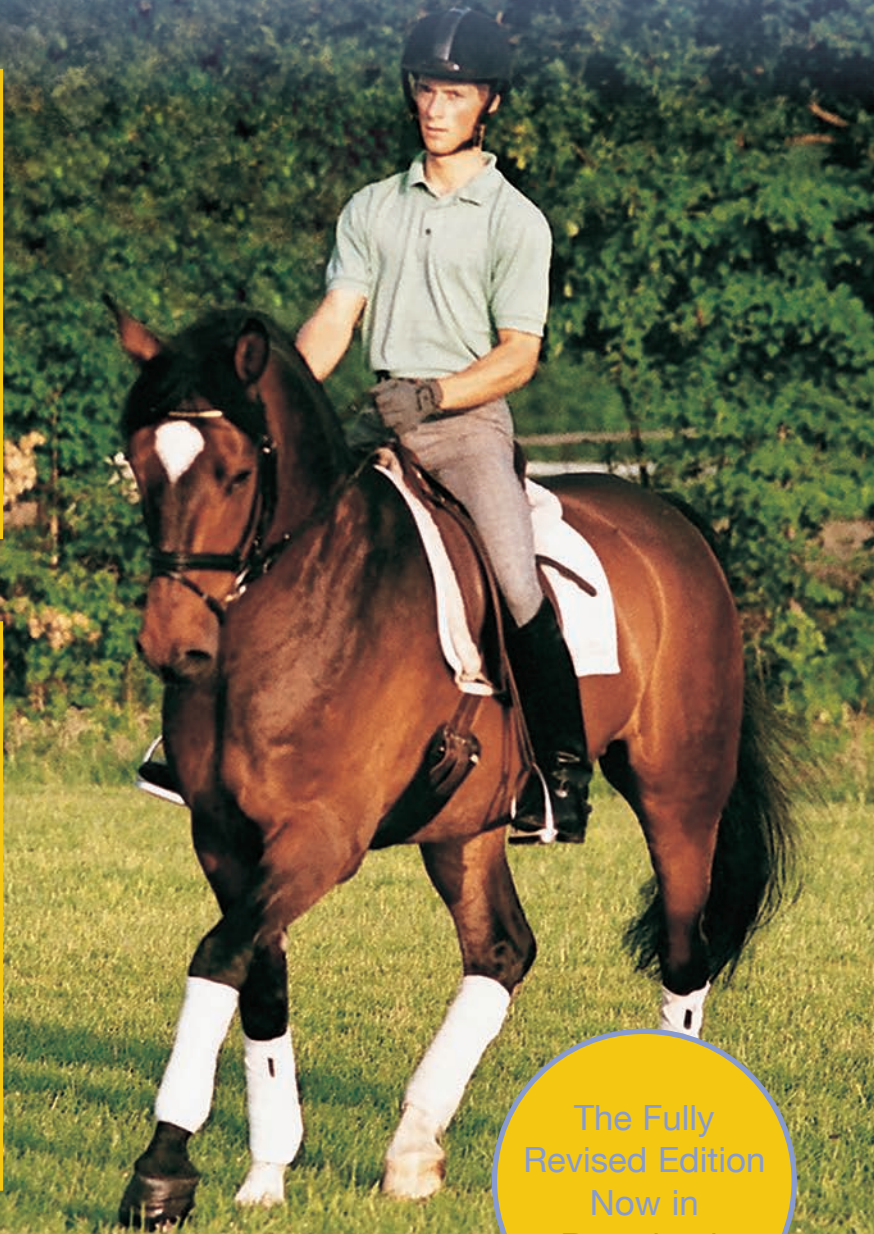
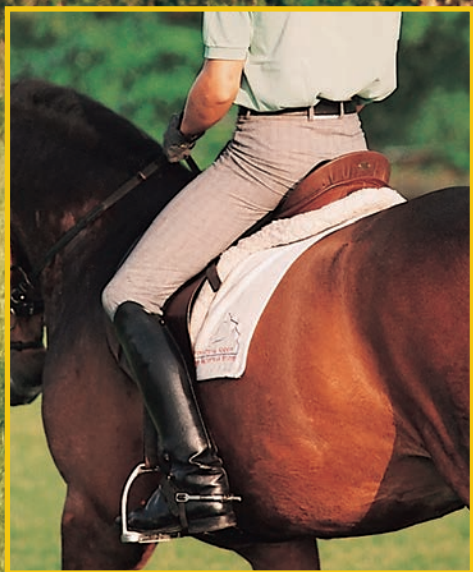
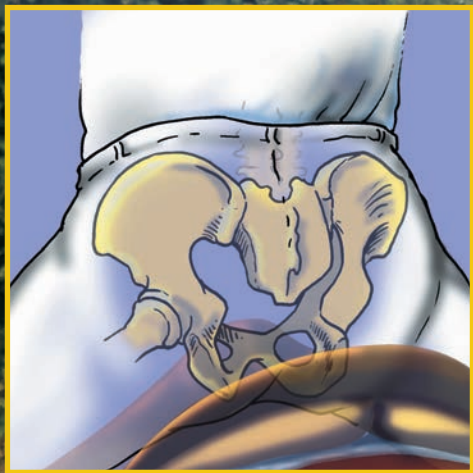


