



## Merritt Based Medicine

A Medical Student's Tips, Tricks, & Experiences

### Merritt's Block 4, Module 1 (Gastrointestinal) Study Plan:

Associated YouTube Study Material Playlist Linked [Here](#).

#### Week #1 Topics

##### 1 – INTRODUCTION TO IMAGING MODALITIES

+ GI Imaging Monograph (pg. 1 -5)

##### 2 – ORAL CAVITY, TEETH, PALATE, MUSCLES OF MASTICATION, INFRATEMPORAL FOSSA

- + PBL Case 1 + Klatt's GI Embryo PowerPoint w/ Audio
- +GI Histology/Cell Biology Power Points 2021 (on Canvas)
- + Pathology of Oral Cavity & Salivary Glands PowerPoint (on Canvas)
- +Acland Anatomy Videos – Oral Cavity & Pharynx Intro (~ 1 min.)
- +Acland Anatomy Videos – The Mandible (~ 4 min.)
- +Acland Anatomy Videos – The Temporomandibular Joint (~ 3 min.)
- +Acland Anatomy Videos – Muscles of Mastication: Temporalis & Masseter (~ 4 min.)
- +Acland Anatomy Videos – The Hyoid Bone (~2 min.)
- +Acland Anatomy Videos – Muscles Acting on Hyoid Bone (~ 2 min.)
- +Acland Anatomy Videos – The Tongue (~ 3 min.)
- +Acland Anatomy Videos – Muscles of the Tongue (~ 3 min.)
- +Acland Anatomy Videos – Lining of Oral Cavity (~ 3 min.)
- +Acland Anatomy Videos – Muscles of the Cheek & Lips (~ 3 min.)
- +Acland Anatomy Videos – The Teeth (~ 2 min.)

##### 3 – DISEASES OF THE ORAL/PHARYNGEAL CAVITIES

- + PBL Case 1 + HPV Genetics Monograph (1 pg.)
- + Bridges' GI Histology – Oral Cavity PowerPoint w/ Audio
- + Pathoma Video – Oral Cavity

##### 4 – SALIVARY GLANDS AND SALIVATION; DISEASES OF SALIVARY GLANDS

- + PBL Case 2 + Bridges' GI Histology – Oral Cavity PowerPoint w/ Audio
- +Acland Anatomy Videos – Submandibular & Sublingual Glands (~ 3 min.)
- +Acland Anatomy Videos – Parotid Gland and Its Surroundings (~ 4 min.)
- + BB Salivary Glands Video + Pathoma Video – Salivary Gland
- + YouTube Video: Ninja Nerd – Gastrointestinal –Salivation: Parotid, Submandibular, & Sublingual Glands (~ 44 min.)

#### Color Code Key:

Required Materials  
Optional Recourses

Sketchy Micro  
Boards & Beyond

Pathoma Videos  
Sketchy Pharm

Acland Anatomy  
YouTube Videos

## Week #1 Topics

### 5 – FUNCTIONAL ORGANIZATION OF GI MOTILITY AND SECRETION – THE ENTERIC NERVOUS SYSTEM

+ PBL Case 3

+ ESP Supplement in GI Phys/Pathophys – **#1 Comparison of Sympathetic & Parasympathetic Modulation of the Enteric Nervous System/the Effectors of GI Tract/Blood Flow to GI Tract/Secretion/GI Motility/Tone of Sphincters**

+ ESP Supplement in GI Phys/Pathophys – **#8 Classification of GI Motility**

+ BB Gastrointestinal Tract Video + BB Bilirubin Video + BB Gastrointestinal Secretions Video

+ YouTube Video: Ninja Nerd – Gastrointestinal – Gastric Secretion: The Cephalic & Gastric Phase (~ 43 min.)

+ YouTube Video: Ninja Nerd – Gastrointestinal – Gastric Secretion: The Intestinal Phase (~ 47 min.)

+ YouTube Video: Ninja Nerd – Gastrointestinal – GI Motility of the Esophagus & Stomach (~ 60 min.)

+ YouTube Video: Ninja Nerd – Neurology – Enteric Nervous System (~ 36 min.)

### 6 – ESOPHAGUS, DEGLUTITION, DISORDERS OF DEGLUTITION, DYSPHAGIA, AND GASTROESOPHAGEAL REFLUX DISEASE

+ PBL Case 3 + PBL Case 4

+ Klatt's GI Embryo PowerPoint w/ Audio + GI Imaging Monograph (pg. 6-7)

+ Bridges' GI Histology – Esophagus & Stomach PowerPoint w/ Audio

+ ESP Supplement in GI Phys/Pathophys – **#2 Transient Lower Esophageal Sphincter Relaxation (TLESER)**

+ Thomas B4M1 Pharmacology Notes (**Deglutition, Dysphagia, etc.**)

+ Pathology of Esophagus PowerPoint (on Canvas)

+Acland Anatomy Videos – Pleura, Trachea, Esophagus (~ 5 min.)

