Movement of Stomach :

The movement of stomach is started by x-ray after Barium meal taken. There are two stages of the movement of stomach. In empty stage, some movements are seen and some events are occured after reaching the meal to the stomach.

In empty stage or fasting condition, three types of movement are seen.

i) Type-I contraction or tonus rhythm – This type of contraction is seen at the empty stomach and which occurs 3/min.

ii) Type-II contraction or hunger contraction – A series of strong contraction occurs in the whole stomach is called hunger contraction. This type of contraction is last for 30 s. The hunger sensation is occured by this contraction so it is called hunger contraction.

iii) Type-III contraction or incomplete titanus – This type of contraction is usually observed at the end of gastric motor activity.

After taking the meal some basic functions are occurs. These are –

a) storage
b) mixing
c) empting

a) when food entires the stomach the fundus is enlarged and more food can be taken by the repeatetive relaxation of the stomach. Mixing is the process by which the food is mixed with enzyme and gastric acid which is called chyme. When the chyme is broken down into smaller pieces it passes into small intestine by pyloric sphinter.

The movement of stomach are described below. There are different types of movements are seen in the stomach. These are - i) Receptive relaxation
ii) Peristalsis
iii) Rectropultion
iv) Gastric empty

Receptive relaxation -

When the food is passed into the stomach, the contractile activity of the fundus is inhibited which helps the stomach to receive 1 to 2 lit of f Receptive relaxation may be initiated by the swallowing the food into the stomach. The str recepter of the stomach detects the presence food and stimulate the ~~vagal~~ vagovagal refle This type of movements are controled by intri nervous system.

Peristolsis ~~relaxation~~ -

Peristolsis is the contraction initiated at the fundus-cardia border. This contraction produce wave by which foods are propes towards the (Alimin) Pyloxus.

Basic mechanism of Peristolsis ⇒

This type of contraction is produced by a periodic change in the membrane potential cal slow waves or basic electrical rhythms (BER). This rhythm is occured as a rate of 3 to 4 /m with a duration of 5 to 7 s. The pacemakers -in the muscle of the stomach is the origin of waves. Due to inflow of Na^+ and Ca^{++} into the is the cause of muscular activity. BER is m -nic in nature. The intensity of BER is dep on gastrine enzyme and the neurotransmit acetyl cholin

Rectropultion :-

This type of movement is the backward movement of chyme caused by forceful propultion of food against a close cavity. The peristoltic wave reached the pyloric sphincter before the chyme. So, the chyme is pushed by back into the body by this wave. The forward and backward movement of chyme by peristolsis and rectropultion breaks the chyme into smaller and smaller pieces and mixesitwith gastric enzyme.

Gastric empty :-

This type of movement is occurs when the chyme is small enough to feat into the pyloric sphincter. Each time the chyme is pushed against the pyloric sphincter. A small amount 227 ml may passed into the deodenum. If the particles of chyme is too Large, none of the chyme will entire the deodenum As a result, the gastric emptingwill be slow down. The gastric empting of liquid is much basten than the solids.

Movement of small intestine :—

This is the major site for the digesion & absorbtion of carbohydrate, protein and fat in total G.I. tract. The movement of small intestine can be divided into two way—

i) Mixing contraction
ii) Propulsive contraction

The Purpus of movement :

a) For the mixing of chymes with digestive enzyme.
b) To facilated to the digesion and absorbtion.
c) To propel the chyme from deodenal to chorcholon

According to types of movement and essential the movement is two types.

i) Segmentation

ii) Peristalsis

Segmentation →

A rings of contraction followed by relaxa at a regular interval is called segmentation mo -ment of small intestine. It is called segmenta because the contraction followed by relaxation if occured with in a certain segment. In du -num it is less than 2cm and sometim may be more than 2cm.

Frequency of ~~sod Bread~~ segmentation →

The frequency of segmentation is ab 12/min in duodenum and jejunum. In ileum the maximum frequency is about 8 to 9 / mi (The frequency of basic electrical rhythm is the cause of difference frequency at different zone.)

Cause of segmentation —

Segmentation is myogenic in nature a independ ~~of~~ ~~the~~ nerve. The properties of smoo muscle is important for this type of move The rhythmicity of smooth muscle is respo for segmentation contraction.

Peristalsis →

Peristalsis is a propelsive movement o intestine by which chyme is propeled through s intestine. It is a composit wave consisting relaxation followed by contraction. & The velocity of this movement is about ·5 to 2 c (According to law of intestine, if a s is applied then contraction occures abov point and relaxation occures below the

According to the mode of action of peristalsis it can be subdivided into three types.

i) Ist type of contraction is a slow wave moving at a rate of 1-2 cm/sec. and disappear after a short distance.

ii) IInd type of movement is a quick one at a rate of 10 cm/sec. For its rapped speed it is also called rush peristalsis.

iii) IIIrd type is antiperistalsis, same as peristalsis except the direction. It is present 2nd and 3rd part of duodenum.

Cause of Peristalsis –

Migrating Motor Complex (MMC) is responsible for this type of movement. It occures every 60-90 min. Peristalsis depends on both nerve and chemical factor. Autonomic nerves has influence on peristalsis.

Parasympathatic nerve increase the movement and sympathatic nerve ~~increase the movem~~ can inhibite it. Local nerve plexus has also influence for this type of movement.