# BALANCE IN MOVEMENT

How to Achieve the Perfect Seat



The Fully  
Revised Edition  
Now in  
Paperback

Susanne von Dietze

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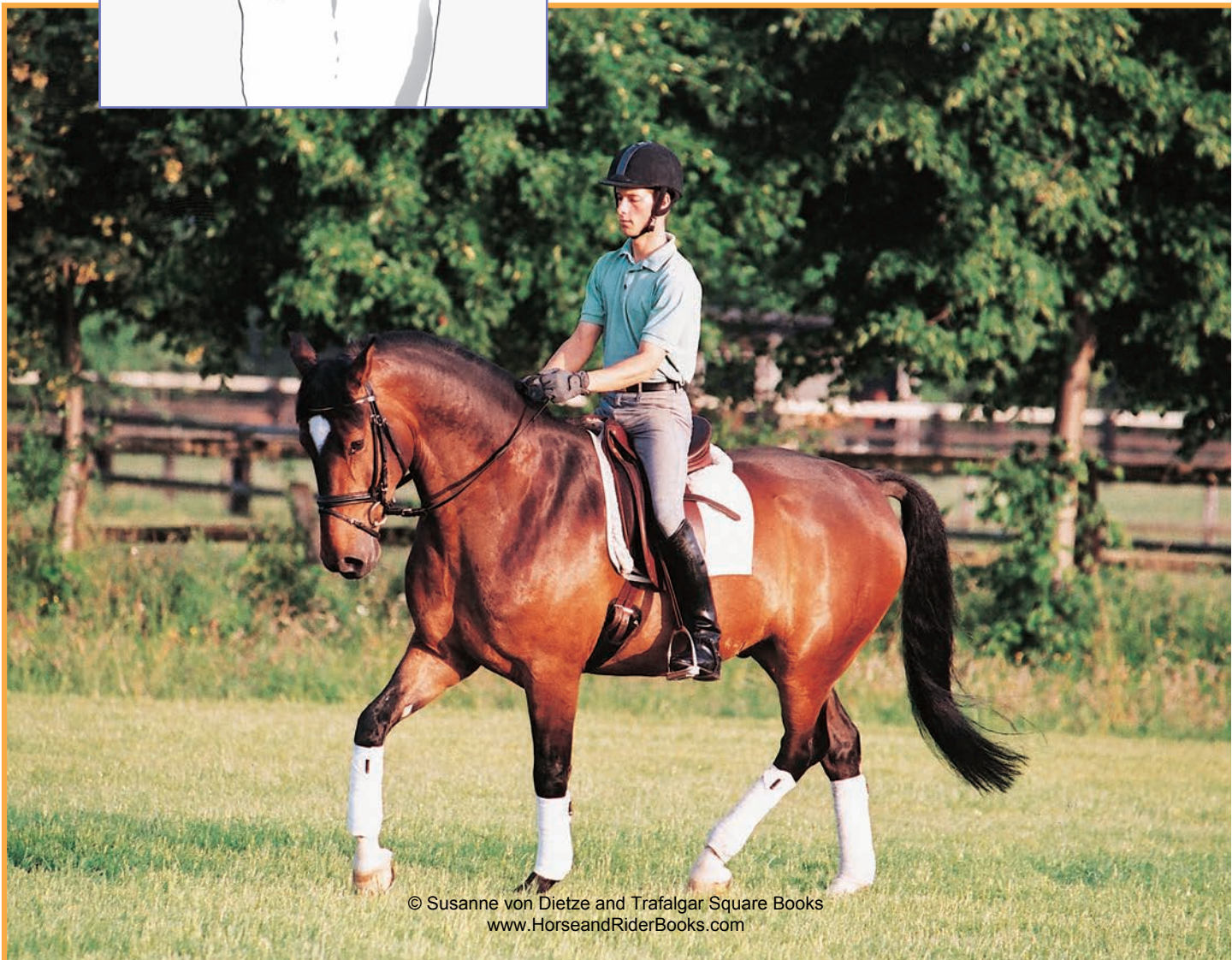


