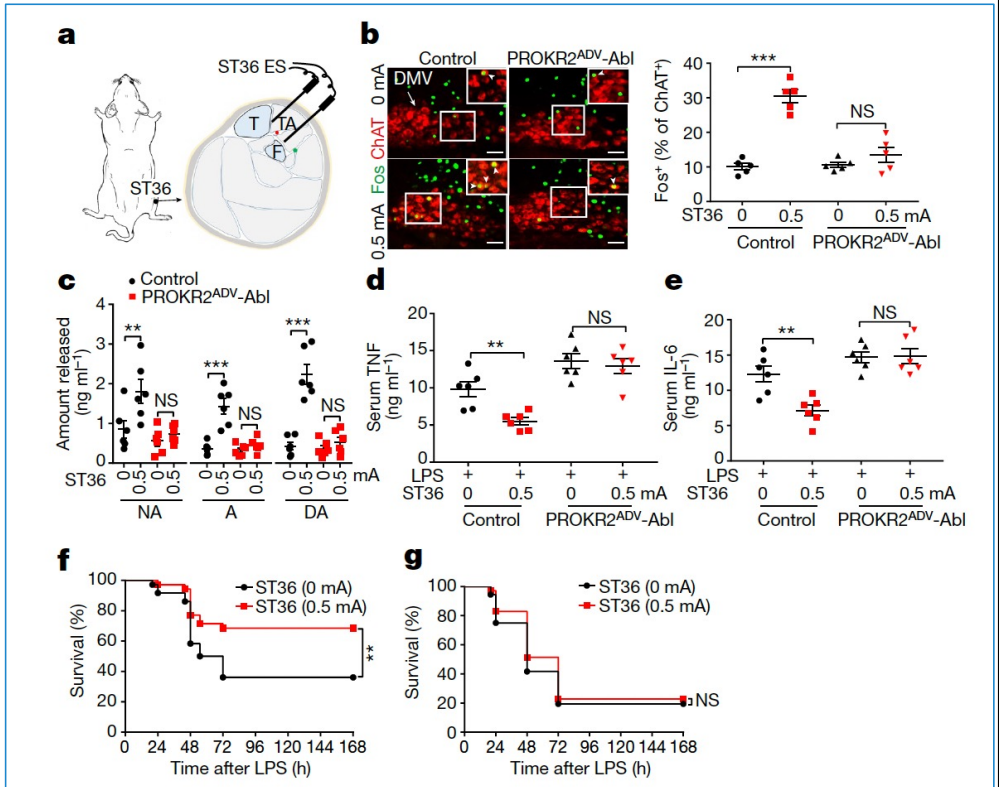


Fig. 2 | Requirement of PROKR2^{ADV} neurons for low-intensity ES to drive the vagal–adrenal anti-inflammatory axis.

