SHOCK WAVE Therapy in Practice

Level 10

FASCIA TREATMENT WITH SHOCK WAVES

MATTHIAS BECK, CARLO DI MAIO, STEPHAN SWART AND CORRY ULLRICH

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The fasciae of the human body

THE FASCIAE OF THE HUMAN BODY

/ Anatomy of the fasciae

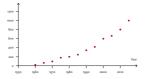
/ Macroscopic structure of the fascia

/ Microscopic structure of the fascia

General interest in the faciace of the human body has goven constartly in recent decade. In posito there were lever than a new publications in the field. In accor, the year of the first facial Research Conference in Botton, the number of published papers exceeded Gov. Newly uson ener publication were listed in Publied when the facult Faccia Research Conference tool galaxy in Workingsion in 2015 [19]. This immigrees the in the number of publication on the facciase of the human body reflects the growing interest of science and clinicians in the field.

NUMBER OF PUBLICATIONS IN THE YEARS 1960 TO 2015 | Fig. 1

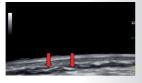
Number of new publications on the subject of fasciae (PubMed listings)



In the past two decades the number of new scientific publications per year on the subject of fasciae has grown continuously. More than just a sign of the increasing awareness of the subject matter, this is actually a result of how intensively linked it is with other themes such as the lymphatic system and encodeps.

Fasciae as a network in the body

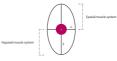
Fig. 8 Retinecula cutto



This high-resolution sonography of the skin and subcuts with stand-off shows the retinacula cutis. They serve as guiding structures for capilaries and unmyelinated nerve fibres that project towards the skin. Many of them correspond to acupuncture points.¹⁰ They couple the fasciae of the extremities to the dorsal lamina of the fascia thoracolumbalis (TLF) (Fig. 10). The lower extremity shows comparable connections between the qluteal musculature and the TLF.

The muscles and fasciae of the epaxial components are innervated by the rami dorsales of the nervi spinales, whereas on the other hand the hypaxial muscles and their fascial sheaths are supplied by the rami ventrales of the nervi spinales.

EPAXIAL AND HYPAXIAL MUSCLE AND FASCIAL SYSTEM | Fig. 9



The embryo is divided by the horizontal (2) and vertical (3) septa. Donail to the embryonal precursor structure of the spinal column (1) the epasial muscle system develops and, ventral to this, the hypaxial system (ventral trunk and extremity musculature).

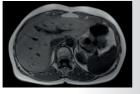
DEEP FASCIA IN TRUNK AND EXTREMITIES

The deep fascia (DF) or muscle fascia forms compartments for striated muscles in the trunk and extremities. These fascial systems develop in embryonic stages, like the muscles they envelop, as an epaxial and hypaxial subsystem (fig. g.).

The autochthonous back musculature derives from the epaxial system and the ventral trunk and extremity musculature originate with the hypaxial system. In the course of development, proximal muscles of the upper extremity migrate to dorsal and insert themselves over the epaxial system in the form of Ratened back muscles (muscular traperious and latistims dors1).

Fasciae as a network in the body

Fig. 10 Breakdown of the muscle and fascial systems of the trunk



The figure shows a transversal section at the level of the lower thoracic spine. The autochthonous back muscles (t) border on the hypaxial ventral musculature of the trunk wall (a) and that of the upper extremities. This like the opaxial an hypaxial fascial systems.

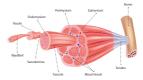
The fasciae of the extremities are divided into different sections (e.g. the fascia brachii and die fascia antebrachii or fascia lata and fascia cruris) and compartments (flexor and extensor compartments). In large joints of the extremities these transition into one another or find their proximal connection to the trunk fascial system.

Within the compartment thus developed one finds, in addition to musculature, the conductive structures (nerves and blood and lymph vessels) of the extremities. These are often encased in a sheath, also made of connective tissue – the epiFacicular and exterior epineurium (see chapter: "Fascia of the nervous system").

INTRAMUSCULAR FASCIAE

Muccle fibris are bound together by the endowpium, which is comprised of losse concrete time tunce, transke market for primary bardelith that form secondary bundles surrounded by the primymum. Taken together, the tatter of mass traited selection muccle second form dispect through the comparison of the and antagonic, hones and deep muccle faced by the epimpium (Fig. 1). The comparison of the immanscular factors conducts the contraction of the muccle fibres both longitudinally, to the origin / imertions of the muccle, and transversities.

INTRAMUSCULAR FASCIAE | Fig.



The intramuscular fasciae, the endemysium, epimysium and perimysium, structure the inner divisions of the skeletal muscles and provide for the longitudinal and transversal transfer of forces during muscle contraction.