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Assessment Methods for Fascial Connective Tissue

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BACKGROUND:
The role of fascia has gained significant attention, especially in the fields of sports medicine, but also recently in oncology. Understanding fascial pathology not only offers insights into the biomechanics and movement but also may reflect potential therapeutic targets for cancer patients. However, evaluation of fascial properties is not trivial.

RESEARCH QUESTION:
The objective is to evaluate different assessment methods for fascial connective tissue.

RESULTS:
Fascia operates as a continuum. Healthy fascia is flexible and hydrated, but factors like injury, poor biomechanics, and most notably cancer can cause rigidity, resulting in fascial adhesion and even microcalcifications. This leads to compromised movement and, over time, pain. Hence, assessment methods can focus on fascial appearance, stiffness, hydration, and functional aspects such as sensitivity and the gliding abilities.
The most often used assessment method is palpation. The advantage is, that there is a close interaction between examiner and patient. However, the palpation of different layers appears to be subjective and the reproducibility is poor. Imaging techniques comprise magnetic resonance tomography, ultrasound (B-scan and transmission), and elastography. Stiffness can be evaluated with customized force transducers. Finally, there is a method, which assesses the electrical impedance. Using alternating current, the method gives insight into hydration and electrolytes as well as the cellular components, because a phase shift is expected in cell-rich tissue types.

CONCLUSION
In a nutshell, changes of the fascial tissue occur in cancer patients and can effectively alter biomechanical tissue properties and mechanosensory thresholds. Fascial contractility is a key element of pathological tissue conditions and pain syndromes. Fascial alterations may be reversible, fixed or a combination of both. The different assessment methods may help to understand physiology and pathology of fascial tissue and may improve the individualized strategy in exercise oncology.

Keywords

Fascia, Assessment, Resting Tone, Palpation

Conflict of Interest & Ethical Approval

yes

Abstract submitters declaration

yes

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