Ruminants are unique, in that they have 4 stomachs, which is well adapted for their high fiber diet (See anatomy). These compartments and their function are as follows:

1. Rumen – This is the 1st compartment and the largest of the ruminants 4 stomachs (ie it can hold up to 140L of ingesta!). Here bacterial fermentation and digestion of fiber (cellulose & hemicelluloses) occur 🡪 protein + VFA + Vit B!
2. Reticulum – This is the 2nd compartment! The function of this compartment is to ‘trap’ large food particles, which are then regurgitated, re-chewed and re-swallowed.
3. Omasum – The 3rd compartment! The omasum acts like a ‘filter’ in that it absorbs water from the food so as to minimize water loss into the rest of the digestive tract.
4. Abomasum – the final compartment, and is known as the ‘true stomach’. This compartment has a low pH and enzymes responsible for digestion of proteins. Microbial protein + indigestible intake protein from feed is broken down to AA 🡪 absorbed in SI.

Assessing rumen function is important to ensure the health of these animals. This can be done by:

1. distance exam – (See anatomy)
2. Physical exam – this involves listening to the sound on the 4 quadrants (left dorsal & ventral quadrants and right dorsal & ventral quadrants), as well as taking note of the rumen contractions (NORMAL = 1-2 per minute)

**There are 2 types of contractions:**

1. Primary contractions, which aids in mixing of ingesta
2. Secondary contractions, which aids in eructation

On distance exam, abnormal size and shape of the abdomen can be identified. Some of the shapes seen are:

1. Apple (on left abdomen) = ruminal distension usually seen dorsally most often due to bloat
2. Pear = ventral abdominal or uterine fluid build up e.g hydrops
3. Papple = Vagal indigestion
4. Round (Basketball) = paralytic Ileus; hydrops

\*See also Anatomy\*

**4**

**3**

**21**

**1**







