

The dynamics of the body's myofascial system

The myofasciae – the interlinked continuities of the locomotor system – run in **different directions** in our bodies. Their function is a dynamic one: the system works in opposing directions like a set of pulleys. We can apply corrective impulses along these functional lines to restore body statics when that balance has been disturbed. Sound, balanced body statics create the basis for movement, so correctly applied impulses can enable a person to perform all the movements of everyday life economically, without excessive physical effort and as nearly as possible without pain. The fundamental statics of upright posture function by reflex action, and this balance can be achieved. At the same time a person can learn to effect conscious change in damaging movement sequences.

It seems – *at first sight* – that directional lines of transmission have no part to play in manual treatment/therapy. If shortening occurs along a line, and these points of shortening or adhesion are released by manual fascial therapy, this has an effect along the entire course of the fascia, and the effect also extends to parallel fascial lines. This provides a means of bringing about improvement or relieving pain.

In cases where the displacement of body statics has existed for some time (and the centre of balance in the inner ear has adapted to these changes) all the person's movement sequences will have adapted to this imbalance. So it is entirely possible that, following manual treatment, their body statics will revert wholly or partially to the former state of *imbalance* after a time, because the movement patterns that had existed for so long are experienced as normal.

What changes then in the light of our present understanding that, seen in **functional terms**, the myofascial system has **lines of transmission that run in different directions**?

We can analyse the physics of upright posture, motion and locomotion in upright stance and gait using the *pulley principle*, and we can apply that principle to produce a corrective effect on any imbalance present. This takes place in the course of everyday movements (standing, walking, and standing up from a sitting or lying position) which involve the basic processes of maintaining the body upright as well as the locomotor muscles. Two principles are at work here: the support function of the Deep Front (fascia) Line (which works in an *upward direction by reflex action*) is stimulated positively, and the movement sequences are changed. This leads to balanced use of the body in all activities.

Informative impulses pass along the directional lines of transmission of the fascial lines; the effect of this is to restore physical balance, and any pain that may have been caused by unilateral stresses is relieved. This happens *painlessly*; the body (the fasciae) is not made to yield by applying pressure or force of any kind, but *reacts of itself because the direction of flow is stimulated*. To take an example, in a case where the fundamental statics are disturbed because of an imbalance at the legs or feet (for instance because of a tendency to bow legs or knock knees, going back to childhood) this affects the entire upright posture of the body. The imbalance at the legs/feet and its physical effects irritate the myofascial continuities of body statics with every step and in the sit-to-stand movement. The result: problems or pain in the locomotor system.

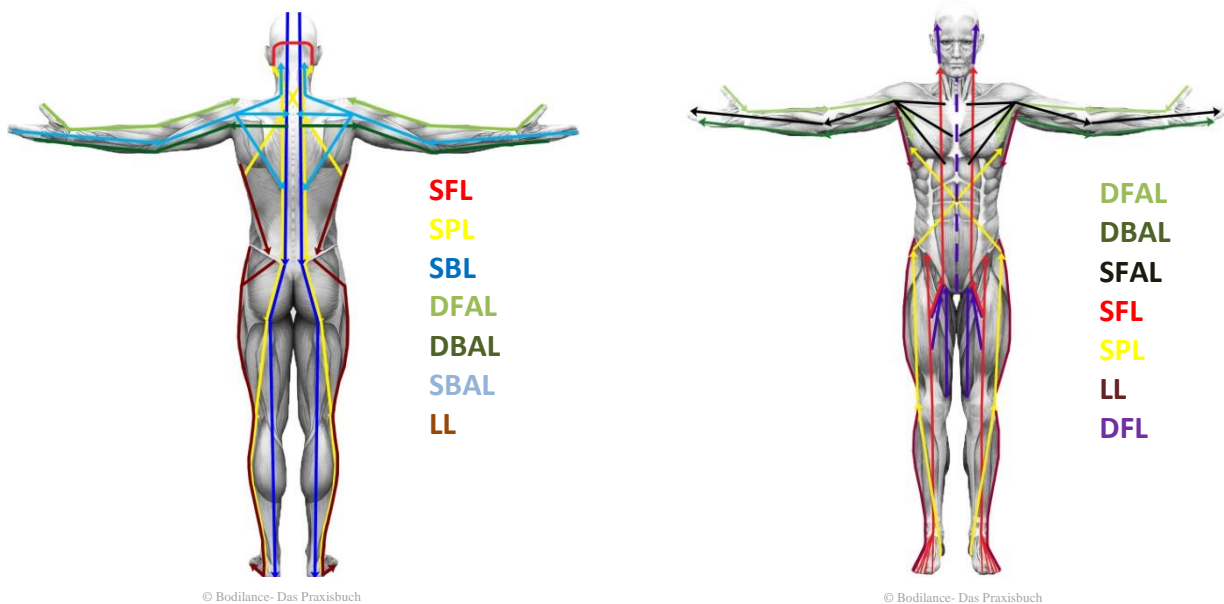
Manual treatment of the external locomotor muscle system is usually contraindicated in individuals whose connective tissue is weak. (This tends to affect females more than males). Overall weakness of the connective tissue results in weakness of internal posture. That means that the system of support muscles, which receives significant support from the Deep Front (fascial) Line, is not strong, and body weight *hangs* from the skeleton. The external system of locomotor muscles tries to compensate for this weakness, partly by excessive tension. If treatment simply releases these points of tension, the body literally collapses, which can even result in disc herniation. Weakness of the connective tissue can lead to various problems in the person's body. Here are a few examples:

- Weakness of the pelvic floor
- Migraine caused by chronic tension in the nape of the neck
- Diffuse muscle and joint pain in the body
- Tendency to tire quickly, etc.