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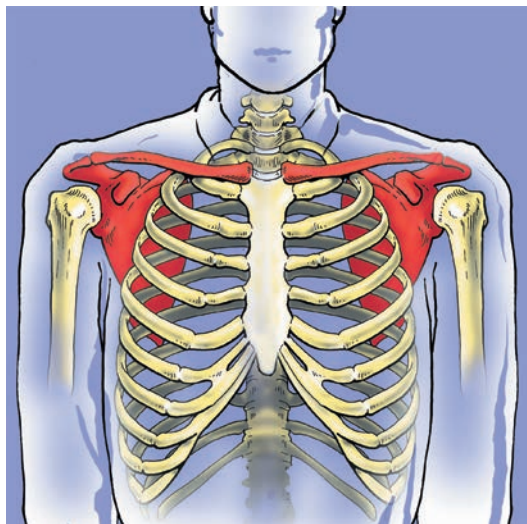
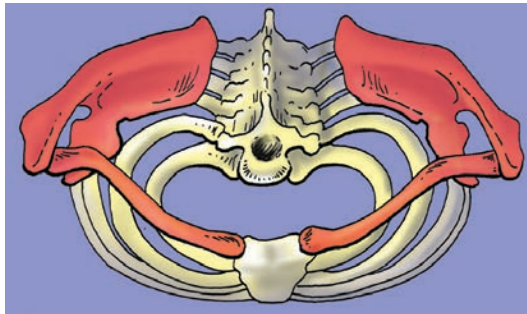
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# 5





## Fundamental principles of anatomy



*Position of the  
shoulder girdle on  
the thorax*

The **shoulder girdle** consists of the **shoulder joint**, the **shoulder blade** and the **collar bone**. This fine continuous structure is situated on top of the thorax, similar to a yoke carried on one's shoulders. As a result, there is no stable joint connection between the shoulder girdle and the trunk. The collarbone alone possesses a tiny joint with the sternum. This permits the large variety of arm movements. The shoulder girdle can slide on the trunk in all directions.

When you look at the shoulder joint closely, you will see that the joint socket covers merely a small part of the large ball of the upper arm bone. This means that the shoulder joint has very little bony guidance – the support of the joint is mainly ensured by muscles. Those joints are in much greater danger of being dislocated than the joints which are, comparatively speaking,

tightly secured by bone and ligaments (e.g. the hip joints).

The shoulder joint itself has a joint capsule which is built up to a large extent by the sinewy ends of several muscles. This enables a wide variety of movements, at the same time however, it means that in the case of uncoordinated muscle tension, pressure on the joint can increase very quickly. Thus tense muscles in the neck and shoulder girdle area are often also the cause of shoulder pains. Consequently, a painkilling injection into the joint can only soothe the local inflammation; it cannot remedy the actual cause.

As the shoulder girdle is only attached by the tiny joint at the front on the thoracic cavity, the entire shoulder musculature takes on great significance for the agility and stability of the

arms. At the same time, however, this mainly muscular hold also makes it possible for the arm movements to take place independently of the movements of the trunk. And this is precisely what the rider needs in order to adapt to the horse's mouth with a gentle hand.

