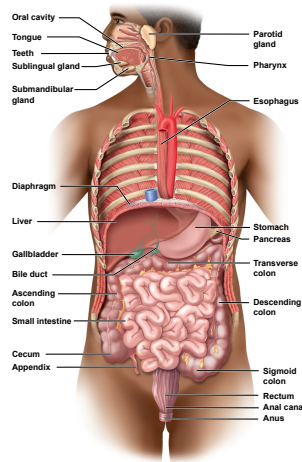


Fig. 25.1

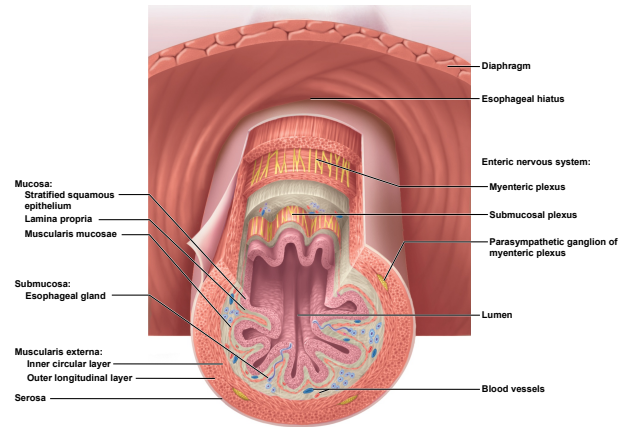
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1

Fig. 25.2

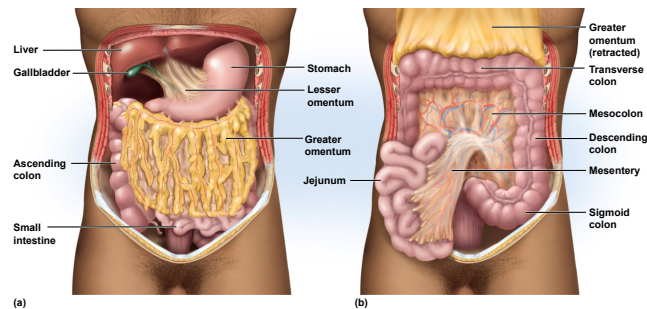
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2

Fig. 25.3

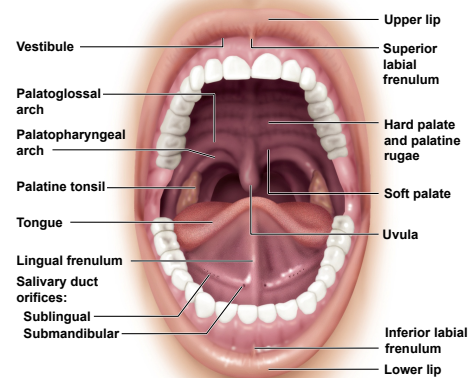
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3

Fig. 25.4

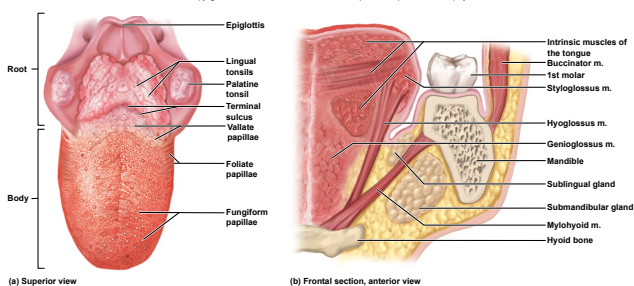
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Fig. 25.5

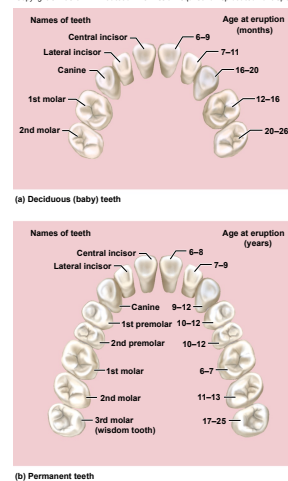
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Fig. 25.6

