

	Arterial supply		Venous drainage	Lymph drainage	Nerve supply
Esophagus	Upper third	inferior thyroid artery.	inferior thyroid veins.	deep cervical nodes.	Sympathetic: <b>sympathetic trunks</b> . Parasympathetic: the <b>vagus nerves</b> . <ul style="list-style-type: none"> <li>The <b>left</b> vagus lies <b>anterior</b> to the esophagus.</li> <li>The <b>right</b> vagus lies <b>posterior</b> to it.</li> </ul> Inferior to the roots of the lungs, the vagus nerves join the sympathetic nerves to form the <b>esophageal plexus</b> .
	The middle third	thoracic aorta.	azygos veins.	superior and inferior mediastinal nodes.	
	The lower third	left gastric artery.	left gastric vein, which is a tributary of the portal vein.	celiac lymph nodes in the abdomen.	
Stomach	<u>Celiac artery:</u> <ol style="list-style-type: none"> <li><b>Left gastric artery:</b> Ascends along the lesser curvature.</li> <li><b>Hepatic:</b> <ul style="list-style-type: none"> <li><u>Right gastric artery:</u> Runs to the left along the lesser curvature.</li> <li><u>Right gastroepiploic artery:</u> (from the gastroduodenal artery of hepatic). Passes to the left along the greater curvature.</li> </ul> </li> <li><b>Splenic:</b> <ul style="list-style-type: none"> <li><u>Short gastric arteries</u> Pass in the <b>gastrosplenic ligament</b>.</li> <li><u>Left gastroepiploic artery:</u> Pass in the <b>gastrosplenic ligament</b>.</li> </ul> </li> </ol>		<ul style="list-style-type: none"> <li>The <b>right</b> and <b>left gastric veins</b> drain <b>directly</b> in the <b>portal vein</b>.</li> <li>The <b>right gastroepiploic vein</b> drain in the <u>superior mesenteric vein</u>.</li> <li>The <b>short gastric veins</b> and the <b>left gastroepiploic vein</b> join the <u>splenic vein</u>.</li> </ul> <p><u>All of them</u> drain into the <b>portal circulation</b>.</p>	The lymph vessels follow the arteries. They <u>first</u> drain to the: <ul style="list-style-type: none"> <li><b>Left and right gastric nodes.</b></li> <li><b>Left and right gastroepiploic nodes</b> and the</li> <li><b>Short gastric nodes.</b></li> </ul> Ultimately, all the lymph from the stomach is collected at the <b>celiac nodes</b> .	<b>Sympathetic: celiac plexus.</b>  <b>Parasympathetic: from both vagi.</b> <ul style="list-style-type: none"> <li><b>Anterior vagal trunk:</b> <ul style="list-style-type: none"> <li>Formed from the <b>left</b> vagus</li> <li>Supply the <b>anterior</b> surface of the stomach</li> <li>Gives off a <b>hepatic branch</b> and from it - a <b>branch to the pylorus</b>.</li> </ul> </li> <li><b>Posterior vagal trunk:</b> <ul style="list-style-type: none"> <li>Formed from the <b>right</b> vagus</li> <li>Supply the <b>posterior</b> surface of the stomach</li> <li>Gives off a large branch to the <b>celiac and the superior mesenteric plexuses</b>.</li> </ul> </li> </ul>

Parotid gland	External Carotid Artery & its branches.		Retromandibular vein.	parotid & deep cervical lymph nodes.	<p><b><u>Sympathetic:</u></b> from superior cervical ganglion → plexus around external carotid artery.</p> <p><b><u>Parasympathetic:</u></b>  <b>inferior</b> salivary nucleus → glossopharyngeal nerve → tympanic nerve → tympanic plexus → <i>lesser petrosal</i> → <u>otic ganglion</u> → The postganglionic fibers running in auriculotemporal nerve (branch of CN 5<sup>th</sup>)</p>
	Facial artery		<b>Facial vein.</b>	<b>Submandibular lymph nodes.</b>	<p><b><u>Sympathetic:</u></b> from superior cervical ganglion plexus around external carotid artery.</p> <p><b><u>Parasympathetic secretomotor supply:</u></b>  <b>superior</b> salivary nucleus of the facial (7<sup>th</sup>) nerve → chorda tympani nerve and the lingual nerve → submandibular ganglion → Postganglionic parasympathetic fibers reach the submandibular &amp; sublingual glands either directly or along the duct.</p>
Pancreas	<b><u>Head &amp; neck:</u></b>	Supplied by branches from: <ul style="list-style-type: none"> <li>• Celiac trunk through <b>Superior pancreaticoduodenal artery</b></li> <li>• Superior mesenteric artery through <b>Inferior pancreaticoduodenal artery</b></li> </ul>	Drained by anterior and posterior venous arcades that form <b>the superior &amp; inferior pancreaticoduodenal veins</b> which follow the corresponding arteries.	<b>Pyloric, hepatic and splenic nodes</b> → Ultimately drain into <b>the celiac &amp; superior mesenteric lymph nodes.</b>	<p><b><u>Sympathetic fibers:</u></b> from the <b>thoracic splanchnic</b> nerves. (inhibitory effect)</p> <p><b><u>Parasympathetic fibers:</u></b> from the <b>vagus</b>. Parasympathetic fibers stimulate both exocrine and endocrine secretions</p>
	<b><u>Body &amp; tail:</u></b>	Supplied by <b>Splenic artery</b> through 8-10 branches	Drained by <b>splenic vein</b> , which is a tributary of portal vein		
Gallbladder	The <b>cystic artery</b> , a branch of the right hepatic artery.		The <b>cystic vein</b> drains <b>directly</b> into the <b>portal vein</b> .	<b>cystic lymph node</b> → <b>hepatic nodes</b> → <b>celiac nodes.</b>	Sympathetic and parasympathetic <b>vagal</b> fibers form the <b>celiac plexus</b> .

