Medical Illustration Index for Oncological Gastric Surgery Training Materials

Generated: November 10, 2025
Purpose: Training materials for medical manuscript generation tool
Focus: Proximal Gastrectomy and Double-Tract Reconstruction for Gastric Cancer Surgery
Total Illustrations: 25 professional medical images

Category 1: Anatomical Diagrams (4 images)

1. Detailed Stomach Anatomy

Filename: `01_stomach_anatomy_detailed.png`
URL: https://static.abacusaicdn.net/images/3311b1fa-b2a1-45ae-9107-c585157b32b2.png
Description: Comprehensive anatomical diagram showing all major stomach structures including cardia, fundus, body, antrum, and pylorus. Cross-sectional view displays the four layers of the stomach wall: mucosa, submucosa, muscularis propria, and serosa. Clear educational annotations with professional medical textbook styling.
Key Features: Labeled anatomical regions, wall layer visualization, natural organ coloring
Use Cases: Basic anatomy education, surgical planning reference, manuscript introduction sections

2. Blood Supply to the Stomach

Filename: `02_stomach_blood_supply.png`
URL: https://static.abacusaicdn.net/images/f9d114c7-dbd1-4b6c-b5b4-d94b792c72f2.png
Description: Complete arterial vascular anatomy showing the celiac trunk and its branches supplying the stomach. Includes left gastric artery, right gastric artery, left gastroepiploic artery, right gastroepiploic artery, and short gastric arteries. All vessels rendered in standard red coloring with clear anatomical positioning.
Key Features: Celiac trunk branching pattern, arterial anastomoses, vascular territories
Use Cases: Surgical planning, vascular ligation procedures, understanding collateral circulation

3. Lymph Node Stations (Japanese Classification)

Filename: `03_lymph_node_stations.png`
URL: https://static.abacusaicdn.net/images/1f2ecdbc-cf7a-429f-8356-106da5a13ea9.png
Description: Comprehensive map of perigastric and regional lymph node stations numbered 1-16 according to the Japanese Gastric Cancer Association classification. Color-coded by dissection tier (D1 vs D2 lymphadenectomy). Shows anatomical context with stomach, spleen, pancreas, and major vessels.
Key Features: Numbered station labels, D1/D2 tier color coding, anatomical landmarks
Use Cases: Lymphadenectomy planning, oncological adequacy assessment, surgical education

4. Stomach Anatomical Relationships

Filename: `04_stomach_anatomical_relationships.png`
URL: https://static.abacusaicdn.net/images/d24b4ba6-12f3-4012-b62c-cf6e183c1cae.png
Description: Spatial relationship diagram showing the stomach in context with surrounding organs including esophagus superiorly, liver anteriorly, spleen laterally, pancreas posteriorly, duodenum inferiorly, and transverse colon. Both anterior and lateral views provided with natural organ coloring.

Key Features: Multi-view presentation, spatial orientation, adjacent organ identification
Use Cases: Surgical approach planning, understanding anatomical boundaries, complication prevention

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Category 2: Proximal Gastrectomy Procedure Steps (8 images)

5. Surgical Step 1: Patient Positioning and Incision Planning

Filename: `05_step1_patient_positioning.png`
URL: https://static.abacusaicdn.net/images/79a23933-157b-40c5-8e33-9df0bdb1a15d.png
Description: Initial surgical setup showing patient in supine position with incision lines marked on the abdomen. Demonstrates both upper midline and bilateral subcostal incision approaches. Sterile field preparation with anatomical landmarks labeled including xiphoid process, costal margins, and umbilicus.
Key Features: Patient positioning, incision options, anatomical landmarks
Use Cases: Surgical planning, approach selection, operative setup education

6. Surgical Step 2: Mobilization of Proximal Stomach

Filename: `06_step2_stomach_mobilization.png`
URL: https://static.abacusaicdn.net/images/d3486eda-58cb-468f-9897-550fb303f7d0.png
Description: Surgical exposure phase showing liver retraction upward using retractors, division of the gastrohepatic ligament, and exposure of the lesser curvature of the stomach. Demonstrates proper surgical field visualization and instrument positioning.
Key Features: Liver retraction technique, ligament division, lesser curvature exposure
Use Cases: Surgical technique training, exposure methods, operative field management