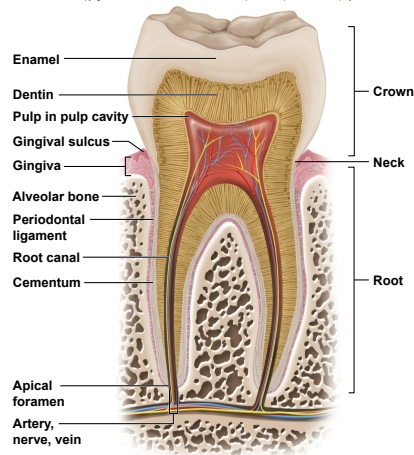
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Fig. 25.7

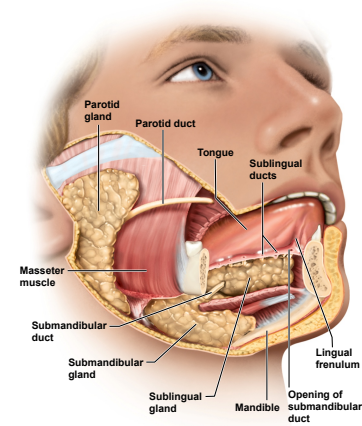
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Fig. 25.9

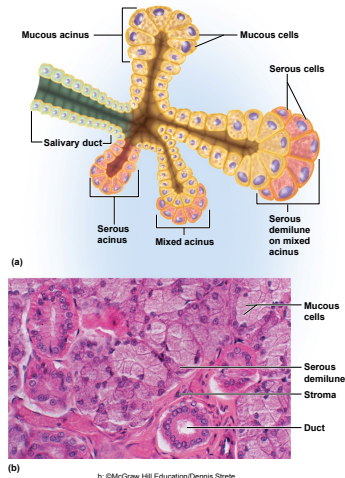
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Fig. 25.10

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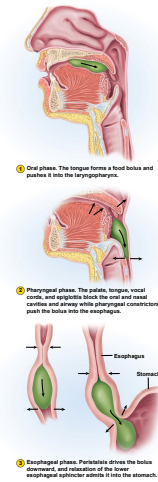


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g

Fig. 25.11

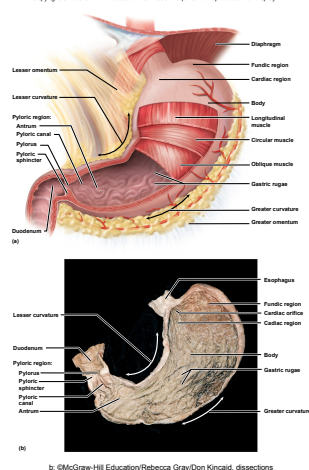
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Fig. 25.12

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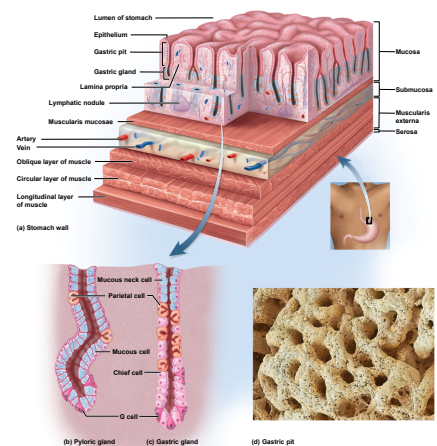


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Fig. 25.13

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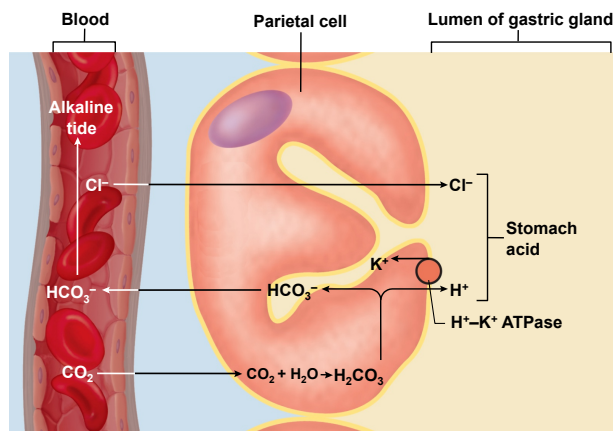


