

Role of Acupuncture in Acute Injury Management of Sprains & Strains

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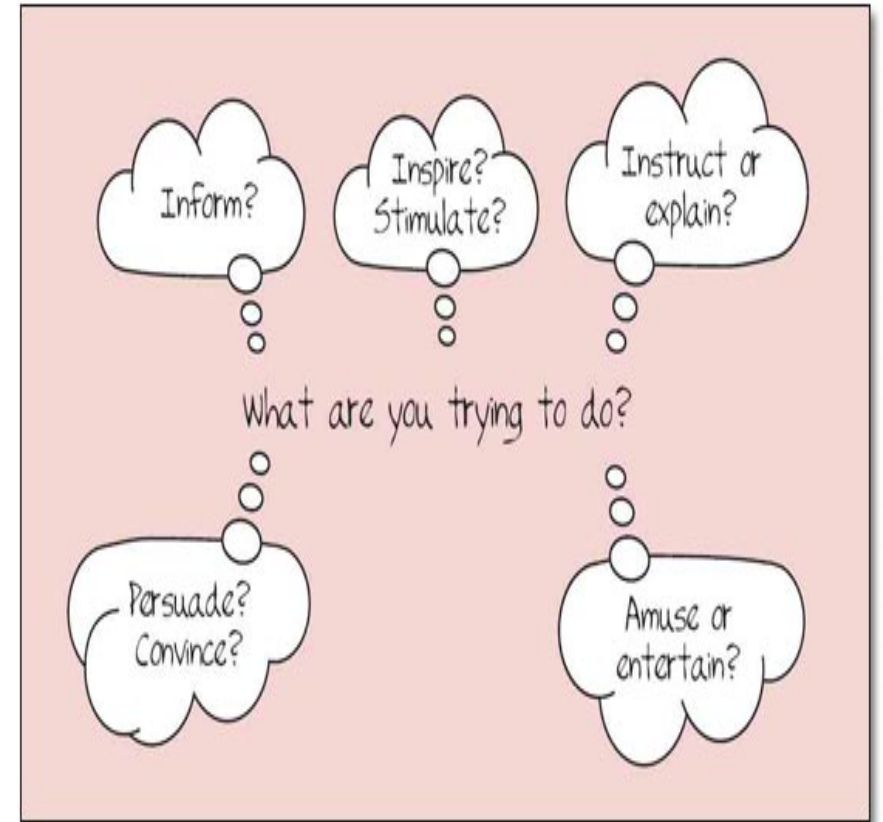
RACP Congress 2018, Sydney

- **What is it about?**
- **Why this topic?**
- **What is the relevance to Occupational medicine setting?**

- 90% of workers compensation claims in 2015-2016 due to injury & musculoskeletal disorders.
 - 43%: due to traumatic joint/ligament & muscle/tendon injuries.
 - 39%: due to body stressing (strains & sprains) as mechanism of injury.
 - Back, Shoulder, Knee, Wrist, Hand, Elbow and Neck.
- In WA, since April 2015, Acupuncture has been recognised as an “**approved treatment**” under section 5(1) of the *Workers’ Compensation and Injury Management Act 1981*.

Broad Outline:

- Only a little bit about Acupuncture
- Evidence Base
- My Conclusions



What is Acupuncture ?

- Practiced in China & other Asian countries for over 2500 years.
- One of the key components of *Traditional Chinese Medicine (TCM)*.
- Derived from two Latin words: “*acus*” - needle & “*puncture*” – to prick/penetrate.



- Procedure involves inserting **tiny, hair-thin sterile steel needles** into **specific points** in the body, where they are **gently stimulated** and **left in situ** for approximately 20-40 mins.

Mechanism of Action of Acupuncture

- Various theories have been proposed over the years:
 - Neuro-humoral
 - Morphogenetic
 - Nerve reflex theory
 - Gate control theory of pain
 - Endorphins, Corticoids, Substance P release etc.
- However, after 30 years of acupuncture research, there are still many puzzles left to be solved.

Current Research Literature

- >500 Cochrane database systematic reviews on use of acupuncture for a condition.
- >7000 publications; >3000 Clinical trials to date. Many more underway.
- Level 1 evidence available for its effectiveness in reducing post operative pain and opioid related side effects (*ANZCA & FCP, 2010*).
- Accepted as a reasonable adjunct in chronic pain management (*Vickers et al., 2012*).
- Large body of positive anecdotal experiences.
- WHO has recognised its use for 28 conditions.