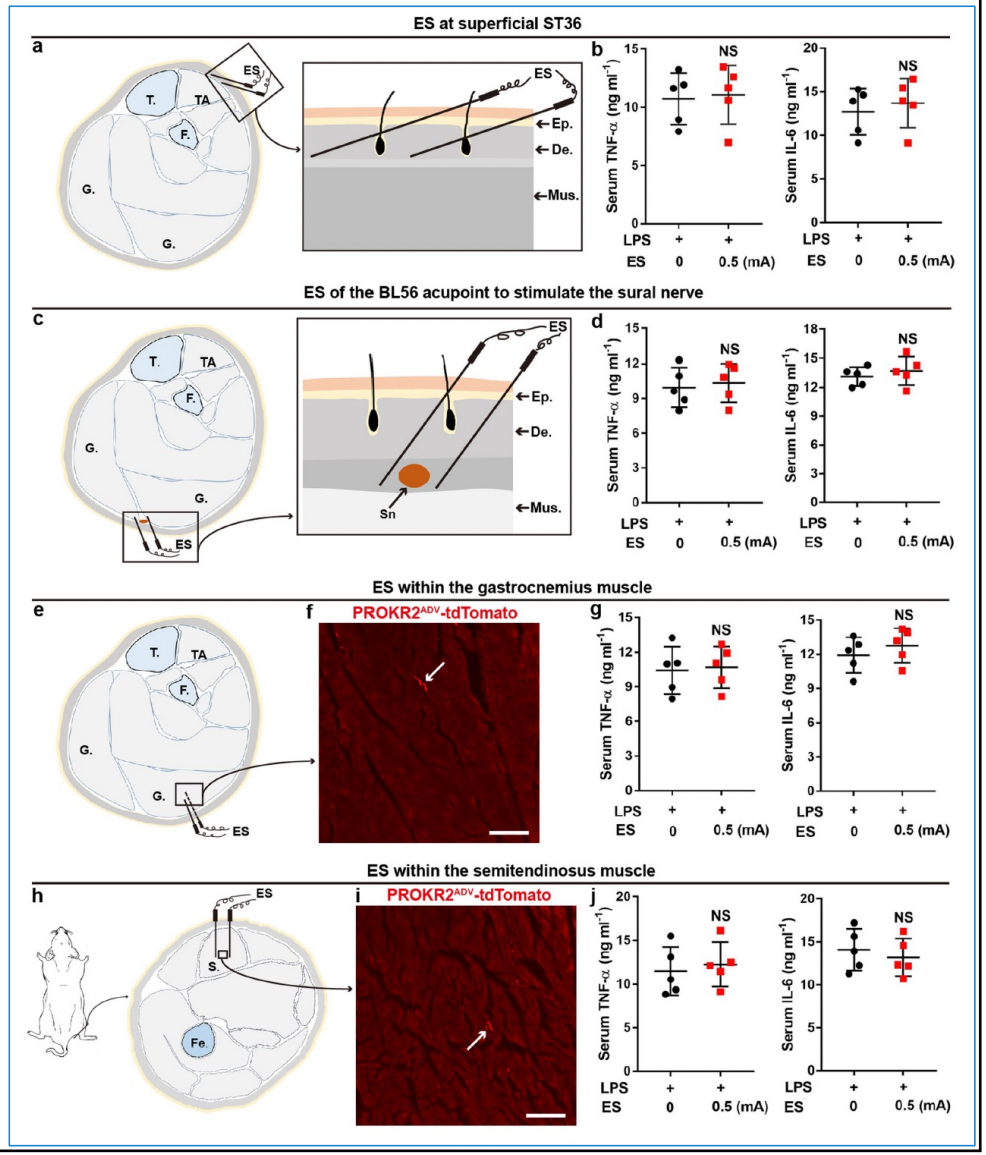
Acupuncture &

Basic science

- Vagal stimulation & the α7nAChR
- EA at ST36 or not in septic shock

18 October 2021

Liu *et al Nature* 2021



Acupuncture & Inflammation

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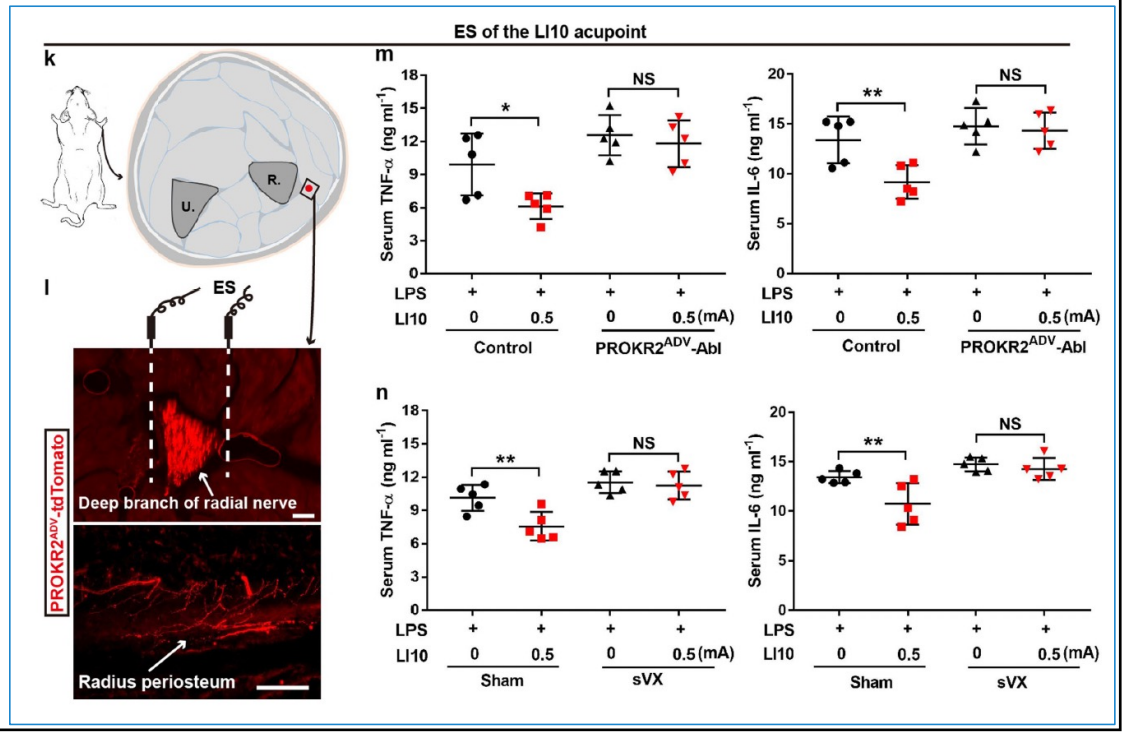
- EA at LI10 in septic shock