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Fig. 25.14

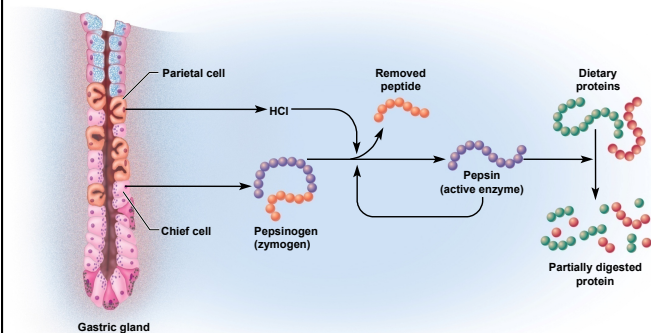
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Fig. 25.15

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Table 25.1

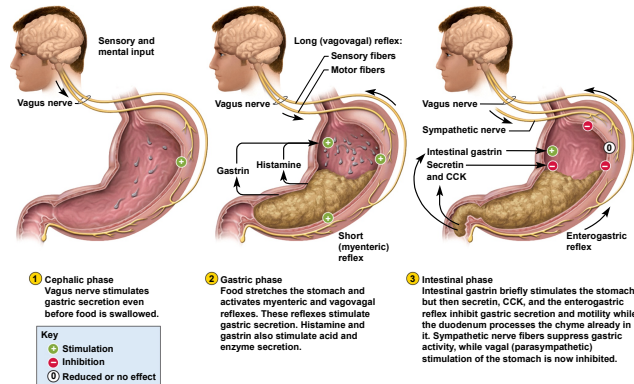
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Major Secretions of the Gastric Glands		
Secretory Cells	Secretion	Function
Mucous neck cells	Mucus	Protects mucosa from HCl and enzymes
Parietal cells	Hydrochloric acid	Activates pepsin and lingual lipase; helps liquefy food; reduces dietary iron to usable form (Fe^{2+}); destroys ingested pathogens
Chief cells	Intrinsic factor	Enables small intestine to absorb vitamin B_{12}
	Pepsinogen	Converted to pepsin, which digests protein
	Gastric lipase	Digests fat
Enteroendocrine cells	Gastrin	Stimulates gastric glands to secrete HCl and enzymes; stimulates intestinal motility; relaxes ileocecal valve
	Serotonin	Stimulates gastric motility
	Histamine	Stimulates HCl secretion
	Somatostatin	Inhibits gastric secretion and motility; delays emptying of stomach; inhibits secretion by pancreas; inhibits gallbladder contraction and bile secretion; reduces blood circulation and nutrient absorption in small intestine
	Gut-brain peptides	Various roles in short- and long-term appetite regulation and energy balance

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Fig. 25.17

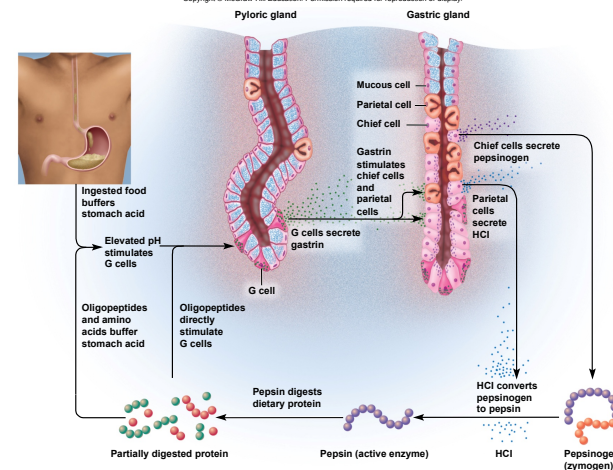
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Fig. 25.18

