



Background

Acupuncture is a medical treatment modality rooted in Traditional Chinese Medicine (TCM) with speculative origins from 6000 BCE.¹ Even the Iceman Ötzi who reportedly lived over 5,000 years ago was discovered with 47 tattoos hypothesized to have topographic distributions within acupoint meridians (figure 1).² As a modality practiced worldwide, acupuncture has been reported as a beneficial therapy for numerous diseases. The World Health Organization (WHO) has published information regarding numerous diseases proven to be treated by acupuncture with methodologies for its education and practice.³ Given that the underpinnings of its science have not been fully established more research is essential for acupuncture to meet the standards of the scientific community.

In 2013, a comprehensive systematic review on acupuncture for management of phantom limb pain was conducted. Quality assessment of the systematic review's trials exhibited weak study ratings and Grade C level evidence under Agency for Healthcare Policy and Research Guidelines.⁴ In this work we share preliminary results on an upgraded review on acupuncture for post-amputation pain. As this treatment modality continues to grow, more information continues to support its use as a low-cost beneficial therapy. The medical community requires continued research in the domain of acupuncture to establish improved evidence and protocols for its use.

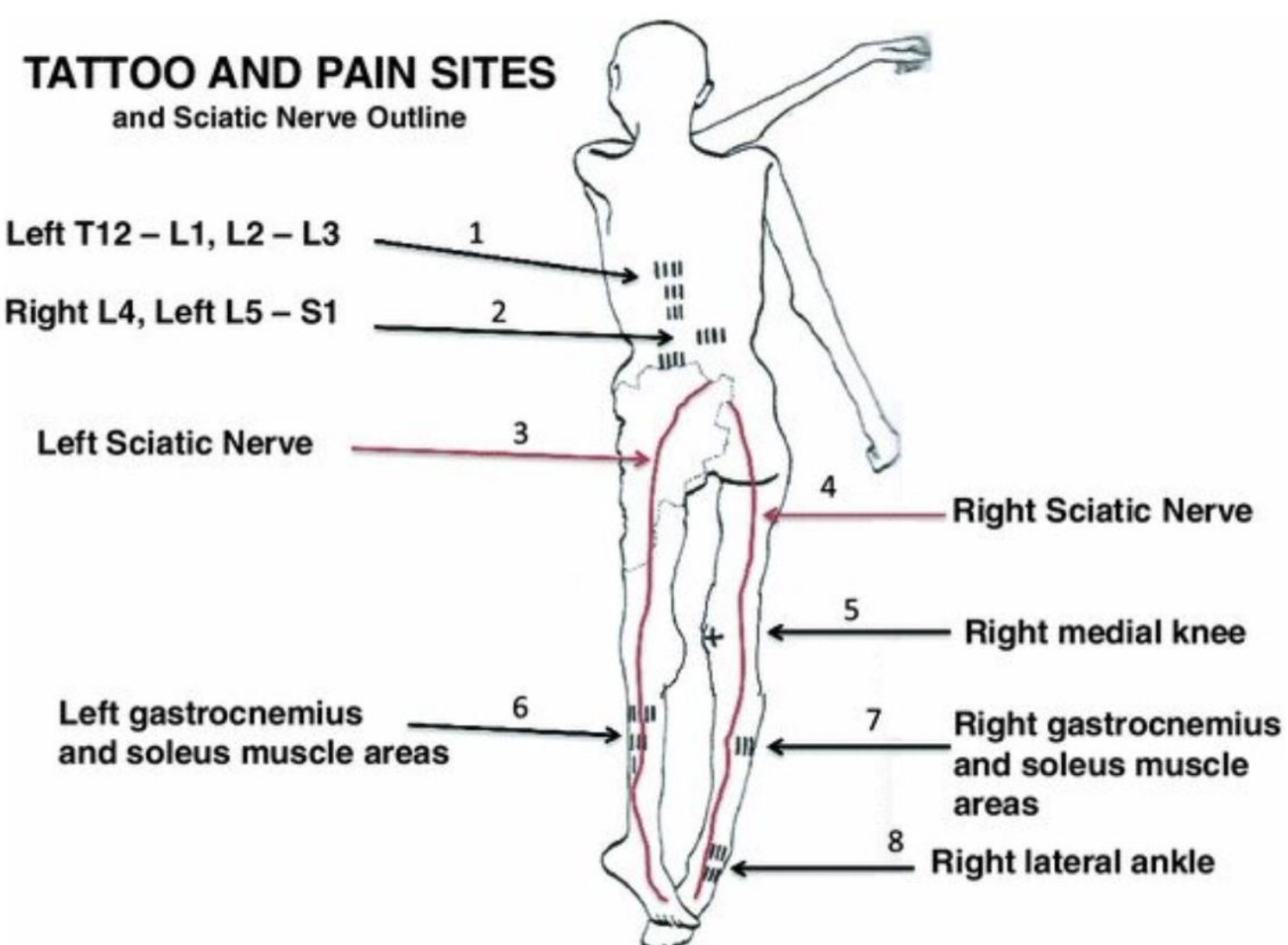


Figure 1: The Iceman's tattoos



Figure 2: Fascia course of gallbladder meridian (GB35-36)