18 October 2021

Liu *et al Nature* 2021

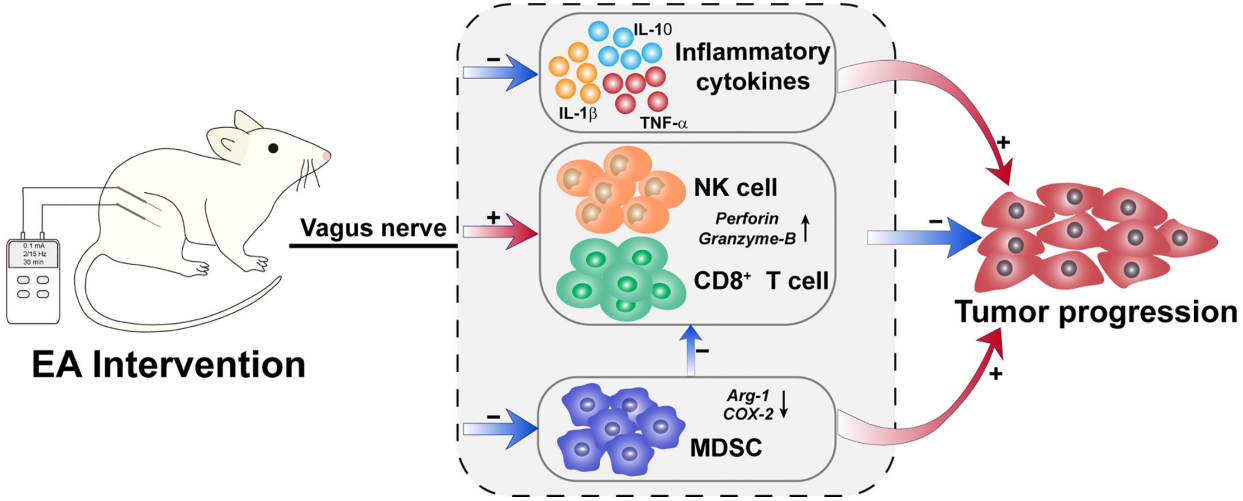


Acupuncture & Inflammation

Basic science

- Vagal stimulation & the α7nAChR
- EA at ST36 and antitumour effects

9 March 2021



Zhang *et al Life Sci* 2021

Acupuncture & Inflammation

Basic science

- Vagal stimulation & the α7nAChR
- Implanted pigs

19 July 2021

Sokal *et al Front Immunol* 2021

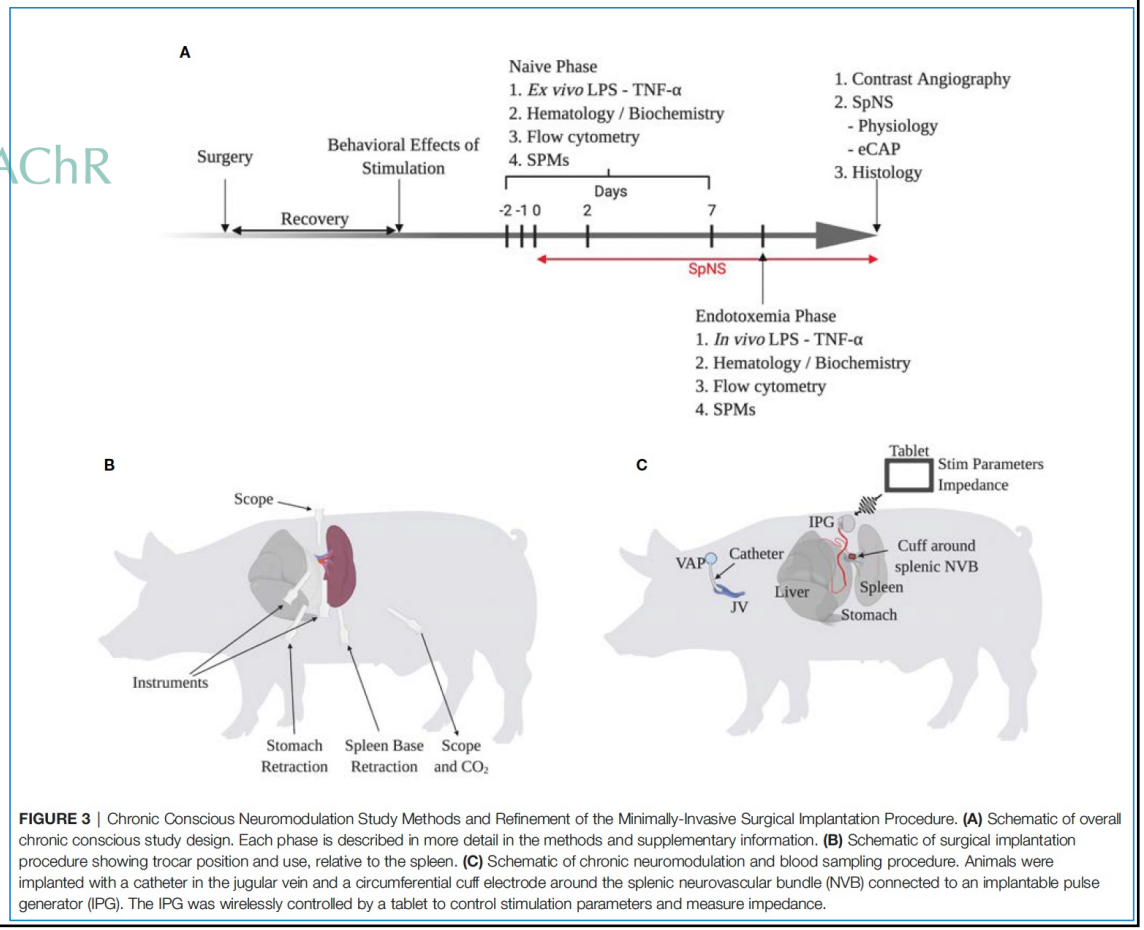


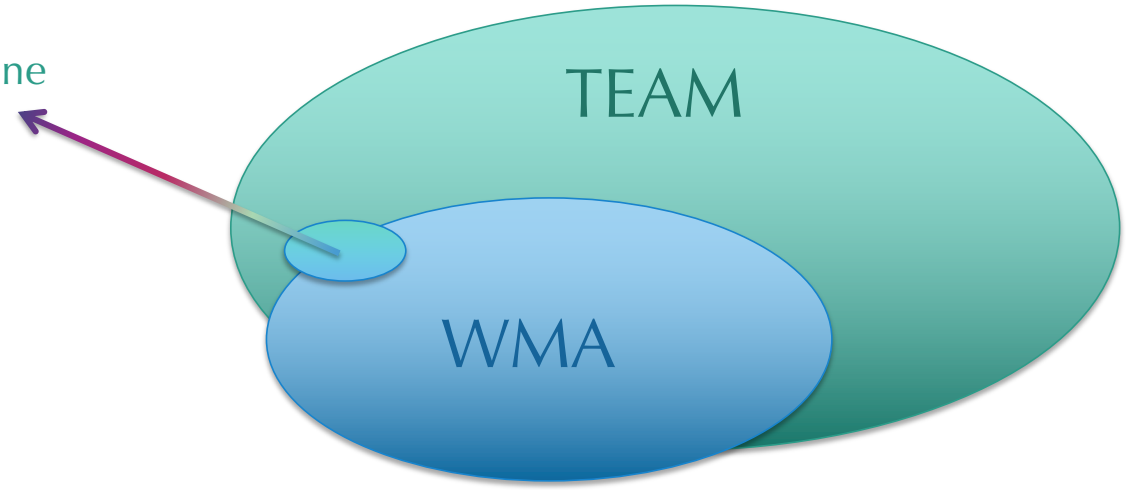
FIGURE 3 | Chronic Conscious Neuromodulation Study Methods and Refinement of the Minimally-Invasive Surgical Implantation Procedure. **(A)** Schematic of overall chronic conscious study design. Each phase is described in more detail in the methods and supplementary information. **(B)** Schematic of surgical implantation procedure showing trocar position and use, relative to the spleen. **(C)** Schematic of chronic