+ YouTube Video: Ninja Nerd – Gastrointestinal – Deglutition (Swallowing) (~ 48 min.)

+ BB Esophageal Disorders Video + Pathoma Video – Esophagus

### 7 – STOMACH STRUCTURE AND FUNCTION

+ PBL Case 5 + Klatt's GI Embryo PowerPoint w/ Audio

+ Bridges' GI Histology – Esophagus & Stomach PowerPoint w/ Audio

+ ESP Supplement in GI Phys/Pathophys – **#3 Clinical Application of Studies of Gastric Acid Output**

+ Pathology of Stomach PowerPoint (on Canvas)

+Acland Anatomy Videos – Abdominal Cavity, peritoneum (~ 3 min.)

+Acland Anatomy Videos - Stomach (~ 3 min.)

+ BB Gastrointestinal Anatomy Video + BB Gastrointestinal Blood Supply Video

+ BB Gastrointestinal Hormones Video

+ YouTube Video: Ninja Nerd – Gastrointestinal – Development & Embryology of the GI Track Part 1 (~ 26 min.)



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## Week #2 Topics

### 8 – GASTRITIS AND PEPTIC ULCER DISEASE; GASTRIC OUTLET OBSTRUCTION

+ PBL Case 5 + PBL Case 6 + GI Imaging Monograph (pg. 8) + FDA NSAID's Drug Safety Communication

+ ESP Supplement in GI Phys/Pathophys – #4 **Why Quantifying Gastric Acid Secretion is NOT helpful**

+ ESP Supplement in GI Phys/Pathophys – #5 **Vagotomy's Effects on Gastric Acid Secretion/Emptying**

+ Choi's GI Pharm PowerPoint – **Drugs for Acid-Peptic Diseases**

+ Pathoma Video – Stomach + BB Gastric Disorders Video

+ Sketchy Pharm Videos – GI & Endocrine – **H2 Receptor Blockers, PPIs** (Focus **H2 Antagonists**: Cimetidine, Ranitidine, Nizatidine, and Famotidine; **PPIs**: Omeprazole, Esomeprazole, Lansoprazole, Dexlansoprazole, Rabeprazole, Pantoprazole)

+ Sketchy Pharm Videos – GI & Endocrine – **Antiemetic Agents** (Focus **Antibiotics Against H. pylori**: Metronidazole)

+ Sketchy Pharm Videos – Antimicrobials – Cell Wall/Membrane Active Antibiotics – **1.3 Video** (Focus **Antibiotics Against H. pylori**: Amoxicillin)

+ Sketchy Pharm Videos – Antimicrobials – Inhibitors of Bacterial Protein Synthesis Antibiotics – **2.1 Video** (Focus **Antibiotics Against H. pylori**: Tetracycline)

+ *No Sketchy Pharm Videos – for: Antibiotics Against H. pylori: Clarithromycin & Bismuth subsalicylate*

+ Sketchy Pharm Videos – Smooth Muscle – Prostaglandins – **2.1 Video** (Focus **Peptic Ulcer Treatment (2<sup>nd</sup> Line Option)**: Misoprostol)

+ *No Sketchy Pharm Videos – for Peptic Ulcer Treatment (2<sup>nd</sup> Line Option): Sucralfate & Bismuth compounds*

### 9 – HYPERTROPHIC GASTROPATHIES, GASTRIC POLYPS AND NEOPLASIA

+ PBL Case 7 + GI Imaging Monograph (pg. 9)

+ Thomas B4M1 Pharmacology Notes (**Hypertrophic Gastropathies/Polyps/Neoplasia**)

+ Pathoma Video – Stomach + BB Gastric Disorders Video

+ Sketchy Pharm Videos – Antineoplastics – DNA & Cellular Division – 2.2 (Focus on **Cisplatin**)

+ Sketchy Pharm Videos – Antineoplastics – Kinase Inhibitors & Monoclonal Antibodies – 3.1 (Focus on **Imatinib**)

+ Sketchy Pharm Videos – Antineoplastics – DNA & Cellular Division – 2.3: (Focus on **epirubicin**)

+ Sketchy Pharm Videos – Antineoplastics – Antimetabolites – 1.1: (Focus on **5-fluorouracil**)



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## Week #2 Topics

### 10 – SMALL BOWEL

+ PBL Case 8 + PBL Case 12 + Klatt's GI Embryo PowerPoint w/ Audio

+ Bridges' GI Histology – Intestine PowerPoint w/ Audio

+ Pathology of Small Intestine PowerPoint (on Canvas)

+Acland Anatomy Videos – Greater & Lesser Omentum (~ 2 min.)