Methods/Results

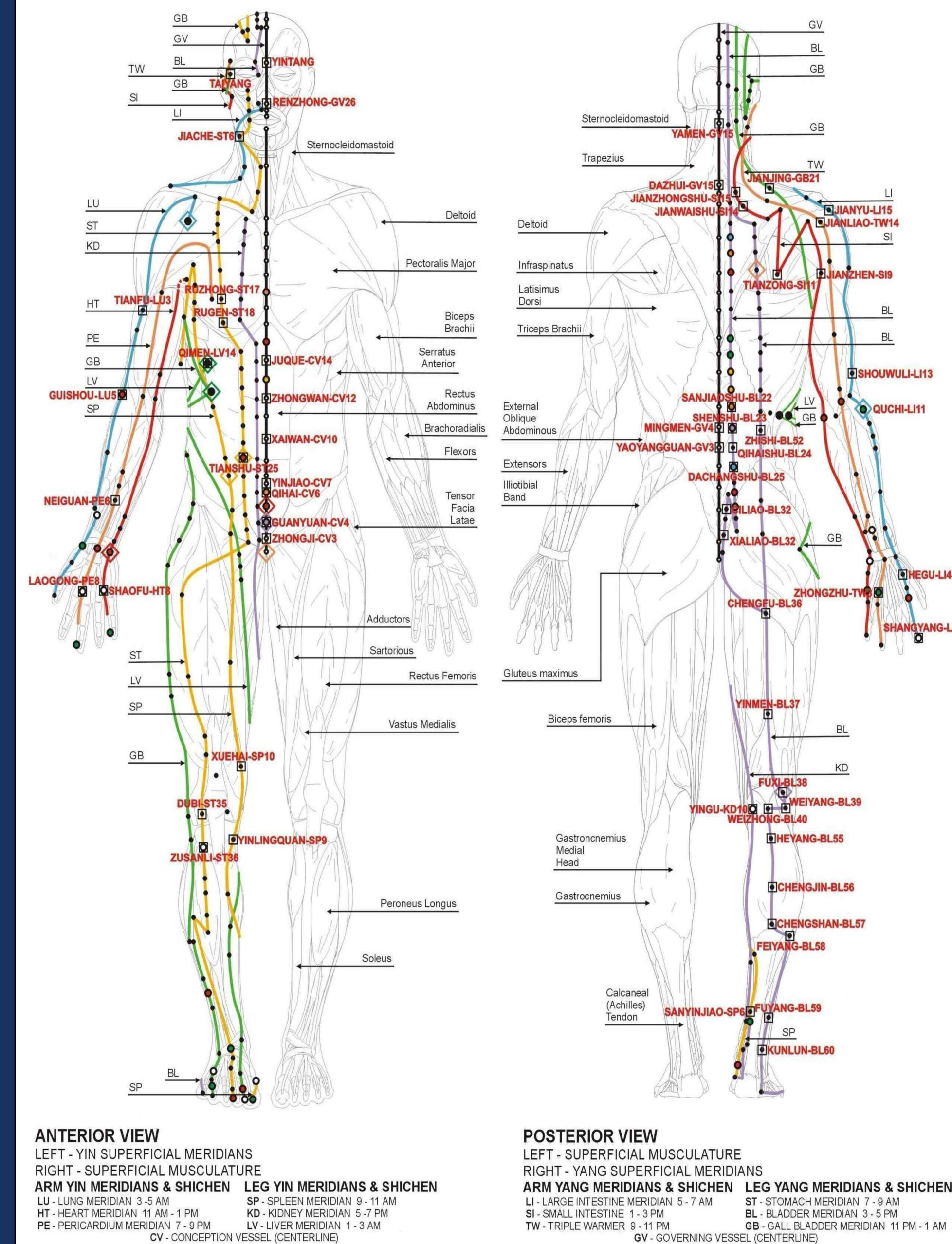