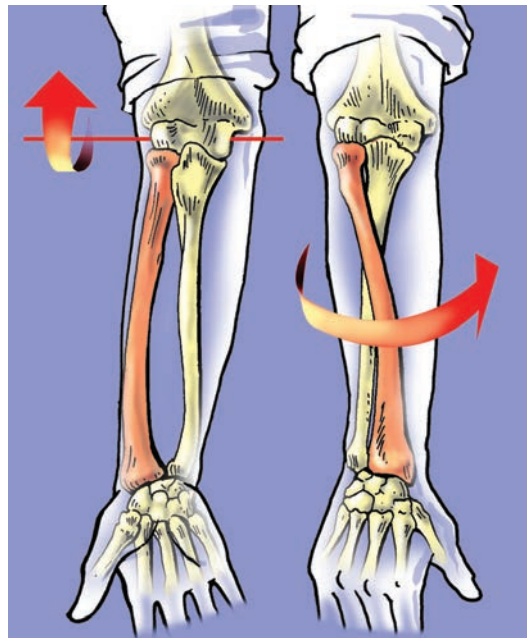
When you take a closer look, you will also notice that the shoulder joints are not located directly on the side but rather point slightly towards the front. This slight forward position favours many everyday movements and facilitates arm movements in front of the body to the middle of the body; the arm movements acquire a 'natural look' as a result of this, instead of moving in a 'robotic style', mechanically and exclusively in a forward direction.

Those readers who have been particularly attentive will have already noticed that this slightly slanting position of the shoulder joint is indeed related to our three-dimensional movements. Anyone who moves their arm forward in a straight line always has a combination of forward movement, outward rotation and slight bracing of the upper arm in the shoulder joint. No wonder that yielding with the hand can be so incredibly difficult!

When you look at the **elbow joint** you can see that the upper arm bone forms a large joint there together with the two bones of the lower arm. This joint is capable of flexion and extension and can also perform a kind of rotational movement, the rotation of the lower arm.

The distinguishing feature of the **wrist** is its very large number of small bones. These small bones shift among each other during each movement, and it can cause great problems if the interplay gets caught up in any given place.

In summary, the shoulder possesses the greatest ability to move in all directions; the elbow joint can flex and extend and turn the lower arm to the inside and outside; the wrist can mainly flex and extend and move laterally either towards the thumb or the little finger and, owing to the multitude of small bones, a mixed movement is possible in almost all directions.



*Elbow and hand*

The musculature of the shoulder girdle and the arms is structured in a very complex and complicated way. It is not the names of the individual muscles which are important here but rather an understanding of the system of movement. Our muscle system in the arms and legs is constructed rather for purposes of movement than for posture. Because we use our hands as 'tools', our perception and the conscious control of movements is particularly pronounced in the fingers. This is what makes specific grasping and touching possible. However, our awareness is usually restricted to the end of the chain of movement, i.e. the hand. If you want to pick up a glass or a pencil, for example, you control and execute the movement with

## BALANCE IN MOVEMENT

the hand and fingers. All the work which is required simultaneously from the shoulder girdle, shoulder joint and elbow joint, takes place completely automatically and subconsciously. But without the integrated movement from these parts, it would not be possible for the hand to reach the glass.

This is also true in riding, a fine and gentle rider's hand is also dependent on the muscle chains which extend from the trunk via the shoulder girdle into the arms. This coordination between trunk and shoulders can only be successful if the shoulder girdle is not cramped up.



### Maxim

*Stiff, cramped shoulders make a gentle rider's hand impossible.*

## Body proportions and individual build

Since the shoulder girdle lies like a yoke on top of the thorax, its 'fit' is of critical importance for its mobility. Depending on the length of the collar bones and the shape of the shoulder blade the shoulder girdle can be broad or narrow. Generally speaking, it is broader with men than with women. In order to judge the mobility individually, it is important to assess the

width of the thorax as well as the width of the shoulder girdle.

