SMALL INTESTINE

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

The small intestine is possibly the most important part of the entire digestive system beginning after the pyloric end of the stomach and finishing at the cecum of the large intestine.

This organ is an intricately folded tube measuring around 4.75 metres (15.10 ft) in length and 2.5cm (1 inch) across.

Partially digested food (chyme) enters the small intestine from the stomach and is squeezed through its many twists and turns until the useful ingredients have been removed to leave a watery waste.

The small intestine consists of three sections the duodenum, the jejunum and the ileum.

The duodenum is the most fixed section and the shortest section at 25cm (10inches). It is C-shaped and located below the liver on the right-hand side and receives the head of the pancreas in its concavity.

The liver and the pancreas share an opening into the duodenum whereby they secrete their digestive juices. Bile from the liver turns fats into small droplets to aid digestion while pancreatic juice contains alkali that neutralises stomach acid, as well as enzymes that digest carbohydrates, fats, proteins and nucleic acids.

The second section the jejunum extends from the duodenum and is 1.8m (6ft) in length. It continues the digestive breakdown by secreting large amounts of digestive enzymes.

The third and final section of the small intestine, the ileum, is 2.7m (9ft) long. It is mainly concerned with absorbing nutrients into the bloodstream and passing waste matter into the large intestine.

All the sections of the small intestine push chyme along by peristalsis and contract into short segments to ensure this partially digestive food is mixed up.

The lining of the small intestine has a huge surface area created of tightly packed microscopic projections called villi. The cells lining the villi have even smaller projections called microvilli which form 'brush borders' which

contain attached enzymes to continue the last stages of digestion prior to absorption.

The villi contain blood capillaries and lacteals (minute branches of the lymphatic system) which collect the nutrients. The absorbed nutrients are then circulated around the body in via the bloodstream.

In various sites around the small intestine there are nodules of lymphatic tissue creating a centre for the development of antibodies which can act against the invasion of certain microorganisms.

In Traditional Chinese Medicine (TCM) the small intestine is seen as receiving food and drink from the stomach and separating them into what is pure and what is impure. The pure as nutrients nourish the bodily tissues and as such the external world is taken in and becomes an individual's flesh and blood. Meanwhile, if discrimination and assimilation is functioning well the impure waste products are transported for excretion.

In TCM at a psychological level, the small intestine acts as a gatekeeper filtering out what is harmful and keeping what is nutritious. This refers not only to food and drink but to the life choices an individual makes regarding their home, occupation, relationships and spiritual pathway.

TCM connects closely the small intestine and the heart. Because of its discrimination and assimilation capacity, the small intestine protects the heart by making healthy life choices. In the event of an accident or trauma of some kind, the small intestine refuses to absorb unacceptable information. Shock can remain in the body many years after the situation which caused it.

The small intestine is regarded to have a brain-like capacity providing intelligence and insights. Decisions may be made through what is regarded as a 'gut instinct'.

The Small Intestine Meridian commences at the outside corner of the little fingernail, travels along the outside of the hand and forearm through the elbow, the back of the upper arm and then zigzags across the shoulder blade. It then journeys up the back side edge of the neck and into the face ending in front of the ear where the jaw hinges. Due to the location of the meridian, it is important in the support of shoulder pain, a stiff neck and ear problems such as deafness, infections and tinnitus.