My Literature Search/Review

- Search:
 - 11 Systematic Reviews/Meta-Analysis
 - 3 Clinical Guidelines (ACP, NICE, ANZCA & FPM)
 - ACP Journal Club Review
 - 1 Australian RCT
 - Google scholar and UptoDate for background information.
- No research available targeting occupational medicine setting.
- High quality sport-related research on strains & sprains lacking.

Pain Effectiveness of Acupuncture

- **ACP Journal Club Review** (*August 2011*): High-quality reviews show **mixed** effectiveness of acupuncture for pain.

Quality of reviews (*n*)

Number of systematic reviews

	Overall or tentatively positive	Failed to show effectiveness	Unclear results
Excellent (4)	2	1	1
Good (32)	11	13	8
Moderate (3)	3	0	0
Poor (19)	9	6	4
Total (58)	25	20	13

Low back

- ACP Clinical guidelines for low back pain, 2017: **strong recommendation** to use nonpharmacologic treatment such as acupuncture for acute/subacute LBP (low quality evidence).
- NICE Clinical guidelines for LBP, 2016: Previously held recommendation in guidelines 2009 that allowed use of acupuncture for 10 sessions for up to 12 weeks **removed in 2016**.
- FPM, 2010: **no mention** of acupuncture for acute LBP.

Low back

- A RCT trial done during 2010-2011 in 4 Victorian Emergency Departments (*Cohen et al., 2017*).
 - **safe/acceptable** form of **acute analgesia**
 - **may be useful** as an **adjunct** to pharmacotherapy or when **pharmacotherapy unsuitable**.

Shoulder / Elbow / Wrist / Ankle

- Shoulder pain: **little evidence to support** or **refute** the use of acupuncture (*Cochrane Database Systematic Review, 2005*).

Shoulder / Elbow / Wrist / Ankle

- Lateral elbow pain: **insufficient evidence** to either support or refute the use of acupuncture (*Cochrane Database Systematic Review, 2002*).
- Carpal tunnel syndrome: systematic review of 6 RCTs found **no convincing evidence** to suggest that acupuncture effective (*Sim et al, 2011*).
- Ankle strains: **no reliable support** for effectiveness of acupuncture treatment (*Cochrane Database Systematic Review, 2014*).
- Achilles tendinopathy: 1 RCT suggesting that acupuncture **may be beneficial** (*Cox et al., 2016*).

Significant Methodological Flaws & Constraints

Safety Profile

- Incidence of minor adverse events: ~ 5% in the patients submitted to acupuncture (Zhang et al., 2010; Lee et al., 2013; Jan et al., 2017).
- Serious adverse events are rare & continue to be reported in the form of case reports (Yamashita, 2001; Chung et al., 2003; Zhang et al., 2010; Lee et al., 2013).