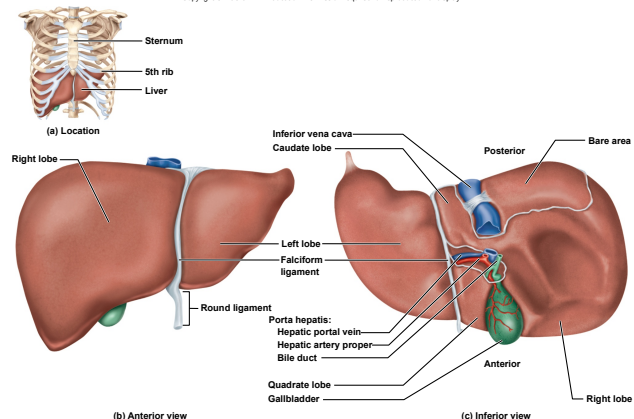
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Fig. 25.19

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Fig. 25.20

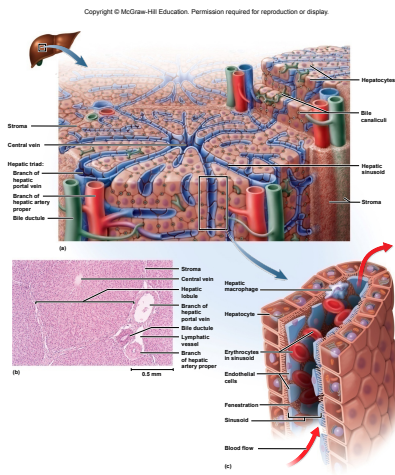


Fig. 25.21

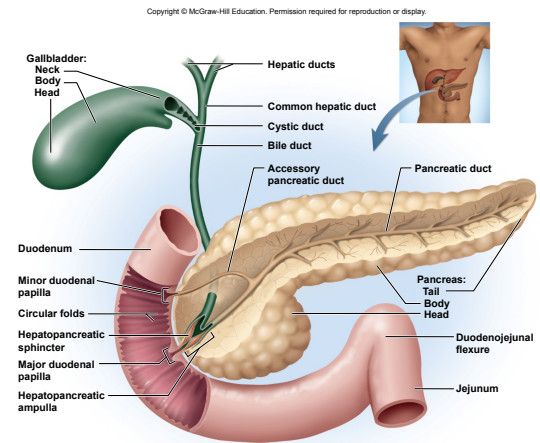


Fig. 25.22

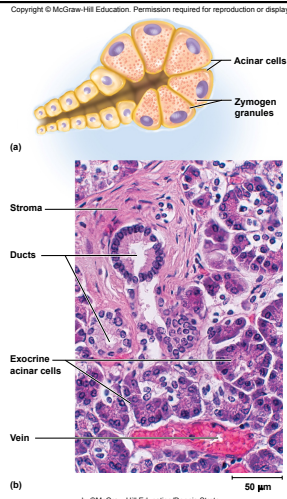


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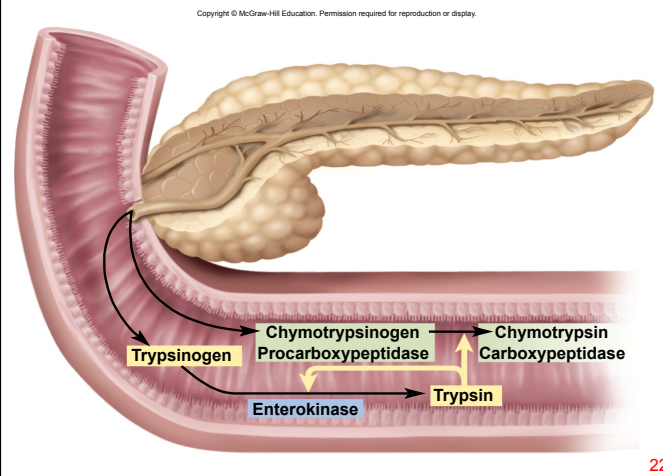