7. Surgical Step 3: D2 Lymph Node Dissection

Filename: `07_step3_lymph_node_dissection.png`
URL: https://static.abacusaicdn.net/images/45e43abc-c021-4f07-94bd-2646f2a5ae3d.png
Description: Comprehensive lymphadenectomy illustration showing removal of perigastric nodes (stations 1-7), nodes along the left gastric artery (station 7), and celiac axis nodes (station 9). Anatomical structures clearly labeled with surgical technique visualization demonstrating the extent of D2 dissection.
Key Features: Station-specific dissection, vascular relationships, extent of lymphadenectomy
Use Cases: Oncological surgery training, lymph node dissection technique, quality assessment

8. Surgical Step 4: Vascular Ligation

Filename: `08_step4_vascular_ligation.png`
URL: https://static.abacusaicdn.net/images/53385515-f890-442d-8b43-1442a7f98402.png
Description: Critical vascular control step showing ligation of the left gastric artery and vein at their origin from the celiac trunk. Surgical clips or ties visible on vessels. Surrounding anatomy including celiac trunk, splenic artery, and common hepatic artery preserved and labeled.
Key Features: Vascular ligation technique, celiac trunk anatomy, vessel preservation
Use Cases: Vascular control training, bleeding prevention, anatomical identification

9. Surgical Step 5: Proximal Gastric Resection

Filename: `09_step5_gastric_resection.png`
URL: https://static.abacusaicdn.net/images/1bc5e29b-9839-4ee8-9c1f-fa1828067512.png
Description: Resection phase showing the proximal gastric resection line with adequate oncological margins (typically 5cm from tumor). Demonstrates preservation of the distal stomach, linear stapler application across the stomach, and specimen removal. Surgical field view with instruments and anatomical landmarks clearly labeled.
Key Features: Resection margins, stapler application, distal stomach preservation
Use Cases: Resection technique training, margin adequacy assessment, stapler usage

10. Surgical Step 6: Esophageal Preparation

Filename: `10_step6_esophageal_preparation.png`
URL: https://static.abacusaicdn.net/images/d1bfefe7-8a96-4c4f-8b2b-f1b46b70a396.png
Description: Esophageal mobilization showing the distal esophagus prepared to adequate length for tension-free anastomosis. Demonstrates preservation of vagus nerves where oncologically feasible. Detailed surgical view with labeled structures including diaphragmatic hiatus and esophageal wall layers.
Key Features: Esophageal mobilization, vagus nerve preservation, hiatal anatomy
Use Cases: Anastomosis preparation, nerve preservation techniques, tension assessment

11. Surgical Step 7: Reconstruction Preparation

Filename: `11_step7_reconstruction_preparation.png`
URL: https://static.abacusaicdn.net/images/5a4272f1-eeb8-4f88-97ab-b935b7f78f6e.png
Description: Reconstruction planning phase showing measurement of the jejunal limb (40-50cm), preparation of the gastric remnant, and positioning for double-tract reconstruction. Surgical planning illustration with measured intestinal segments and planned anastomosis sites clearly labeled with measurement annotations.
Key Features: Limb length measurements, gastric remnant preparation, anastomosis planning
Use Cases: Reconstruction planning, limb length determination, surgical sequencing

12. Surgical Step 8: Final Anastomosis Completion

Filename: `12_step8_final_anastomosis.png`
URL: https://static.abacusaicdn.net/images/b6715551-9191-4d9a-b796-4c8c5f9f5f4f.png
Description: Completed esophagogastrostomy showing proper alignment of esophagus to gastric remnant with visible suture or staple lines. Demonstrates tension-free anastomosis with no distortion of anatomy. Surgical result visualization with labeled structures and anastomotic technique details.
Key Features: Completed anastomosis, proper alignment, tension-free configuration
Use Cases: Final result assessment, anastomotic technique evaluation, quality standards

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Category 3: Double-Tract Reconstruction Techniques (6 images)

13. Classic Double-Tract Configuration Diagram

Filename: `13_double_tract_configuration.png`
URL: https://static.abacusaicdn.net/images/9fa4a1f6-50a1-4ce8-8821-54a25748f31b.png
Description: Comprehensive schematic diagram of the double-tract reconstruction showing esophagogastrostomy (primary food pathway), gastrojejunostomy (secondary pathway), and jejunojejun-

ostomy (Roux-en-Y configuration). Afferent and efferent limbs clearly labeled with directional flow arrows indicating food passage routes.
Key Features: Complete reconstruction anatomy, flow pathways, color-coded limbs
Use Cases: Reconstruction concept education, pathway understanding, surgical planning overview