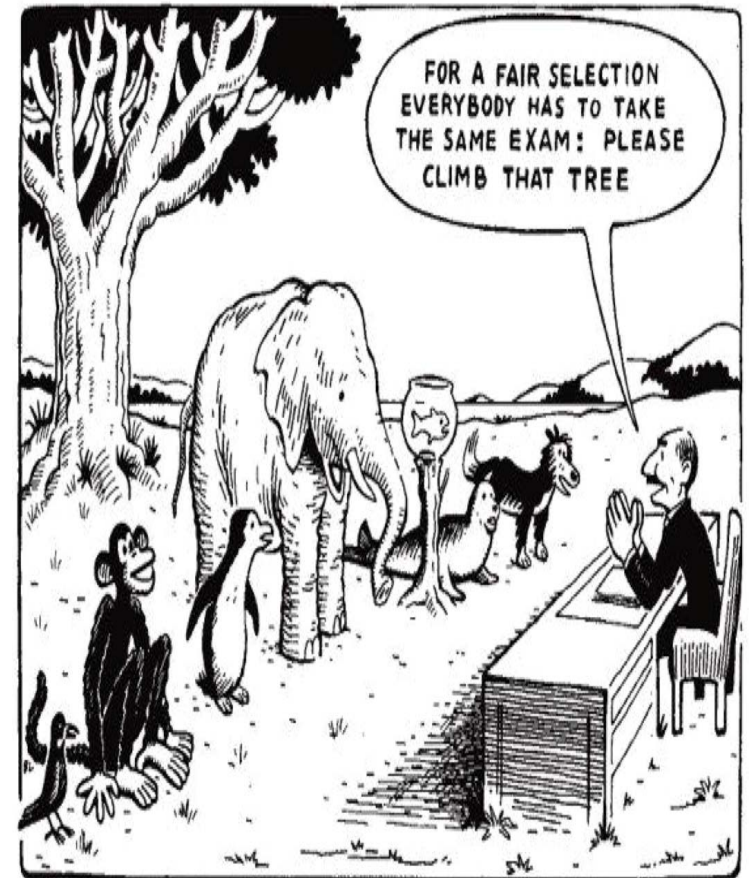
Evidence Based Practice



Dr David Sackett, one of the early pioneers of EBM, defines the process as *'integrating the best available research evidence with clinical expertise and the patient's unique values and circumstances'* (Straus 2010).

Parting Conclusions

- Mixed evidence about effectiveness.
- Mostly safe if practiced using sterile techniques.
- May consider using it for a patient who is requesting the therapy and/or has failed to improve with other conventional therapies for acute strains & sprains.