+Acland Anatomy Videos – Omentum: Development Animation (~ 5 min.)

+Acland Anatomy Videos - Duodenum (~ 2 min.)

+Acland Anatomy Videos – Attachments of the Duodenum (~ 1 min.)

+Acland Anatomy Videos – Duodenum: Development Animation (~ 3 min.)

+Acland Anatomy Videos – Jejunum - Ileum (~ 4 min.)

+ YouTube Video: Ninja Nerd – Gastrointestinal – GI Motility of the Small Intestine (~ 26 min.)

+ BB Gastrointestinal Anatomy Video + BB Gastrointestinal Blood Supply Video

+ BB Hernias Video + BB Gastrointestinal Hormones Video + BB Gastrointestinal Embryology Video

+ Pathoma Video – Small Bowel

### 11 – LARGE BOWEL

+ PBL Case 9 + Klatt's GI Embryo PowerPoint w/ Audio

+ Bridges' GI Histology – Intestine PowerPoint w/ Audio

+ GI Imaging Monograph (pg.10) +B4M1 Jiang Genetics (Emphasis on Cystic Fibrosis)

+ Pathology of Colon – Part 1 – PowerPoint (on Canvas)

+ Pathology of Colon – Part 2 – PowerPoint (on Canvas)

+Acland Anatomy Videos – Cecum and Appendix (~ 2 min.)

+Acland Anatomy Videos – Wall of the Colon (~ 2 min.)

+Acland Anatomy Videos – Colon: Ascending, Transverse, Descending, Sigmoid (~ 4 min.)

+Acland Anatomy Videos – Rectum (~ 3 min.)

+Acland Anatomy Videos – Duodenum: Anal Canal (~ 2 min.)

+Acland Anatomy Videos – Review of Stomach & Intestines (~ 2 min.)

+ BB Gastrointestinal Anatomy Video + BB Gastrointestinal Blood Supply Video

+ BB Hernias Video + BB Gastrointestinal Hormones Video + BB Gastrointestinal Embryology Video

+ Pathoma Video – Colon Part 1 + Pathoma Video – Colon Part 2

+ YouTube Video: Ninja Nerd – Gastrointestinal – GI Motility of the Large Intestine (~ 30 min.)

+ YouTube Video: Ninja Nerd – Gastrointestinal – Development & Embryology of the GI Track Part 2 (~ 26 min.)



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## Week #2 Topics

### 12 – MUCOSAL IMMUNITY

Follow an antigen from the lumen to the draining node: Peyer's patch organization and processes → Intraepithelial lymphocyte functions → Lamina propria lymphocytes → Mesenteric lymph nodes → Process of IgA selection, production and distribution to the lumen

- + YouTube Video: Armando – Mucosal Immunity Overview (~ 8 min.)
- + YouTube Video: Armando – Mucosal Immunity Part 1 (~ 11 min.)
- + YouTube Video: Armando – Mucosal Immunity Part 2 (~ 14 min.)
- + YouTube Video: Armando – Mucosal Immunity – IgA Antibodies (~ 5 min.)

### 13 – DIGESTION AND ABSORPTION OF NUTRIENTS AND DRUGS; THE MALABSORPTION SYNDROMES

+ PBL Case 8 + PBL Case 9 + Fiber Monograph + RBC Production & Destruction Monograph (pg. 17 – 18)

+Nichols' Monograph (**Celiac Disease**) +Application Exercise  
+ Thomas B4M1 Pharmacology Notes (**Role in GI System of Antimicrobials**)

+ ESP Supplement in GI Phys/Pathophys – **#24 D-xylose Test Clinical Application**

+ BB Bile Video + BB Bilirubin Video + BB Gastrointestinal Secretions Video +BB Malabsorption

+ Sketchy Pharm Videos – Antimicrobials – Cell Wall & Membrane Active – 1.1 **Penicillins**

+ Sketchy Pharm Videos – Antimicrobials – Cell Wall & Membrane Active – 1.4 **Cephalosporins**

+ Sketchy Pharm Videos – Antimicrobials – Inhibitors of Bacterial Protein Synthesis – 2.1 **Tetracycline: (Focus on Tetracyclines, tigecycline, chloramphenicol)**

+ Sketchy Pharm Videos – Antimicrobials – Other Antibiotics – 4.1 Trimethoprim-Sulfamethoxazole (Focus on **sulfisoxazole, sulfamethoxazole**)

+ YouTube Video: Ninja Nerd – Gastrointestinal – Digestion & Absorption of Carbohydrates (~ 38 min.)