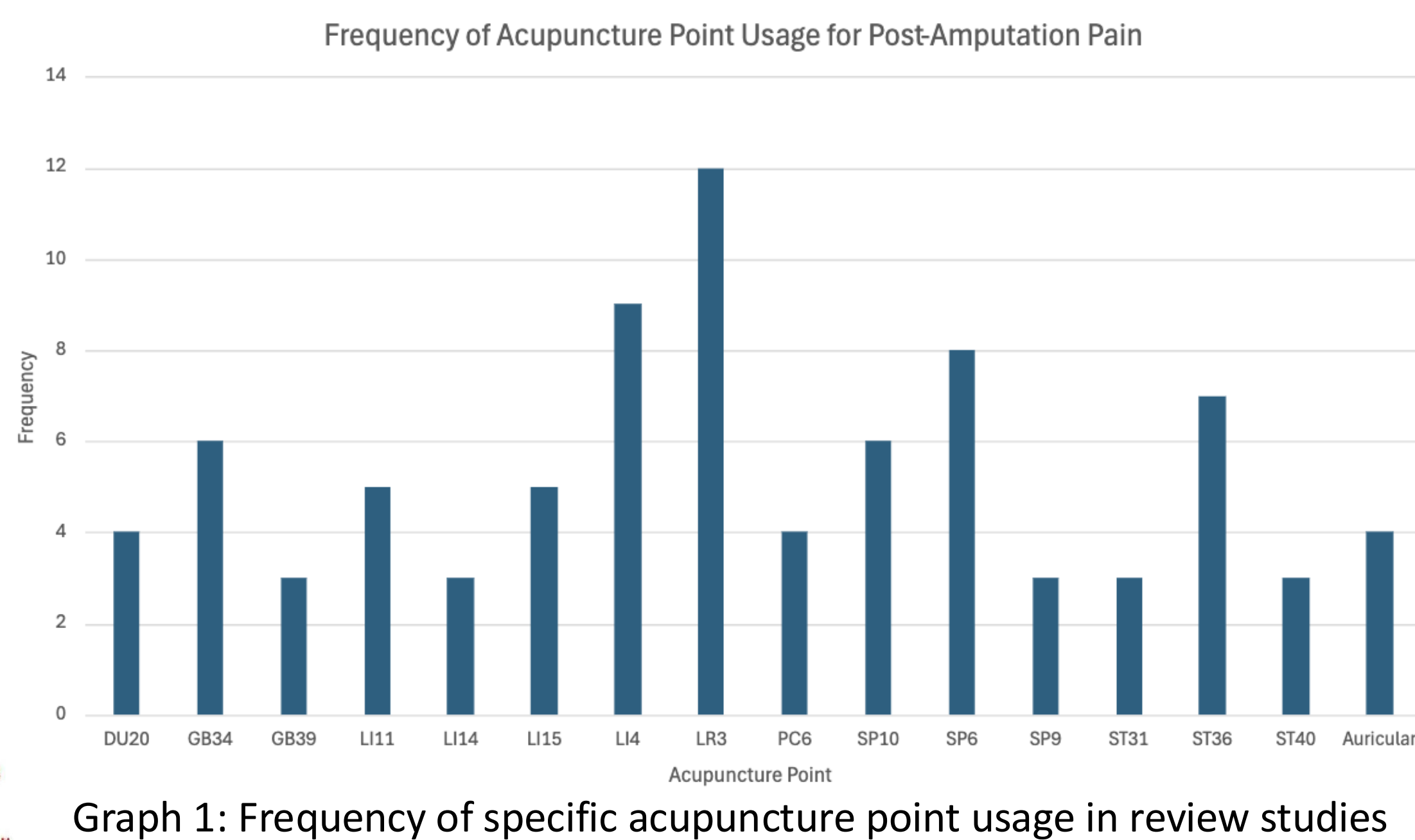