Kobe Bryant @kobe Bryant

Acupuncture therapy. Whatever it takes #mambatweets

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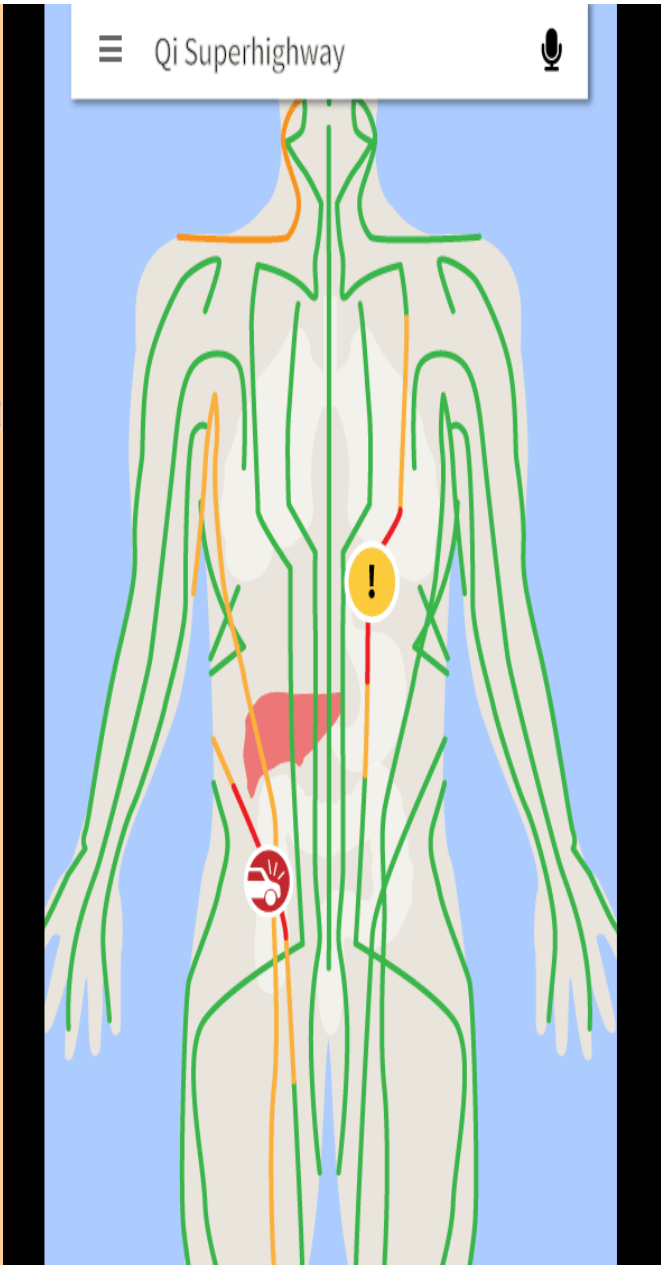