+ YouTube Video: Ninja Nerd – Gastrointestinal – Digestion & Absorption of Lipids (~ 46 min.)

+ YouTube Video: Ninja Nerd – Gastrointestinal – Digestion & Absorption of Proteins (~ 42 min.)



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### 14 – FLUID AND ELECTROLYTE TRANSPORT IN THE INTESTINES; SMALL INTESTINAL AND COLONIC MOTILITY; ETIOLOGY AND PATHOGENESIS OF DIARRHEA; PRINCIPLES OF MANAGEMENT OF DIARRHEA

+ PBL Case 8 + PBL Case 9

+ ESP Supplement in GI Phys/Pathophys – #6 Big Picture Account of Intestinal Fluid & Electrolyte Handling

+ ESP Supplement in GI Phys/Pathophys – #7 Potassium Handling in Small Intestine vs. Colon/ Mechanism of Acute Severe Diarrhea or Chronic Secretory Diarrhea Increases Risk of Hypokalemia

+ ESP Supplement in GI Phys/Pathophys – #9 Normal Composition of Stool

+ ESP Supplement in GI Phys/Pathophys – #10 Clinical Definition of Diarrhea

+ ESP Supplement in GI Phys/Pathophys – #11 Secretory Diarrheas Predispose to Metabolic Acidosis

+ ESP Supplement in GI Phys/Pathophys – #13 Diarrhea Induced by Cholera

+ ESP Supplement in GI Phys/Pathophys – #14 Congenital Chloridorrhea

+ ESP Supplement in GI Phys/Pathophys – #15 D-lactic Acidosis Defined

+ ESP Supplement in GI Phys/Pathophys – #16 Consequences of Acute Diarrhea

+ ESP Supplement in GI Phys/Pathophys – #17 Differentiation/Significance of Secretory Diarrhea & Osmotic Diarrhea

+ Choi's GI Pharm PowerPoint – Drugs for GI Motility

+ Sketchy Pharm Videos – GI & Endocrine – **Relaxatives** (Focus on: Magnesium Hydroxide, Magnesium Citrate, Polyethylene, Lactulose, Psyllium, Senna, Glycol Docusate)

+ No Sketchy Pharm Videos – for: Bulk-forming laxatives (**Methylcellulose, Polycarbophil**), Stool surfactant agents (softeners – **Glycerin suppository, Mineral oil**), Osmotic laxatives (Non-absorbable sugars or salts **Sorbitol**), Stimulant laxatives (**Aloe, Cascara, Bisacodyl**), Chloride channel activators (**Lubiprostone, Linaclotide**), Opioid receptor antagonists (**Methylnaltrexone, Alvimopan**), Serotonin 5-HT<sub>4</sub>-receptor agonists (**Tegaserod, Prucalopride**)

+ Sketchy Pharm Videos – GI & Endocrine – **Relaxatives** (Focus on: Loperamide, Diphenoxylate, Cholestyramine, Colestipol, Colesevelam)

+ Sketchy Pharm Videos – GI & Endocrine – **H<sub>2</sub> Receptor Blockers, PPIs** (Focus H<sub>2</sub> Antagonists: Octreotide)

+ Sketchy Pharm Videos – GI & Endocrine – **Hypothalamic & Pituitary – 4.1** (Focus Octreotide)



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## Week #3 Topics

### 15 – INFECTIOUS ENTEROCOLITIS

+ PBL Case 10 + PBL Case 11 + GI Imaging Monograph (pg. 11)

- + Sketchy Micro Videos – Bacteria – Gram Neg. Bacilli (Enteric Tract) – **Escherichia coli** (Focus on differences)
- + Sketchy Micro Videos – Bacteria – Gram Positive Bacilli – **Bacillus cereus** (Focus on food intoxication)
  
- + Sketchy Micro Videos – Bacteria – Gram Positive Bacilli – **Clostridium botulinum** (Focus on food intoxication)
- + Sketchy Micro Videos – Bacteria – Gram Positive Bacilli – **Clostridium perfringens** (Focus on food intoxication)
  