Figure 3: Human Body Meridians



Graph 1: Frequency of specific acupuncture point usage in review studies

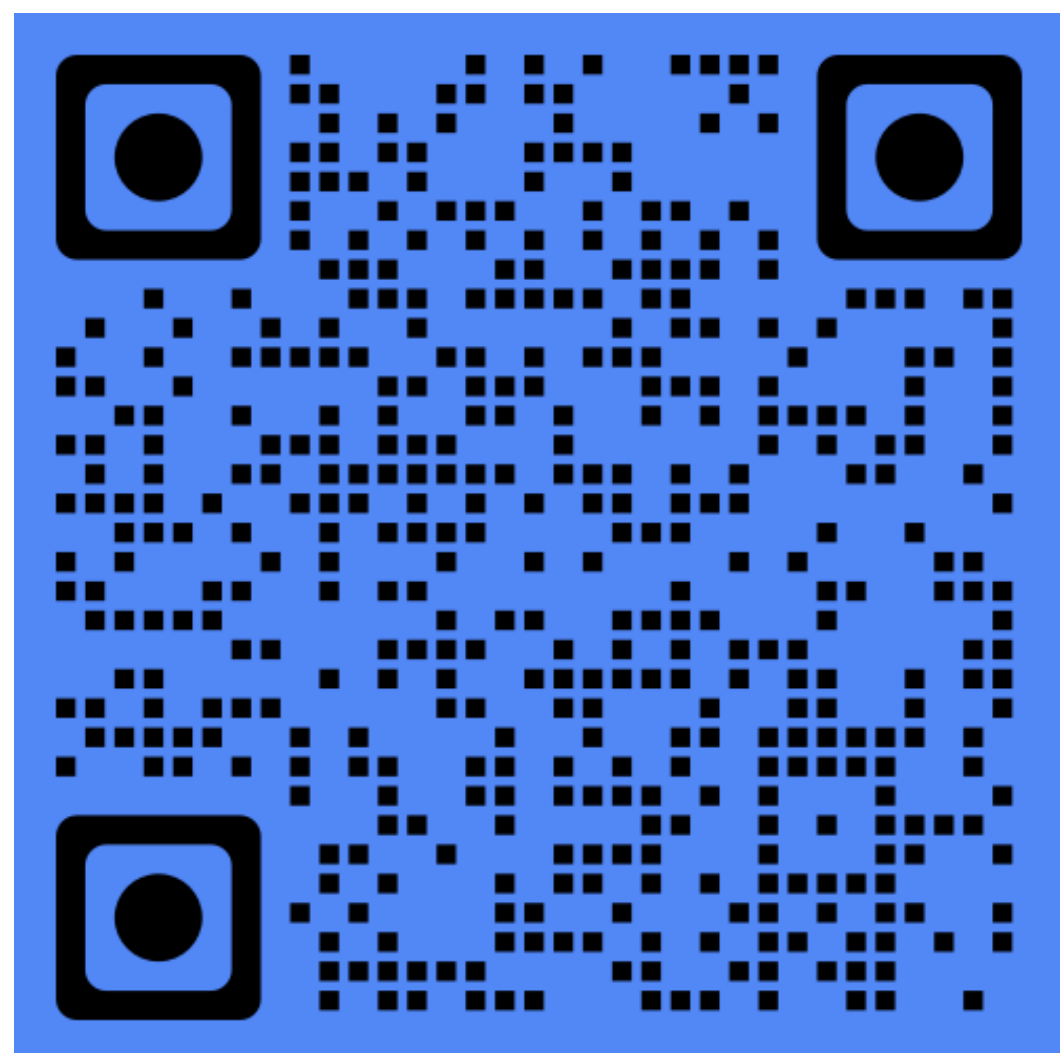
Authors (Year)	CASP Score
Randomized Control Trial	Max: 24
Fatma et al. (2022)	22
Peng et al. (2020)	19
Trevelyan et al. (2016)	18
*Yang et al. (2023)	17
Systematic Review	Max: 20
Wang et al. (2023)	18
Huang et al. (2023)	15
Hu et al. (2014)	14

Table 1: Critical Appraisal Checklist Scoring (CASP) on trials and reviews since 2013 study^{5,6}

Our preliminary results demonstrate additional evidence from the past decade for acupuncture as a low-cost modality for post-amputation pain. Our review includes a broadened search from phantom limb pain to post-amputation pain. Since the Mannix et al. 2013 review, we identified at least four published clinical trials, three systematic reviews, and several case studies/series of moderate to good quality (Table 1 and QR). Notably, Huang et al. carried out a similar review in 2023, but with lesser included studies.⁷ In this work, we have also identified the most commonly used acupuncture points from studies involving post-amputation pain (Graph 1).

Discussion/Conclusion

There will be over 3.6 million amputees in the US by 2050 with an estimated prevalence of post-amputation pain in up to 80% of these patients.⁸ Finding useful treatment modalities is an obvious beneficial pursuit. It has been over ten years since the last systematic review of acupuncture on management of phantom limb pain. This review demonstrates further evidence of the benefits of acupuncture on post-amputation pain. Still, further larger scale studies are essential to provide more complete evidence on the effectiveness of acupuncture for post-amputation pain management.



References

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- Huang H, Yu Y, Peng Y, Fu Z. Ten-year phantom limb pain with only four sessions of Fu's subcutaneous needling: A case report and systematic review. EXPLORE- J Sci Heal. 2024;20(4):513–9.
- <https://www.mayoclinic.org/medical-professionals/orthopedic-surgery/news/rpni-lowers-post-amputation-pain/mac-20537657>

Images:

- Figure 1: https://www.researchgate.net/publication/232699752_The_musculoskeletal_abnormalities_of_the_Similaun_Iceman_OTZI_clues_to_chronic_pain_and_possible_treatments (CC by 4.0 License)
- Figure 2: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6448339/#B1>
- Figure 3: https://commons.wikimedia.org/wiki/File:Chinese_meridians.JPG