

BONE MARROW

(Collated by Michelle Wilkinson www.movingnaturally.co.uk)

Marrow is soft fatty tissue, either red or yellow found in the spaces within certain bones.

In adults the red marrow packs the spaces between the tiny beams of bone that forms a lattice truss known as cancellous (spongy) bone at the end (epiphysis) of long bones such as the humerus and the femur.

The red marrow contains masses of developing and mature red and white blood cells supported by an array of loose and fine fibres.

95% of blood cells are made in the bones while 5% of T&B cells are made in lymph nodes, spleen and thymus.

There are around 10 pints of blood in the body making this 8% of the body's weight. 2 million new red blood cells are made every second.

All blood cells arise from the same basic stem cells called hemocytoblasts (blood cell sprouts) and then they follow different developmental pathways to form different red and white blood cells.

Blood cells are not only made at the end of long bones, like the collar bones and ribs, but are found in flat bones such as the cranium, scapulae and sternum. The spinal vertebrae can also make blood cells.

In childhood, blood cell production also occurs not only in the bone ends but within the central shaft as well.

This central bone shaft is called the diaphysis and it serves to lighten bone weight and provide space for bone marrow. It also contains the nutrient artery.

After childhood, blood cell production largely ceases in the marrow of this shaft and these cells are replaced by yellow fat and thus referred to as yellow marrow.

Yellow marrow, when necessary, can convert into red marrow for blood cell production.

In Body-Mind Centring the bone marrow the deepest layer of the bone is regarded as the molten core or internal river. It has been described as the juice of life.

Connection with the bone marrow may be a deeply relaxing or dream-like experience giving a sense of flow without boundary or structure.

Focus to the bone marrow layer can support osteoarthritis and osteoporosis by encouraging a more fluid and resilient quality in the bone.

In Traditional Chinese Medicine (TCM) marrow is not only the red and yellow marrow found within the bones but refers to the Central Nervous System (CNS) of the brain and spinal cord and called the 'Sea of Marrow'.

The bone marrow nourishes bones and blood whereas the 'Sea of Marrow' supports the human thought processes, awareness and alertness. Therefore, slow reactions, poor coordination, dizziness or being prone to slips and falls may be due to sufficient marrow.