These individuals can be helped by strengthening posture. Only once this is done can the external *tensions* (in the locomotor muscle system) be released. This strengthening can only be achieved during the process of becoming upright (e.g. standing up from a sitting position).

It will help to begin with a general overview of the myofasciae and their directional lines of **transmission**:

- The Superficial Back Line (**SBL**) and Superficial Front Line (**SFL**) form an opposing pair:
The **SBL** begins at the line of the eyebrow and runs over the head, back, buttocks and legs in a downward direction, ending under the foot, on the underside of the toes.
The **SFL** begins on the upper side of the five toes. It then runs up the ventral side of the body towards the head, ending behind the ears, at the occipital bone.
- The Deep Front Line (**DFL**) runs in an upward direction medially in the body, surrounded by all the other lines.
- The Spiral line (**SPL**) runs both upward and downward in the shape of a double helix.
- The lateral line (**LL**) has various functions: In the back, its strong downward pull strengthens the **SBL**. In the pelvic region and legs, it acts as the opposing partner to the **DFL** and **SPL**. In forward movements of the arm, the latissimus dorsi (*m. latissimus dorsi*) in conjunction with the trapezius (*m. trapezius*), which forms part of the **SBAL** (Superficial Back Arm Line), acts to provide the counter-pull in the same way as the counterweight of a crane.



Direction of fascial lines of the body:

Superficial Back Line (**SBL**) ↓
 Superficial Front Line (**SFL**) ↑
 Deep Front Line (**DFL**) ↑
 Spiral line (**SPL**) ↓ and ↑
 Lateral line (**LL**) ↓

As with the functional lines in the legs and trunk, the arm lines form a system that runs in opposing directions. This can be seen in movement analysis and when giving manual impulses.

The Superficial Front Arm Line (**SFAL**) and Superficial Back Arm Line (**SBAL**) form an *opposing pair*. The same applies to the Deep Front Arm Line (**DFAL**) and Deep Back Arm Line (**DBAL**).

Fascial lines of the arms: an overview

The **SFAL** runs from the centre to the periphery (palm of the hand)
 The **SBAL** runs from the periphery (back of the hand) to the centre (trunk)
 The **DFAL** runs from the periphery (thumb) to the centre (trunk)
 The **DBAL** runs from the centre to the periphery (little finger)

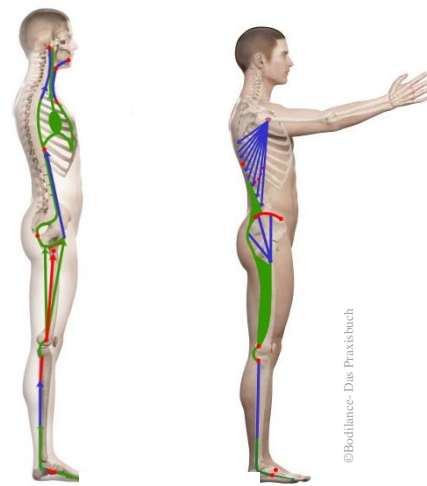
Brief overview of the upward and downward directed functional lines according to body region:

Downward:

- Forehead, occiput, nape of neck – **SBL**
- Back – **SBL, SPL**
- Back of legs – **SBL, SPL**
- Sides of trunk – **LL**
- Side of legs – **LL, SPL**
- Inner surface of arms (towards palm of hand) – **SFAL**
- Posterior outer border of arms (towards little finger) – **DBAL**

Upward:

- Anterior aspect of legs – **SFL**
- Inner aspect of legs – **DFL**
- Outer aspect of legs in front of trouser seam and across belly – **SPL**
- Anterior of upper body, both superficial and deep - along inner aspect of vertebral column – **SFL** and **DFL**
- Intermediate layer in the back, running beneath shoulder blades to nape of neck – **SPL**
- Upper surface of arms (back of the hand) – **SBAL**
- Anterior outer border of arms (upward from the thumb) – **DFAL**



DFL and LL

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If we take account of the functional directions of the myofascial system, we can open up unrealised possibilities for using the body in a better way. This can be done for basic, everyday activities such as walking, bending, carrying, etc., and also for sports, playing a musical instrument or activities in the course of professional life.

Another very important and helpful aspect to understand in manual therapy is the direction the myofascial continuities work, for which Thomas Myers has chosen the term ‘meridians’. If fascial stimulation is delivered against this direction of transmission, that may be experienced as unpleasant and can be painful. If it is applied in line with it, it will be beneficial and cause no pain. The same applies to fascial gymnastics and stretching or the use of devices such as the fascia rolls.

The book ‘Anatomy Trains’ by Thomas W. Myers provided the theoretical basis for describing the fascial lines and their underlying structures. In his book, Myers always describes these working upward from below. In my book, I describe them according to their *function*. Some begin at the head and others at the feet. For this reason I refer to them as *functional lines*. The description I give in my book for the course of the Lateral Line (**LL**) and the Deep Back Arm Line (**DBAL**) differs from that in ‘Anatomy Trains’. I have based this on my experience in the course of my practice.

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