- + Sketchy Micro Videos – Bacteria – Gram Positive Cocci – **Staphylococcus aureus** (Focus on food intoxication)
- + Baker's Colonization & Resident Flora of the GI Tract (on Canvas)
- + Sketchy Micro Videos – Virology – RNA Pos. Viruses – (Focus on **Norovirus** & comparisons & contrasts)
- + Sketchy Micro Videos – Virology – RNA Neg. Viruses – Reovirus (Focus **Rotavirus** & on comparisons & contrasts)
- + Sketchy Micro Videos – Virology – DNA Viruses – **Adenovirus** (Focus on comparisons & contrasts)
- + Thomas B4M1 Pharmacology Notes (**Tx of Bacterial Diarrhea**)
- + Sketchy Pharm Videos – Antimicrobials – Macrolides – **Azithromycin, Clindamycin, Telithromycin**
- + Sketchy Pharm – Antimicrobials – Other Antibiotics – Fluoroquinolones (focus on **Ciprofloxacin, Levofloxacin**)
- + Sketchy Pharm Videos – Antimicrobials – Other Antibiotics – 4.1 Trimethoprim-Sulfamethoxazole (Focus on **trimethoprim-sulfamethoxazole**)
- + Sketchy Pharm Videos – GI & Endocrine – Relaxatives (Focus on: **Rifaximin**)
- + No Sketchy Pharm. Videos – for following: *Fidaxomicin*

### 16 – PARASITES- PROTOZOANS AND HELMINTHS

- + Sketchy Micro Videos – Parasites – Protozoa Intestinal Tract – **Entamoeba histolytica**
- + Sketchy Micro Videos – Parasites – Protozoa Intestinal Tract – Giardia (focus on **Giardia lamblia & duodenalis**)
- + Thomas B4M1 Pharmacology Notes
- + Sketchy Micro Videos – Parasites – Protozoa Intestinal Tract – **Cryptosporidium**
- + Sketchy Micro Videos – Parasites – Intestinal Nematodes – **Enterobius vermicularis, Strongyloides stercoralis, Ascaris lumbricoides, Ancylostoma duodenale, Ancylostoma braziliense, and Necator americanus**
  
- + Sketchy Micro Videos – Parasites – Cestodes – **Echinococcus granulosus, Echinococcus multilocularis, Diphylobothrium latum, Tinnea Soleum, Tinnea Sagginatum**
- + No Sketchy Micro. Videos – for following GI Parasites: *Dientamoeba fragilis, Cystoisopora belli, Cyclospora ssp., Balantidium coli, Hymenolepis nana, Dipylidium caninum, Trichuris trichiuria, Taenia cysticercosis*
  
- + Sketchy Pharm Videos – Antimicrobials – Other Antibiotics – **Metronidazole**
- + Sketchy Pharm Videos – Antimicrobials – Other Antibiotics – **4.1 Pyrimethamine, Pyrimethamine-sulfadiazine**
- + No Sketchy Pharm Videos – for following Antiprotozoals: *tinidazole, paromomycin, iodoquinol, nitazoxanide*
  
- + No Sketchy Pharm Videos – for following Antihelminthics: *Mebendazole, Albendazole, Thiabendazole, Metrifonate, Ivermectin, Niclosamide, Praziquantel, Oxamniquine, Piperazine, Pyrantel Pamoate, Diethylcarbamazine*



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## Week #3 Topics

### 17 – INFLAMMATORY BOWEL SYNDROME (IBS)

+ PBL Case 13 + Choi's GI Pharm PowerPoint – **Drugs for IBS**

### 18 – INFLAMMATORY BOWEL DISEASE (IBD)

+ PBL Case 14 + Nichols' Monograph (**Inflammatory Bowel Disease**)

+ Pathoma Video – Appendix & Inflammatory Bowel Disease  
+ BB Inflammatory Bowel Disease Video

+ Sketchy Pharm Videos –GI & Endocrine – Thyroid, Parathyroid, etc. – **Glucocorticoids** (Focus on Prednisone, Prednisolone, and Budesonide)

+ Sketchy Pharm Videos – Antineoplastics – Antimetabolites – 1.1 (Focus on **Methotrexate**)

+ Sketchy Pharm Videos – Antineoplastics – Antimetabolites – 1.2 (Focus on **Azathioprine, 6-Mercaptopurine**)

+ No Sketchy Pharm Videos – for following:

- Amino salicylates → Azo Compounds (Sulfasalazine, Olsalazine, Balsalazide)
- Amino salicylates → Mesalamine (Pentasa, Asacol, Apriso, Lialda, Rowasa, Canasa)
  - Anti-TNF – Infliximab, Adalimumab, Certolizumab
  - Anti-integrin – Natalizumab, Vedolizumab
- Anti-IL12/23 - Ustekinumab (Reference: Nichols monograph)

### 19 – ABDOMINAL WALL, PERITONEUM AND PERITONITIS

+ Klatt's GI Embryo PowerPoint w/ Audio

+Acland Anatomy Videos – Abdominal Cavity, peritoneum (~ 3 min.)