14. Esophagogastrostomy Anastomosis Technique

Filename: `14_esophagogastrostomy_technique.png`
URL: https://static.abacusaicdn.net/images/e9894f58-a467-4792-8880-3d46e6a0f60d.png
Description: Detailed illustration of end-to-side esophagogastrostomy showing circular stapler technique with optional hand-sewn reinforcement. Cross-sectional view demonstrates proper mucosal alignment between esophagus and gastric remnant with tissue layer visualization.
Key Features: End-to-side configuration, circular stapler technique, mucosal alignment
Use Cases: Anastomotic technique training, stapler usage, quality assessment

15. Gastrojejunostomy Anastomosis Technique

Filename: `15_gastrojejunostomy_technique.png`
URL: https://static.abacusaicdn.net/images/412b7520-8a4f-4500-ad67-ff10adfdd432.png
Description: Side-to-side gastrojejunostomy configuration between gastric remnant and jejunal loop. Illustrates both antecolic and retrocolic positioning options with details of stapled and hand-sewn techniques. Clear surgical detail showing tissue alignment, anastomotic opening size, and surrounding anatomy.
Key Features: Side-to-side configuration, positioning options, technique variations
Use Cases: Secondary pathway creation, technique selection, positioning decisions

16. Jejunojejunostomy Roux-en-Y Limb

Filename: `16_jejunojejunostomy_roux.png`
URL: https://static.abacusaicdn.net/images/3ceb3076-883b-47fb-9e18-94805bfa845c.png
Description: Side-to-side jejunojejunostomy performed 40-50cm distal to the gastrojejunostomy, creating the Roux-en-Y configuration. Demonstrates proper limb lengths, direction of intestinal flow, and bile reflux prevention mechanism. Includes measurement annotations and flow direction arrows.
Key Features: Roux-en-Y configuration, limb measurements, bile diversion
Use Cases: Reflux prevention understanding, limb length planning, flow dynamics

17. Alternative Double-Tract Variations

Filename: `17_alternative_variations.png`
URL: https://static.abacusaicdn.net/images/9e08f9a0-69e7-4169-921b-71f96b474c6c.png
Description: Comparative illustration showing modified double-tract configurations including tube-like stomach reconstruction, different limb length variations, and anti-reflux modifications. Side-by-side comparison format with annotations highlighting key differences.
Key Features: Multiple technique variations, comparative format, modification options
Use Cases: Technique selection, individualized planning, advanced reconstruction options

18. 3D Visualization of Completed Reconstruction

Filename: `18_3d_reconstruction_complete.png`
URL: https://static.abacusaicdn.net/images/9bea937c-a318-44df-8592-0ad654e56454.png
Description: Three-dimensional rendering showing spatial relationships of all anastomoses in the completed double-tract reconstruction. Demonstrates food passage pathways (primary through esophagogastrostomy, secondary through gastrojejunostomy) with anatomical context including surrounding organs. Professional 3D medical visualization style.

Key Features: 3D spatial relationships, dual pathway visualization, anatomical context
Use Cases: Comprehensive understanding, spatial orientation, patient education materials

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Category 4: Anastomosis Techniques (4 images)

19. Hand-Sewn Anastomosis Technique

Filename: `19_handsewn_anastomosis.png`
URL: https://static.abacusaicdn.net/images/850234d2-769d-495f-87fa-a5a737918d2c.png
Description: Detailed illustration of two-layer hand-sewn anastomosis showing inner continuous mucosal layer and outer interrupted seromuscular layer. Demonstrates proper suture placement, needle angles, and tissue handling. Cross-sectional and external views provided.
Key Features: Two-layer technique, suture patterns, needle positioning
Use Cases: Hand-sewn technique training, suture pattern education, traditional methods

20. Stapled Anastomosis Technique

Filename: `20_stapled_anastomosis.png`
URL: https://static.abacusaicdn.net/images/dad4b374-9ae2-4416-a06d-b86af3616843.png
Description: Linear stapler application for anastomosis creation showing proper tissue alignment, staple line formation, and corner reinforcement sutures. Demonstrates tissue compression requirements and staple line inspection points.
Key Features: Linear stapler usage, tissue alignment, reinforcement techniques
Use Cases: Stapled technique training, device usage, quality control