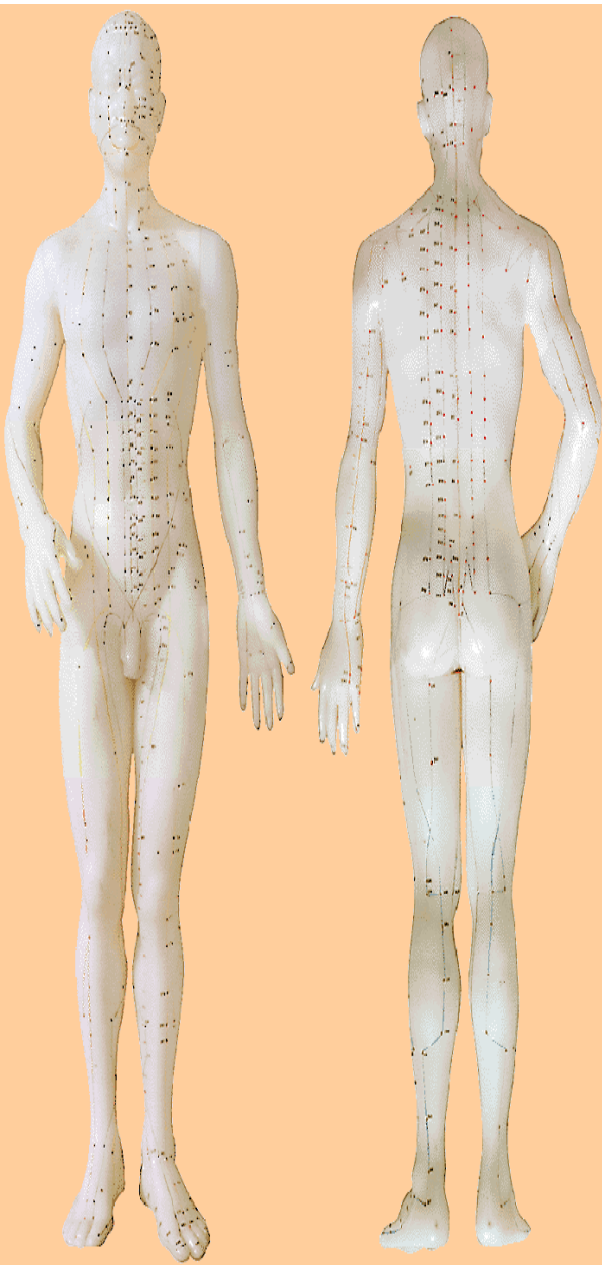
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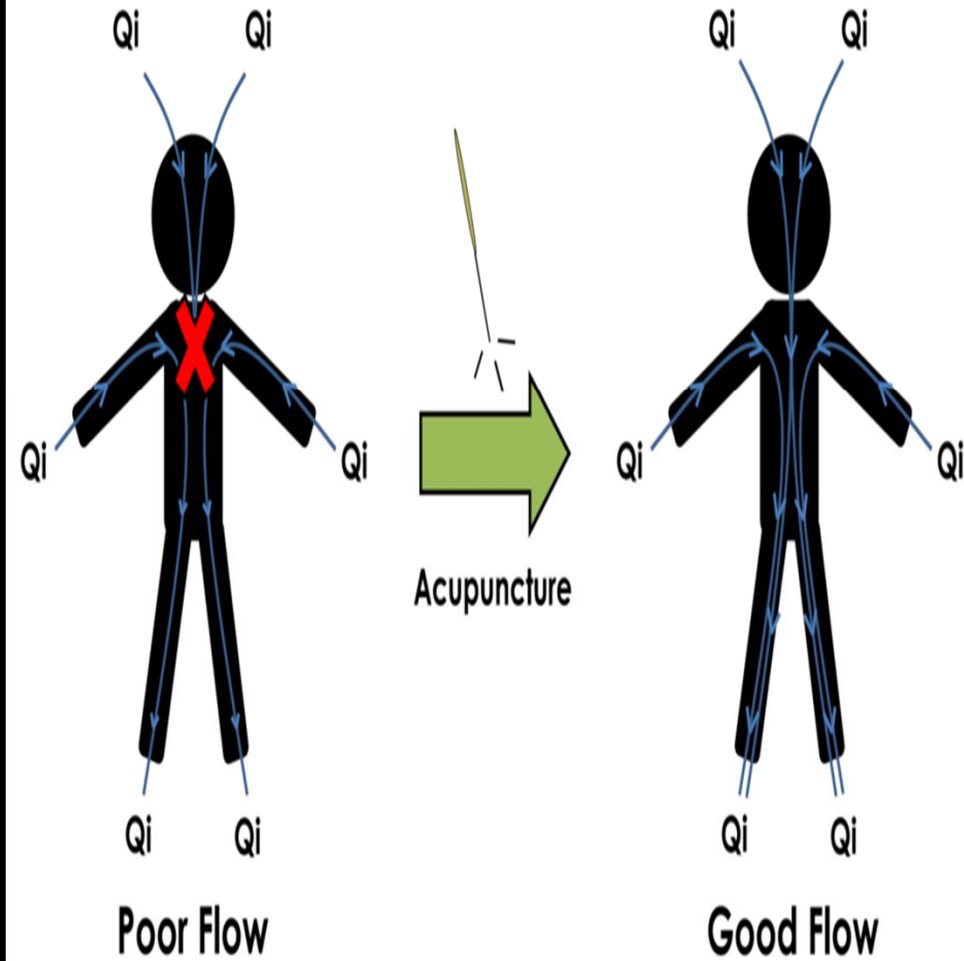
Recover Faster With Acupuncture



