The health principle of TaiChi pile under fascia static pull

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TaiChi pile function originated from the ancient health guidance method in China. Practice has proved that it plays a good role in removing diseases and fitness, prolonging life. Fascia is an anatomical structure formed by connective tissue, one of the four tissues. It is an independent sensory organ and a tension network system running through the whole body [1], and forms a yin-yang symbiotic system with the meridians of traditional Chinese medicine. The meridians of traditional Chinese medicine are responsible for the movement of qi and blood of the body and the connection of viscera, and the fascia can be regarded as the material basis of the meridian system. If the human body is regarded as a big tree running up and down by the meridians, then the fascia is the channel for transporting nutrients, so the fascia is closely related to human health. The biomechanical support of fascia is indispensable in the practice of TaiChi pile work. This paper takes the stress state of the human fascia under TaiChi pile work as the starting point to explore the health mechanism produced by the active pull of fascia under the strength in the human body, with a view to further deepening the interpretation of the modern scientific principle of TaiChi pile work.

The body technology presentation of TaiChi pile

Generally speaking, TaiChi pile function refers to a kind of stationary and standing movement. That is, some steps in TaiChi are used to maintain a standing posture, just like the effect of wooden stakes on the ground, and through the regulation of spiritual introversion, thoughts and qi and blood, it achieves the effect of leading the spirit, transporting the body with qi, exerting with the body, strengthening from the inside and outside, integrating inside and outside, and stimulating the potential of the human body.

The traction force of human fascia under TaiChi pile work

Under the overall concept of thinking of 'the unity of heaven and man', the practice of TaiChi pile skill pays attention to the whole body and advocates the 'integration' of strength. The emergence of this kind of 'integration' requires maintaining a certain degree of stability of the peripheral joints in advance, and then ensuring the stability of the tension posture of the whole body in the spatial structure. This process requires moderate static contraction of the muscles and fascia of the whole body, which is reflected in the tension part of the two being pulled inward and the pressure structure pushed outward, making the whole body a relaxed tension structure, thus meeting the basic technical requirements of traditional martial arts pile skills of "loose and unremitting, tight but not rigid". Therefore, in TaiChi pile work, the fascia of the whole body is in an active and moderate traction state.

Health benefits of moderate traction of human fascia

Long-term sedentary body can lead to stiff fascia adhesion and cause blood stasis. Studies have shown that moderate mechanical stress can regulate the metabolism and gene expression process of cells [2]. The body feeling of 'stretching and pulling bones' in TaiChi pile is actually achieved by the continuous static traction of the whole body muscles and the fascia. This movement inside the body will increase the rolling and sliding of the fascia in the adhesive position. Studies have shown that static traction therapies can improve blood circulation, relieve muscle pain, and help repair damage soft tissues, improve or restore normal physiological bending of the spine [3]. Static and extended fascia can improve blood flow and provide sufficient nutrients for functional cell activities [4]. This is like dredging the meridians of the whole body, so as to achieve the effect of relaxing meridians and activating collaterals, thus promoting the communication between the upper and down of the human body surface and the connection between the liver organs, and finally making the stable operation of qi and blood of yin and yang. Qi and blood are the most basic essential substances and fine substances that constitute and maintain human life activities. In the theory of traditional Chinese medicine, qi and blood have a driving effect, fixed, warmth, defensive and nutritional effect on the human body, and moisturizing the whole body. While maintaining relative stability, qi and blood can also stimulate body activity, improve the metabolic efficiency of body tissues, and
enhance the conductivity of the transmissive nerve in the muscle fascia.

**Brief summary**

Martial arts and traditional Chinese medicine are the same-rooted relationship. In the great integration of traditional Chinese culture, both can be said to learn from each other and absorb each other at the health level. This paper takes fascia movement as the connecting point to establish a bridge between the practice of TaiChi pile skills and the meridian theory of traditional Chinese medicine, in order to better realize the "combination of martial arts and medicine" and provide reference ideas for the research path of modern health care.

**References**


**Competing interests**

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