### 20 – APPENDIX & APPENDICITIS

+ GI Histology/Cell Biology Power Point 2021 – **INTESTINE** (on Canvas) + GI Imaging Monograph (pg. 14)

+ Pathology of Appendix & Peritoneum PowerPoint (on Canvas)

+ Pathoma Video – Appendix & Inflammatory Bowel Disease

+Acland Anatomy Videos – Cecum and Appendix (~ 2 min.)

**January 22<sup>nd</sup> : Block 4 Module 1 – Mid Mod Exam @ 8:00AM**



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## Week #4 Topics

### 21 – VASCULAR LESIONS OF THE BOWEL

### 22 – COLONIC DIVERTICULAR DISEASE

+ GI Imaging Monograph (pg. 13-14) + BB Intestinal Disorders Video

### 23 – SMALL AND LARGE BOWEL POLYPS/NEOPLASIA

+ PBL Case 15

+ Nichols' Monograph (**Colon Cancer**) + GI Imaging Monograph (pg. 12)

+ Thomas B4M1 Pharmacology Notes (**Small & Large Bowel Polyps/Neoplasia**)

+ BB Colon Cancer Video + BB Carcinoid Tumors Video

+ Sketchy Pharm Videos – Antineoplastics – Antimetabolites – 1.1: (Focus on **5-fluorouracil**)

+ Sketchy Pharm Videos – Antineoplastics – Antimetabolites – 1.1 Methotrexate, leucovorin, etc.: (Focus on **Leucovorin**)

+ Sketchy Pharm Videos – Antineoplastics – Kinase Inhibitors & Monoclonal Antibodies – 3.2 Rituximab, cetuximab, etc. (Focus on **Bevacizumab, Cetuximab, Panitumumab**)

+ Sketchy Pharm Videos – Antineoplastics – Kinase Inhibitors & Monoclonal Antibodies – 3.1 Imatinib, erlotinib, etc. (Focus on **Erlotinib, Afatinib, Gefitinib, Osimertinib**)

+ No Sketchy Pharm Videos – for following: Leucovorin, Irinotecan, Oxaliplatin, Ziv-aflibercept, Ramucirumab, Capecitabine

### 24 – LIVER AND GALLBLADDER STRUCTURE AND DEVELOPMENT

+ PBL Case 16

+ BB Gastrointestinal Anatomy Video + BB Gastrointestinal Blood Supply Video

+ BB Gastrointestinal Embryology Video + BB Liver, Gallbladder, and Pancreas Video

+Acland Anatomy Videos – Liver: Principal Features (~ 3 min.)

+Acland Anatomy Videos – Liver: Peritoneal Attachments (~ 4 min.)

+Acland Anatomy Videos – Liver: Posterior Surface (~ 3 min.)

+Acland Anatomy Videos – Pancreas (~ 2 min.)

+Acland Anatomy Videos – Biliary System (~ 4 min.)

+Acland Anatomy Videos – Spleen (~ 3 min.)

+Acland Anatomy Videos – Review of Liver, Pancreas, Spleen (~ 2 min.)

+ YouTube Video: Ninja Nerd – Gastrointestinal – Liver Histology (~ 56 min.)

+ YouTube Video: Ninja Nerd – Gastrointestinal – Liver Circulation & Portal Hypertension (~ 47 min.)



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## Week #4 Topics

### 25 – LIVER FUNCTION – BIOCHEMISTRY AND PHARMACOLOGY

- + PBL Case 16 + PBL Case 17
- + RBC Production & Degradation Monograph (pg. 20-24)
- + ESP Supplement in GI Phys/Pathophys – #21 **Copper Handling by the Intestine & the Liver**

### 26 – LIVER FUNCTION – PHYSIOLOGY

- + PBL Case 16 + PBL Case 17 + Nichols' Monograph (**Liver Function Tests**)
- + ESP Supplement in GI Phys/Pathophys – #22 **Conjugated Hyperbilirubinemia**
- + ESP Supplement in GI Phys/Pathophys – #23 **Hyperbilirubinemia**
- + ESP Supplement in GI Phys/Pathophys – #19 **Uptake & Secretion of Organic Cations & Anions by Hepatocytes**
- + BB Bile Video
- + YouTube Video: Ninja Nerd – Gastrointestinal – Liver Metabolism, Protein Synthesis, & Storage (~ 47 min.)
- + YouTube Video: Ninja Nerd – Gastrointestinal Bile Synthesis (~ 47 min.)