Thank you and Any Questions ???



Acupuncture Restores The Flow of Qi





Bone Needles in the New Stone Age (~4,000 years ago), Preserved in Shanghai TCM Museum, China

Source: www.acupuncturemoxibustion.com

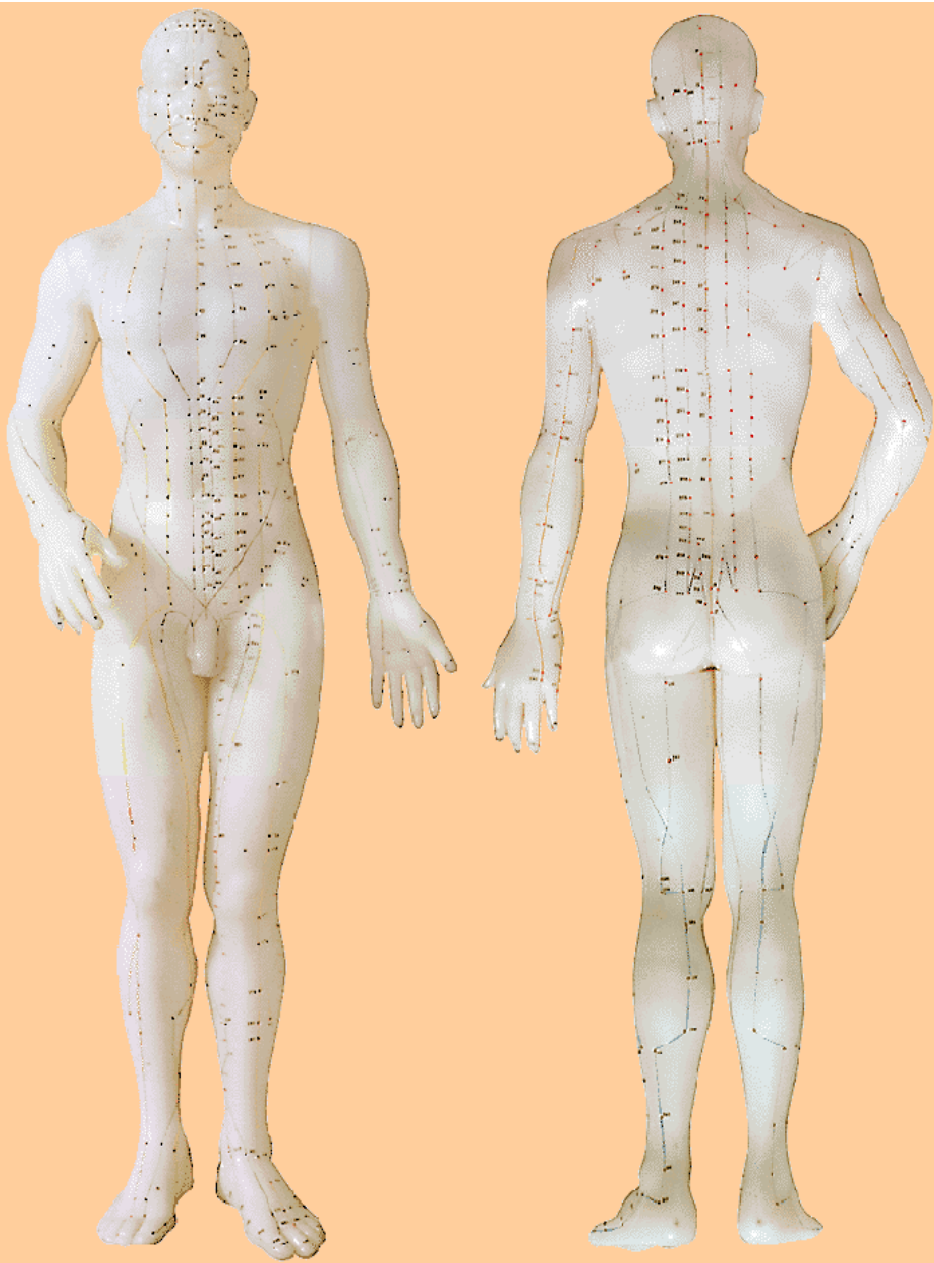


Acupuncture needles found in Ming dynasty tomb, Dojindo Museum, near Beijing, China

Philosophy behind TCM (Acupuncture)

- Holistic approach to illness linking body, mind & emotions
- “Highest goal” = prevention
- Health = delicate balance of 2 opposing but inseparable elements: Yin + Yang
- Interaction of Yin & Yang creates a vital energy force (“Qi”)





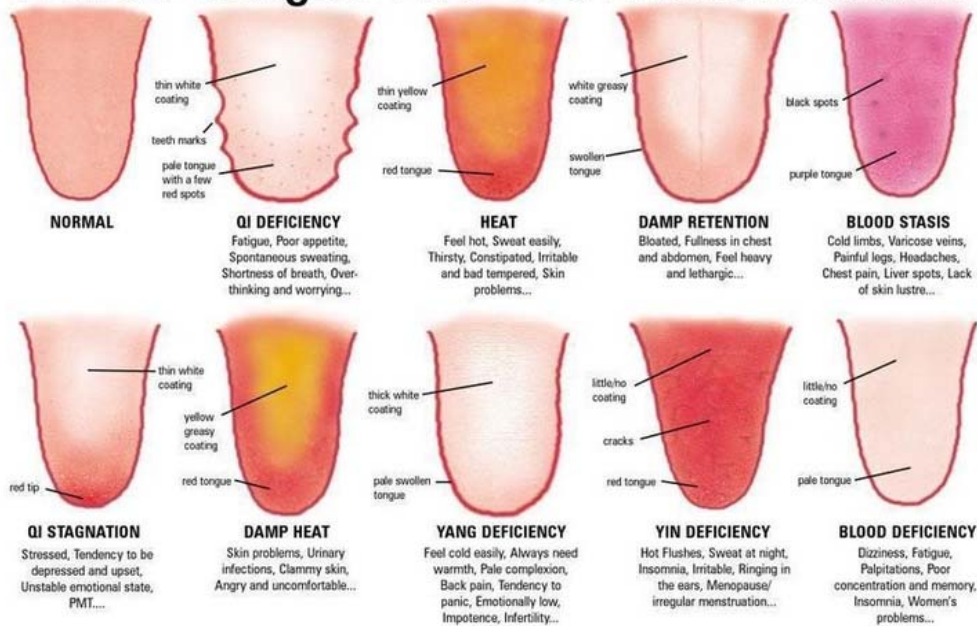
- “Qi” flows through the body via channels (Meridians, which are named after organs & are paired).
- Disease & pain = when flow of “Qi” is **blocked or excessive**.
- By stimulating or inserting needles into specific points along these meridians, acupuncturist believe that “Qi” flow will **re-balance** and this will **trigger the body’s natural healing response**.

Assessment and Diagnosis



Which Tongue Are You?

Nine Common Syndromes & Possible Symptoms...



- Inspection: face, tongue
- Listening and smelling
- Inquiring about symptoms, emotions
- Palpation: radial pulse bilaterally and remainder of body (usually abdo)
- The diagnosis from TCM does NOT always match the conventional medicine diagnosis

References:

Acute Pain Management: Scientific Evidence. Australian and New Zealand College of Anaesthetists and Faculty of Pain Medicine 2010; 231.

Bernstein IA, Malik A, Carville S, Ward S. Low back pain and Sciatica: Summary of NICE Guidance. *BMJ* 2017; 6:356.