Look around amongst your friends and you will certainly see different types of constitution. A narrow shoulder girdle limits the mobility of the entire shoulder complex; the arms frequently cannot hang freely and in a completely relaxed state beside the body. Physiotherapists recommend these individuals to support the weight of their arms as much as possible, for example, to prop their hands on the hip bones, to put them into trouser pockets or to cross the arms etc. Otherwise the muscles in the back of the neck would cramp very quickly. Later I shall elaborate on the difficulty of letting one's upper arms hang next to the body in a relaxed way when riding for those with narrow shoulder girdles.

Big differences can also be observed with regard to the arms. The length of upper arms and forearms often varies considerably. Some people can easily reach the iliac crest with their elbows, but with others the upper arm ends above the waist at the height of the lower edge of the ribs. And when they bend their elbows, some people can just reach their shoulders with their finger tips, whereas others can put their whole hand right over their shoulders. The differences in the lengths of the upper arm and forearm becomes relevant for the angulation of the elbow when holding the reins.



*Different lengths of upper arms and forearms determine the individual position of the hands*





*Different shoulder widths influence the position of the upper arm against the body*

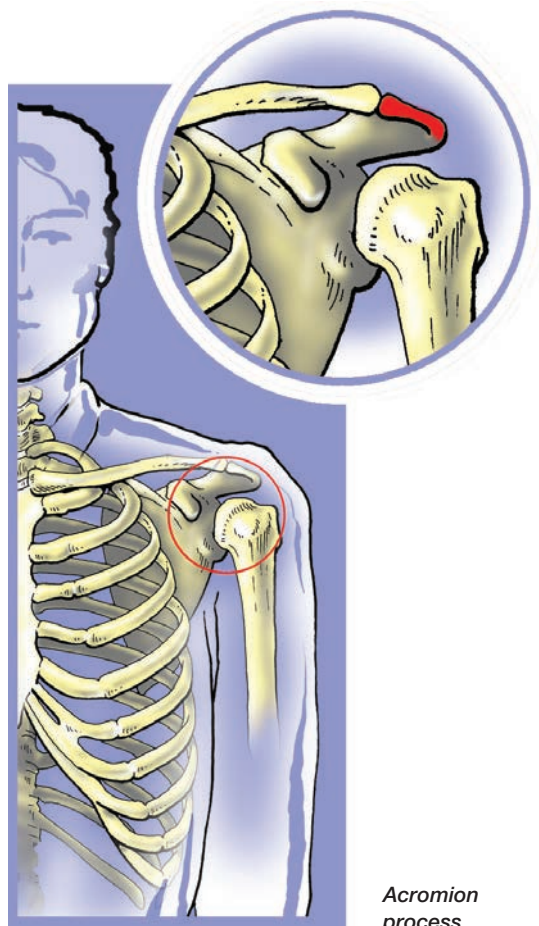
## **Anatomy you can actually touch – palpating your own body**

Now it is your turn again. How well do you know your own body so far?

Before starting to palpate, look at yourself in the mirror and ask yourself the following questions.

- What are the contours of your shoulder girdle – is it broader or narrower than the thorax?
- Are both shoulders at the same height?
- What is the shape of your collarbones?
- How long are your upper arms? How far down do they reach on the sides of your body? How long are the forearms?

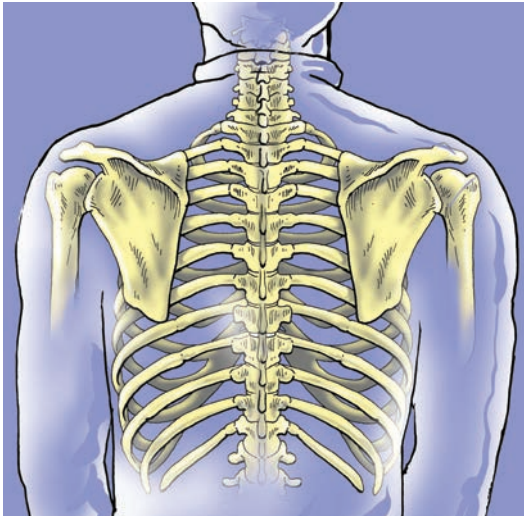
Once you have answered these questions for yourself, trace your fingers along the collarbone, starting at the hollow between the two collarbones. You can feel that the collarbone has an S-shape and that it ends in a rather broad plate. This is called the **acromion process**. Palpate the outermost edge of the acromion process. This is often a problem area when tendons are inflamed or blocked.