neuromodulation and blood sampling procedure. Animals were implanted with a catheter in the jugular vein and a circumferential cuff electrode around the splenic neurovascular bundle (NVB) connected to an implantable pulse generator (IPG). The IPG was wirelessly controlled by a tablet to control stimulation parameters and measure impedance.

Risks of reductionism

Perspectives

- risks of reductionism
  - ✧ combined with capitalism
  - ✧ Bioelectric medicine & implanted pigs

TEAM – traditional East Asian medicine



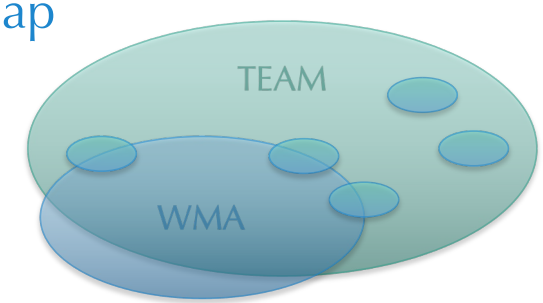
WMA – Western medical acupuncture

Bottom lines

Take home messages regarding acupuncture

- we don't use it enough yet
- it could have a profound effect on public health if scaled up

- Eastern and Western approaches will continue to overlap
  - ✧ we are stronger as a profession in the overlap

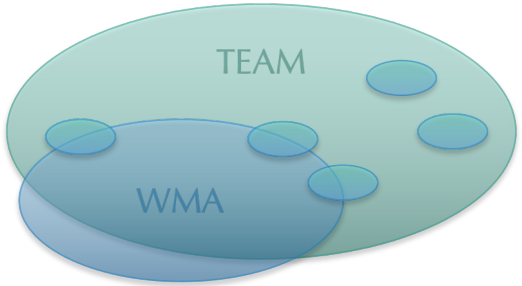


- Protect the pearls but lose the chaff
  - ✧ excessive reductionism risks losing them
  - ✧ excessive capitalism risks stealing and misusing them
  - ✧ protection may come via more communication and collaboration among the professional groups using acupuncture
  - ✧ traditional practices must start the delicate process of sifting out the chaff

Bottom lines

Take home messages regarding acupuncture

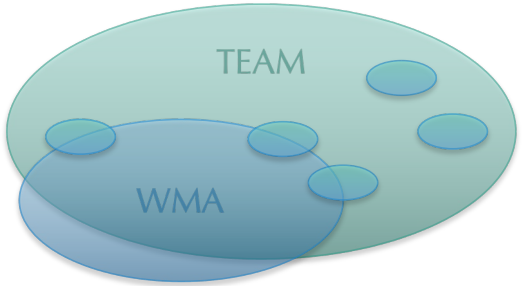
- Protect the pearls but lose the chaff
  - ✧ traditional practices must start the delicate process of sifting out the chaff
  - ✧ BUT BE AWARE OF CHESTERTON'S FENCE



Chesterton's Fence

GK Chesterton

- "In the matter of reforming things, as distinct from deforming them…"
  - ✧ do not change a tradition until you understand its true value or meaning



Thank you for listening

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