### 27 – VIRAL HEPATITIS AND HEPATITIS VIRUSES

- + PBL Case 18 + Nichols' Monograph (**Hepatitis C Virus – aka HCV**)
- Thomas B4M1 Pharmacology Notes (**Chronic Hepatitis B & C Treatment**)
- + Pathology of Acute Liver Disease – Part 1 – PowerPoint (on Canvas)
- + Pathology of Acute Liver Disease – Part 2 – PowerPoint (on Canvas)
- + Pathology of Chronic Liver Disease PowerPoint (on Canvas)
- + Pathoma Video – Liver Part 2 (Viral Hepatitis) + BB Liver Disease Video
- + Sketchy Micro Videos – Virology – RNA Pos. Viruses – **1.5 Hepatitis A**
- + Sketchy Micro Videos – Virology – RNA Pos. Viruses – **1.5 Hepatitis C**
- + YouTube Video: Ninja Nerd – Hepatic Pathology – What is Viral Hepatitis – A, B, C, D, E: (~ 46 min.)
- + YouTube Video: Ninja Nerd – GI Medicine – Hepatitis – Pathophysiology of Viral Hepatitis (~ 46 min.)
- + YouTube Video: Ninja Nerd – GI Medicine – Hepatitis – Diagnosis of Viral Hepatitis (~ 36 min.)
- + YouTube Video: Ninja Nerd – Hepatic Pathology – Hepatitis Serology – A, B, C, D, E (~ 35 min.)

#### Chronic Hep. B Treatment Options:

- + Sketchy Pharm Videos – Antimicrobials – Antivirals HIV – 6.1 NRTIs (Focus on **tenofovir, lamivudine**)
- + No Sketchy Pharm Videos – for following: *adefovir, entecavir, telbivudine*

#### Chronic Hep. C Treatment Options:

- + Sketchy Pharm Videos – Antimicrobials – Antivirals Hepatitis – 7.1 Interferons (Focus on **interferon-alpha**)
- + Sketchy Pharm Videos – Antimicrobials – Antivirals Hepatitis – 7.2 (Focus on **ribavirin, simeprevir, sofosbuvir**)
- + No Sketchy Pharm Videos – for following: *ledipasvir, glecaprevir, pibrentasvir*



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## Week #4 Topics

### 28 – LIVER PARASITES

+ Nichols' Monograph +GI Imaging Monograph (pg. 15)

+ Sketchy Micro Videos – Parasites – Protozoa Intestinal Tract – **Entamoeba histolytica**

+ Sketchy Micro Videos – Parasites – Helminths – Trematodes – **Schistosomas** (Focus on **Schistosoma mansoni** and **Schistosoma japonicum**)

+ No Sketchy Micro. Videos – for following: *Fasciola hepatica, Clonorchis sinensis*

### 29 – HEPATIC INJURY AND CIRRHOSIS

+ PBL Case 16 + PBL Case 17 + PBL Case 18

+GI Imaging Monograph (pg. 15) + Nichols' Monograph (**Liver Injury**) + Nichols' Monograph (**Cirrhosis**)

+ Nichols' Monograph (**Alcohol Liver Toxicity**) + ESP Supplement in GI Phys/Pathophys – **#26 Cirrhosis**

+ BB Cirrhosis Video + Pathoma Video – Liver Part 3 (Viral Cirrhosis)

+ YouTube Video: Ninja Nerd – Gastrointestinal – Liver Circulation & Portal Hypertension (~ 47 min.)

+ Sketchy Pharm Videos – GI & Endocrine – **H2 Receptor Blockers, PPIs** (Focus **H2 Antagonists: Somatostatin, Octreotide**)

+ No Sketchy Pharm. Videos – for following: *Vasopressin, Terlipressin*

+ Sketchy Pharm Videos – GI & Endocrine – **Hypothalamic & Pituitary – 4.1** (Focus Octreotide)

+ Sketchy Pharm Videos – **Sympathomimetic** (Stimulates the Na<sup>+</sup>/K<sup>+</sup>-ATPase pump) – 2.4 Beta Blockers (Focus on Propranolol, Nadolol)



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## Week #5 Topics

### 30 – INHERITED LIVER DISEASE

+ BB Wilson's Disease & Hemochromatosis Video

### 31 – CHOLESTASIS AND JAUNDICE

+ PBL Case 18

+ ESP Supplement in GI Phys/Pathophys – #20 Mechanism of Plasma Levels of Conjugated Bilirubin & Enzymes under Cholestasis

+ Pathoma Video – Liver Part 1 (Jaundice)

+ YouTube Video: Ninja Nerd – Gastrointestinal – Types of Jaundice (~ 81 min.)