Peritoneum	The <b>parietal</b> : <u>sensitive to pain, temperature, touch, &amp; pressure.</u>				<ul style="list-style-type: none"> <li>• <b>lower six thoracic (lower 6 intercostal) and first lumbar nerves.</b></li> <li>• The central part of the <u>diaphragmatic peritoneum</u> is supplied by the <b>phrenic nerves.</b></li> </ul>
	The <b>visceral</b> : <u>sensitive only to stretch &amp; tearing.</u>				<ul style="list-style-type: none"> <li>• <b>Autonomic nerves that supply the viscera or traveling in the mesenteries.</b></li> </ul>
Small intestine	Duodenum (from Foregut & Midgut)	Celiac & <b>Superior mesenteric</b> arteries.	<b>Superior mesenteric &amp; Portal veins.</b>	Celiac & <b>Superior mesenteric</b> lymph nodes.	<p><b>Origin: Midgut (endoderm):</b></p> <ul style="list-style-type: none"> <li>• <b>Sympathetic</b></li> <li>• <b><u>Parasympathetic: Vagus</u></b></li> </ul>
	Jejunum (midgut)	<b>Superior mesenteric</b> artery	<b>Superior mesenteric</b> vein	<b>Superior mesenteric</b> lymph nodes	
	Duodenum (midgut)				
Large intestine	<b>Endoderm: Midgut (until proximal 2/3 of transverse colon)</b>	<b>Superior mesenteric</b> artery	The veins of the gut form the tributaries of the portal vein which enters the liver and drains into the <b>portal circulation.</b>	The lymph vessels follow the arteries.	<ul style="list-style-type: none"> <li>• <b>Sympathetic</b></li> <li>• <b><u>Parasympathetic: Vagus</u></b></li> </ul>
	<b>endoderm: Hindgut (until upper 2/3 of anal canal)</b>	Inferior mesenteric artery		Ultimately, all the lymph is collected at the <b>Pre-aortic lymph nodes</b> ( <b>Superior &amp; Inferior mesenteric</b> LN).	<ul style="list-style-type: none"> <li>• <b>Sympathetic</b></li> <li>• <b><u>Parasympathetic: pelvic splanchnic nerves</u></b></li> </ul>
	<b>ectoderm (lower 1/3 of anal canal)</b>				<ul style="list-style-type: none"> <li>• <b>Somatic supply (not autonomic) inferior rectal nerve</b> (branch of pudendal nerve of sacral plexus)</li> </ul>

The liver	<ul style="list-style-type: none"> <li>The <b>hepatic artery (30%)</b> (a branch of celiac trunk), brings <b>oxygenated blood</b> to the liver.</li> <li>The <b>portal vein (70%)</b> brings <b>venous blood</b> rich in the <b>products</b> of digestion that have been absorbed from the <b>GIT</b>.</li> </ul> <p>At or close to the porta hepatis, they terminate by dividing into <b>right and left primary branches</b> which supply the right and left <b>functional</b> parts of liver, respectively. Then <u>Within the liver</u>, the primary branches divide to give <b>secondary and tertiary</b> to supply the <b>hepatic segments</b> independently.</p>	<p>The venous blood is drained <b>by right &amp; left hepatic veins into</b> the <b>inferior vena cava</b>.</p> <p>The <b>hepatic veins</b>, are <b>intersegmental</b> in their <b>distribution and function</b>, draining parts of adjacent segments.</p> <p>*The attachment of these veins to the IVC helps hold the liver in position.</p>	<p>To several lymph nodes in the <b>porta hepatis</b> → <b>celiac nodes</b>.</p> <p>A few vessels pass from the <b>bare area</b> through the diaphragm to the <b>posterior mediastinal lymph nodes</b>.</p>	<ul style="list-style-type: none"> <li>Sympathetic from the <b>celiac plexus</b>.</li> <li>Parasympathetic nerves: The <b>anterior</b> vagal trunk gives rise to a large <b>hepatic branch</b>, which passes <b>directly</b> to the liver.</li> </ul>
The spleen	<p><b>Supplied by the Splenic artery</b> - Largest branch of the <b>celiac artery</b>.</p> <ul style="list-style-type: none"> <li>Runs a <b>tortuous course</b> along the <b>upper border of the pancreas</b> &amp; <b>Passes within the lienorenal ligament</b></li> <li>Divides into <b>4-5 terminal branches</b>, which enter the spleen <b>at the hilum</b></li> </ul> <p><b>*There is a lack of anastomosis within the spleen</b>, resulting in relatively avascular planes between the vascular segments, enabling <b>subtotal splenectomy</b>.</p>	<p><b>The splenic vein</b> Leaves the hilum and <b>runs behind the tail &amp; body</b> of the pancreas. When it reaches <b>behind the neck of pancreas</b>, it <b>joins the superior mesenteric vein to form the portal vein</b>.</p> <p><b>Tributaries:</b></p> <ul style="list-style-type: none"> <li>Short gastric vein</li> <li>left gastroepiploic vein</li> <li>Pancreatic veins</li> <li>Inferior mesenteric vein</li> </ul>	<p>Lymphatics emerge from the hilum and <b>drain into several nodes lying at the hilum</b>.</p> <p>Efferents from the hilar nodes pass along the course of splenic artery, and <b>drain into the celiac lymph nodes</b></p>	<ul style="list-style-type: none"> <li>Innervation is purely sympathetic: Derived <u>from</u> the <b>celiac plexus</b>.</li> <li>Nerve supply is distributed mainly along branches of the splenic artery, and are <b>vasomotor</b> in function.</li> </ul>

بالتوفيق للجميع .

- لولوه الصغير