*Acromion process*



## BALANCE IN MOVEMENT



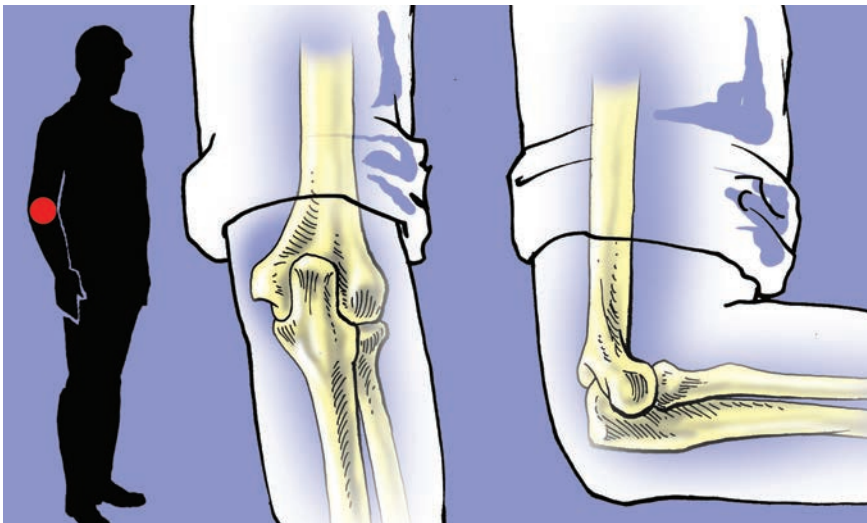
*Shoulder blades from behind*

At the **elbow** you can easily palpate the two lateral corners and the tip in between. Between the inner corner and the tip of the elbow you can feel a small groove. It is often very sensitive; an important nerve runs from there all the way to the hand. This is the so-called 'funny bone'; when you bump it, you can feel a tingling sensation extending right into your little finger.

When you palpate the tip of the elbow and then flex and extend the elbow you can feel how this tip disappears during extension, like clicking into place. In the extended position the elbow joint is arrested and has no more springing ability. You can easily imagine the effect of such an arrested elbow on the mouth of a horse. Independent elastic action is no longer possible.

Proceeding from the acromion process you can palpate the **ridges of the shoulder blades** further back. Of course it is harder to palpate oneself in the rear. Either find an assistant to palpate you, or contort yourself to feel the characteristic triangular shape of the shoulder blades.

If you have an 'assistant' available, you can stand behind him and note the distance of the lower tips of the shoulder blades to the spine. Often some asymmetry can be found there – one shoulder is carried farther forward than the other.



*Elbow from behind  
and from the side*



*The hand – a sensitive work of art created by nature*

The lateral boundaries can be easily palpated on the **wrist**. Now, palpate about a further finger's width in the direction of the hand, this is where the numerous small bones are to be found. Feel those bones from above and below and try to push them up or down, or move your wrist, and then you can feel their small movements under your fingers.

## **Arm and hand position in the dressage and forward seat**

### **Dressage seat**

The shoulder girdle should rest on top of the thoracic cavity. Then the upper arms can hang freely in a supple way alongside the upper body. The elbows are slightly angled, the lower arms are carried. The **hands** are held upright about one hand above the withers, their height depending on the height of the horse's mouth. The line: **elbow – hand – horse's mouth**, should be perfectly straight when viewed from the side and from above, and, if at all, it may only be broken for a moment either to the outside or upwards.

The reins should be held with the wrists in a straight position and with closed fingers, without clenching the wrist tightly. The thumb is positioned over the end of the rein, in a roof-shape.

*Constant gentle contact is a feature of a good rider's hand*



### **Maxim**

*The hand is a very sensitive work of art created by nature. How wonderful it would be if every rider could apply it as such when riding!*