+ BB Bile Video + BB Bilirubin Video

### 32 – AUTOIMMUNE CHOLANGIOPATHIES

### 33 – VASCULAR DISORDERS OF THE LIVER

+Acland Anatomy Videos – Arteries of the Abdominal Organs: Celiac Trunk & Its Branches (~ 5 min.)

+Acland Anatomy Videos – Arteries of the Abdominal Organs: Superior & Inferior Mesenteric (~ 5 min.)

+Acland Anatomy Videos – Veins of the Abdominal Organs (~ 2 min.)

+Acland Anatomy Videos – Review of Arteries and Veins of the Abdominal Organs (~ 2 min.)

### 34 – PREGNANCY ASSOCIATED LIVER DISEASES

+ BB Hypertension in Pregnancy (from repro section) Video

### 35 – HEPATIC TUMORS AND TUMOR-LIKE CONDITIONS

+GI Imaging Monograph (pg. 16 - 18)

+ Thomas B4M1 Pharmacology Notes (Sorafenib in Tx of Hepatocellular Carcinoma)

+ BB Liver Tumors Video

+ Sketchy Pharm Videos – Antineoplastics – Kinase Inhibitors & Monoclonal Antibodies – 3.1 (Focus on Sorafenib)



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## Week #5 Topics

### 36 – DISORDERS OF THE BILIARY TRACT AND GALLBLADDER

+ PBL Case 19

+ Pathology of Biliary System PowerPoint (on Canvas)

+ BB Gallstones Video + BB Biliary Disorders Video

+ Pathoma Video – Gallbladder & Biliary Tract

+ Thomas B4M1 Pharmacology Notes (**Gemcitabine, 5-fluorouracil, cisplatin, oxaliplatin, and nab-paclitaxel in Tx of gallbladder/bile duct Carcinomas**)

+GI Imaging Monograph (pg. 19-21)

+ No Sketchy Pharm. Videos – for following Tx of Primary Biliary Cholangitis: **ursodiol, obeticholic acid**

### 37 – DEVELOPMENT, STRUCTURE, FUNCTIONS AND PATHOLOGY OF THE EXOCRINE PANCREAS

+ PBL Case 20 + PBL Case 21

+ Klatt's GI Embryo PowerPoint w/ Audio +Nichols' Monograph (**Acute Pancreatitis**)

+Nichols' Monograph (**Pancreatic Cancer**)

+B4M1 Jiang Genetics (Emphasis on **Cystic Fibrosis**)

+ ESP Supplement in GI Phys/Pathophys – **#25 Pancreatic Exocrine Function**

+ Bridges' GI Histology – **Pancreas, Liver & Gallbladder** PowerPoint w/ Audio

+GI Imaging Monograph (pg. 22-23)

+ Thomas B4M1 Pharmacology Notes (**Gemcitabine, with nab-paclitaxel, Gemcitabine with Erlotinib, 5-fluorouracil & Leucovorin with Irinotecan & oxaliplatin in Tx of Pancreatic Carcinomas**)

+ Pathology of Exocrine Pancreas PowerPoint (on Canvas)

+ BB Acute Pancreatitis Video + BB Chronic Pancreatitis & Pancreatic Cancer Video

+ BB Exocrine Pancreas Video + Pathoma Video – Exocrine Pancreas

**February 4th:** Review for the EOM Quiz & the NBME Formative Quiz.

**February 5th:** **Block 4 Mod 1 End of Module Exam** – NBME Formative Quiz in Gastrointestinal System  
Directly Following



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## Review Opportunities

GI Module Pharmacology Review Aid (Doc on Canvas)

GI Module Gross Anatomy Review PowerPoint

GI Physiology & Pathophysiology – Part 1 – ESP PowerPoint/Recording (~ 90 mins)

GI Physiology & Pathophysiology – Part 2 – ESP PowerPoint/Recording (~ 90 mins)

Problem Solving Exercises – GIPP – ESP (PDF on Canvas)

USMLE Step 1 Sample Questions – NBME 2019 Edition (on Canvas)

USMLE Step 1 Sample Questions – NBME 2019 Edition (on Canvas)

GI Image of the Day – Part 1 – PowerPoint (on Canvas)

GI Image of the Day – Part 2 – PowerPoint (on Canvas)

First Aid

AMBOSS Questions/Outlines

Web-Path Questions

Kaplan Questions

Goljan's GI Pathology Podcast Episode



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