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TABLE 25.2	Exocrine Secretions of the Pancreas
Secretion	Function
<i>Sodium bicarbonate</i>	Neutralizes HCl
<i>Zymogens</i>	Converted to active digestive enzymes after secretion
Trypsinogen	Becomes trypsin, which digests protein
Chymotrypsinogen	Becomes chymotrypsin, which digests protein
Procarboxypeptidase	Becomes carboxypeptidase, which hydrolyzes the terminal amino acid from the carboxyl (–COOH) end of small peptides
<i>Enzymes</i>	
Pancreatic amylase	Digests starch
Pancreatic lipase	Digests fat
Ribonuclease	Digests RNA
Deoxyribonuclease	Digests DNA

Fig. 25.24

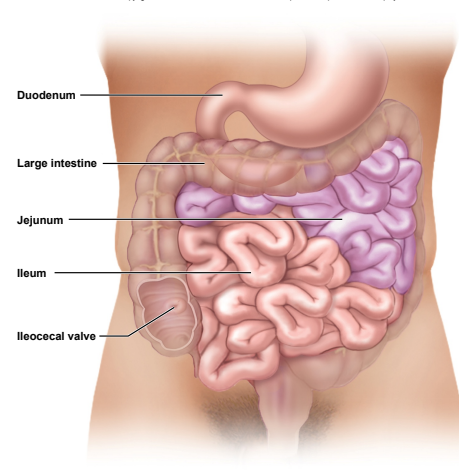
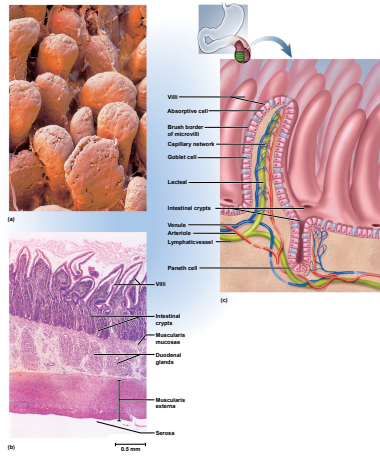


Fig. 25.25

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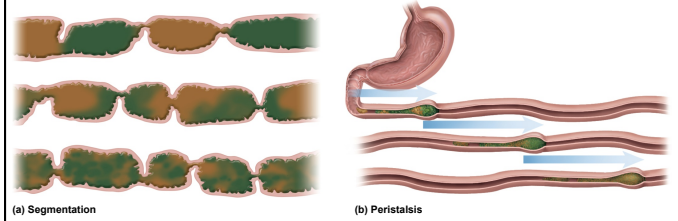


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Fig. 25.26

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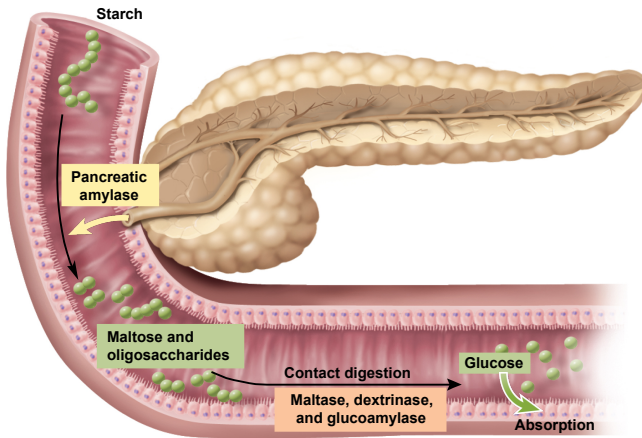
(a) Segmentation

