

The Balance of the Head

please refer to the accompanying colour plate

The **primary directions** are those which aim to optimise the coordination of the central core of your structure – the head, neck and back. Paramount in this coordination is the correct balance of the head, the key to well organised movement and awareness. Good head balance is maintained through the first two primary directions:

- 1 **let the neck be free,**
in order that
- 2 **the head can go forward and up.**

The head is balanced on top of the spine on the atlanto-occipital joint¹ (AOJ). If you feel behind the lobes of your ears you will find the bony bumps of the mastoid processes, and you will be able to locate the axis of the small nodding movement available at the AOJ.

Clearly there is more of the head in front of the AOJ than behind it (the centre of gravity of the head is shown on the drawing) and it is this imbalance which causes the head to “nod off” if we fall asleep in a sitting position.

In order to keep the head upright in normal activity, the muscles of the back of the neck need to be active. However, if this muscular activity is excessive, as it is in most people, the head is not merely prevented from falling forwards, but is actively pulled back and down in a startle-like movement.

In a well coordinated person there is no hint of this jamming of the head back and down onto the spine, but rather the neck muscles release in order that the weight of the head (on the verge of falling forward) exerts an upward stretch through the muscles of the back of the neck (and in fact, throughout the length of the back): the neck is “free” (not stiffened) in order that the head can go “forward” (nodding forward under its own weight) and “up” (leading the stretch up through the neck muscles).

The nervous system monitors the balance of the head in three basic ways.

- The inner ear mechanism (labyrinths) register movement of the head relative to gravity (which way up it is), and also any acceleration or deceleration of the head.
- The eyes monitor the balance of the head relative to the visual surroundings – the horizon for example.
- The relationship of the head to the rest of the body is regulated by the muscles of the neck which position the head (through muscular contraction and release). They also provide sensory information concerning the position and movement of the head from specialised nerve endings in the muscles which “fire” if the muscle is stretched.²

If the neck muscles are excessively tense, there will be little springiness in them, and information from these stretch receptors will be lost; spatial awareness and physical skills are compromised and in the long term a feeling of disorientation may perhaps be established.

It is important to realise that the head being directed “forward and up” does *not* indicate a fixed position, nor does it preclude the utilisation of the full range of movement of the head where appropriate.

1 The bone which forms the back and base of the skull is called the *occipital bone*. The top-most vertebra (bone of the spine) is called the *atlas* after the Greek god who held up the globe. Hence *atlanto-occipital joint*.

2 These stretch receptors are present in all the skeletal muscles throughout the body. However in the *suboccipital muscles* (the web of small, deep muscles joining the top two vertebrae and the occipital bone) there is an extremely high density of these nerve endings, turning the suboccipital muscles almost into “interactive nerves”.