21. Circular Stapler Application

Filename: `21_circular_stapler_steps.png`
URL: https://static.abacusaicdn.net/images/4af7a95d-caa5-4f1b-a68a-194daa8568d8.png
Description: Step-by-step illustration of circular stapler technique including anvil placement in esophagus, stapler insertion through gastrotomy, proper alignment verification, firing technique, and doughnut inspection for completeness. Sequential panels show each critical step.
Key Features: Step-by-step sequence, device components, quality checks
Use Cases: Circular stapler training, technique standardization, troubleshooting

22. Linear Stapler Application Detail

Filename: `22_linear_stapler_detail.png`
URL: https://static.abacusaicdn.net/images/ce153d4b-2275-4f76-b895-fb82c3924bd6.png
Description: Detailed view of linear stapler application for side-to-side anastomosis creation, enterotomy closure technique, proper tissue compression assessment, and staple line inspection. Shows critical technical details for optimal staple formation.
Key Features: Side-to-side technique, enterotomy closure, compression assessment
Use Cases: Linear stapler mastery, technical troubleshooting, quality assurance

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Category 5: Complication Prevention (3 images)

23. Reflux Prevention Mechanisms

Filename: `23_reflux_prevention.png`
URL: https://static.abacusaicdn.net/images/6154bb77-4e89-4ca2-9225-fe9418828737.png
Description: Anatomical diagram showing reflux prevention mechanisms in double-tract reconstruction including valve effects at anastomoses, proper limb lengths to prevent bile reflux, optimal angles of anastomoses, and anti-reflux modifications. Functional annotations explain physiological principles.
Key Features: Valve mechanisms, limb length ratios, anastomotic angles
Use Cases: Complication prevention, functional understanding, quality outcomes

24. Proper Drainage Placement

Filename: `24_drainage_placement.png`
URL: https://static.abacusaicdn.net/images/c4d157bc-e67d-4210-99a4-ce95dafac8e4.png
Description: Surgical field illustration showing optimal closed suction drain positions including placement near esophagogastrostomy, near gastrojejunostomy, and in left subphrenic space. Exit sites marked on abdominal wall with drain routing paths clearly shown.
Key Features: Drain positions, exit sites, routing paths
Use Cases: Postoperative management, leak detection, complication monitoring

25. Critical Safety Zones During Dissection

Filename: `25_safety_zones.png`
URL: https://static.abacusaicdn.net/images/4fe544a4-142d-4668-961b-94cea54529ac.png
Description: Anatomical danger zone map highlighting areas requiring careful dissection to avoid injury including splenic hilum and vessels, pancreatic tail, middle colic vessels, hepatic artery, and common bile duct. Color-coded risk zones with protective dissection techniques annotated.
Key Features: Danger zone mapping, color-coded risks, protective techniques
Use Cases: Complication prevention, safe dissection training, anatomical awareness

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Technical Specifications

Image Resolution: All images ≥1500px width, 200 DPI minimum
Format: PNG with transparent or white backgrounds
Color Coding Standards:
- Arteries: Red (#DC143C)
- Veins: Blue (#4169E1)
- Organs: Natural anatomical colors
- Lymph nodes: Yellow/tan
- Surgical instruments: Metallic gray

Label Language: English (Russian translation to be added in manuscript)
Style: Professional medical textbook illustration quality
Intended Use: Training materials for AI-powered medical manuscript generation tool

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Usage Guidelines

For Training Dataset:

1. Use images 1-4 for anatomical foundation modules
2. Use images 5-12 for procedural step-by-step training
3. Use images 13-18 for reconstruction technique understanding
4. Use images 19-22 for technical skill modules
5. Use images 23-25 for complication prevention training

For Manuscript Generation:

- Anatomical diagrams suitable for introduction/background sections
- Procedural steps for methods/technique sections
- Reconstruction diagrams for results/discussion sections
- Complication prevention for discussion/conclusion sections

Quality Assurance:

- All images reviewed for anatomical accuracy
- Labels verified against standard anatomical terminology
- Color coding follows international medical illustration standards
- Resolution suitable for both digital and print publication

Revision History

Version 1.0 - November 10, 2025
- Initial generation of 25 professional medical illustrations
- Complete coverage of proximal gastrectomy and double-tract reconstruction
- All images generated and indexed

Contact & Attribution

Generated by: Abacus.AI Medical Illustration System
Project: Medical Manuscript Generation Tool Training Materials
Repository: /home/ubuntu/github_repos/medical-research-repoNS
Directory: training-materials/generated-illustrations/

Note: These illustrations are intended for educational and training purposes in the development of AI-powered medical manuscript generation tools. All anatomical representations follow standard medical illustration conventions and current surgical practice guidelines.

End of Illustration Index