Birch S., Alraek T., Kim K.H., Lee M.S. (2016) Placebo-Controlled Trials in Acupuncture: Problems and Solutions. In: Leung S., Hu H. (eds) *Evidence-based Research Methods for Chinese Medicine*. Springer, Singapore.

Cho YH, Kim CK, Heo KH, Lee MS, Ha IH, Son DW, Choi BK, Song GS, Shin BC. Acupuncture for acute postoperative pain after back surgery: a systematic review and meta-analysis of randomized controlled trials. *Pain Practice* 2015; 15(3):279-91.

Cohen MM, Smit DV, Andrianopolous N, et al. Acupuncture for analgesia in the emergency department: a multicentre, randomised, equivalence and non-inferiority trial. *Med J Aust* 2017; 206: 494-499.

Cox J, Varatharajan S, Cote P. Effectiveness of Acupuncture Therapies to Manage Musculoskeletal Disorders of the Extremities: A Systematic Review. *J Orthop Sports Phys Ther* 2016; 46(6):409-29.

Denman, M. ACP Journal Club. Review: evidence for the effectiveness of acupuncture for pain is mixed. *Ann Intern Med* 2011; 155 (4); JC2-6.

Furlan AD, van Tulder MW, Cherkin D, Tsukayama H, Lao L, Koes BW, Berman BM. Acupuncture and dry-needling for low back pain. *Cochrane Database of Systematic Reviews* 2005; Issue 1.

References:

Green S, Buchbinder R, Hetrick SE. Acupuncture for shoulder pain. Cochrane Database of Systematic Reviews 2005; Issue 2.

Jan AL, Aldridge ES, Rogers IR, et al. Does acupuncture have a role in providing analgesia in the emergency setting? A systematic review and meta-analysis. Emerg Med Australas 2017; 29: 490-498.

Kim TH, Lee MS, Kim KH, Kang JW, Choi TY, Ernst E. Acupuncture for treating acute ankle sprains in adults. Cochrane Database of Systematic Reviews 2014; Issue 6.

Lee JH, Choi TY, Lee MS, Lee H, Shin BC, Lee H. Acupuncture for acute low back pain: a systematic review. Clinical Journal of Pain 2013; 29(2):172-185.

Manheimer E, Cheng K, Linde K, Lao L, Yoo J, Wieland S, van der Windt DAWM, Berman BM, Bouter LM. Acupuncture for peripheral joint osteoarthritis. Cochrane Database of Systematic Reviews 2010; Issue 1.

Moffet HH. Sham acupuncture may be as efficacious as true acupuncture: a systematic review of clinical trials. J Altern Complement Med 2009; 15: 213-216.

Non-invasive treatments for Acute, Subacute and Chronic Low back Pain: A Clinical Practice Guideline from the American College of Physicians. Annals of Internal Medicine 2017.

Park J, Hahn S, Park JY, Park HJ, Lee H. Acupuncture for ankle sprain: systematic review and meta-analysis. BMC Complementary and Alternative Medicine. 2013;13:55.

Sim H, Shin BC, Lee MS. Acupuncture for carpal tunnel syndrome: a systematic review of randomised controlled trials. J Pain 2011; 12(3): 307-14.

References:

Trinh K, Graham N, Gross A, Goldsmith CH, Wang E, Cameron ID, Kay TM, Cervical Overview Group. Acupuncture for neck disorders. Cochrane Database of Systematic Reviews 2006, Issue 3.

Vickers A, Cronin A, Maschino AC, et al. Acupuncture for chronic pain: individual patient data meta-analysis. Arch Intern Med 2012; 172(19): 1444–1453.

Wong JJ, et al. Clinical practice guidelines for the non-invasive management of low back pain: A Systematic review by the Ontario Protocol for Traffic Injury Management Collaboration. Eur J Pain 2017; 21(2): 201-216.

Yao E, et al. Randomised controlled trial comparing acupuncture with placebo acupuncture for the treatment of carpal tunnel syndrome. PM R 2012; 4(5): 367-73.

Zhang J, Shang H, Gao X, Ernst E. Acupuncture-related adverse events: a systematic review of the Chinese literature. Bull World Health Organ 2010; 88: 915-921C.

UptoDate and Google Scholar.

WHO website for Acupuncture related information.