(b) Peristalsis

26

Fig. 25.27

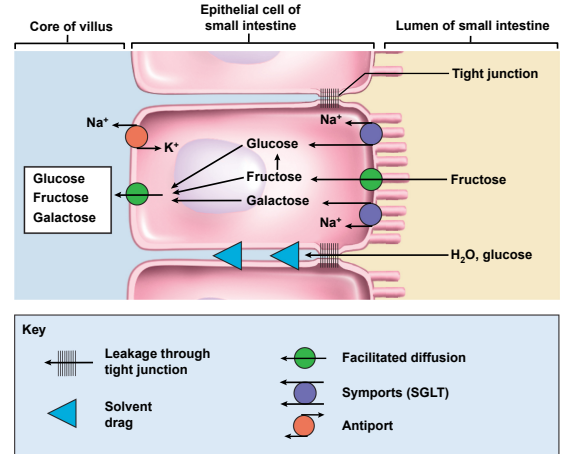
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Fig. 25.28

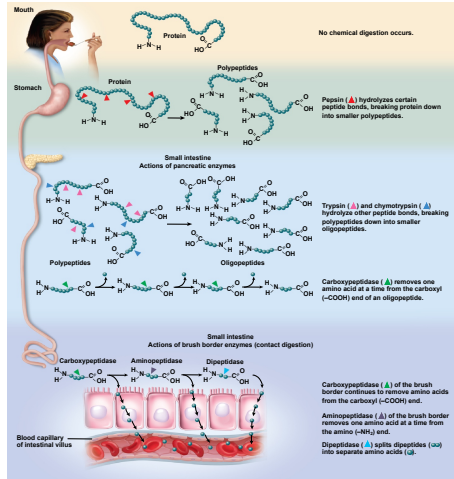
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Fig. 25.29

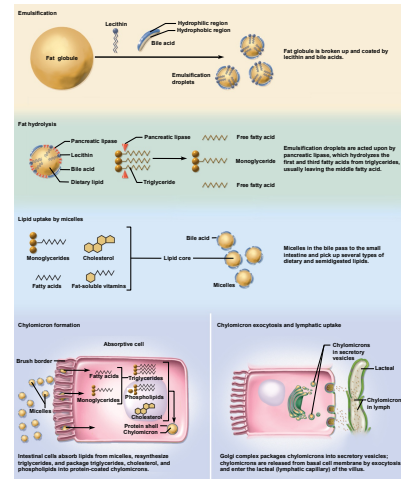
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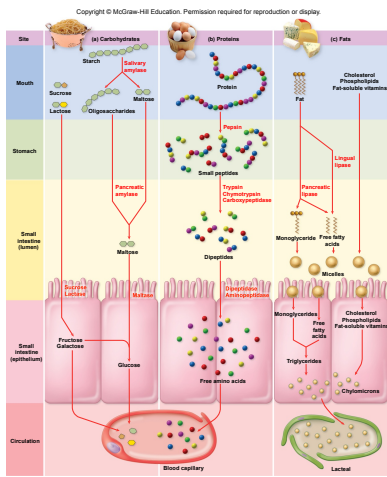
Fig. 25.30

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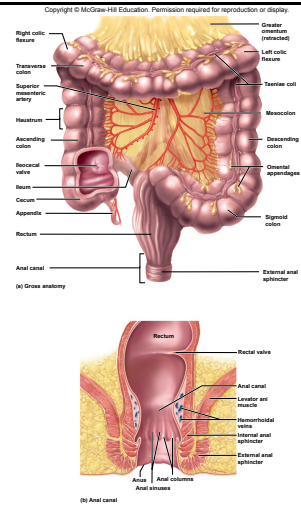
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Fig. 25.31



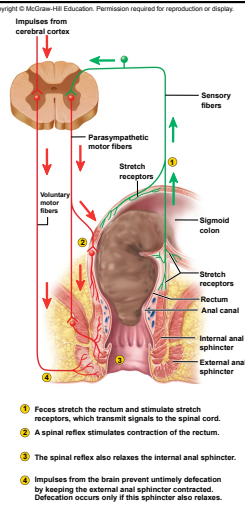
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Fig. 25.32



32

Fig. 25.33



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