

### BNURS506 Quiz Answering

**Term:** Spring 2025

**Module 5:** Digestive & Reproductive

**Name:** Student Q

#:	Your Answer	Feedback from Grader	Score
1	References: Feedback:		/ 10
2	<p>1. Promote a supportive environment with respect, dignity and inclusivity. For example, refer to Kiry using their chosen name and consistently apply "they/them" pronouns, have conversations in a private space and reassure them that their personal information, identity, and health concerns will remain confidential, and use open, respectful body language and avoid making any assumptions about their gender, physical anatomy, or sexual history.</p> <p>2. Vulvovaginal candidiasis. Candidiasis is an opportunistic infection due to Candida, which can affect the oral cavity, vagina, penis, or other parts of the body. Candidiasis is an opportunistic infection caused by Candida, a type of fungi. Fungi are eukaryotic organisms found in the form of yeasts, molds, or dimorphic fungi (R &amp; Rafiq, 2023).</p> <p>3. Oral and topical treatments have similar efficacy, but oral medications are more expensive. Similar treatment can be used for oral thrush, with oral lozenges as a substitute dose form. Systemic candidiasis requires treatment with oral or intravenous antifungal medications, including caspofungin, fluconazole, and amphotericin B (R &amp; Rafiq, 2023). Therefore, patient can choose the oral treatment, which is also effective, and may cause less distressing emotionally than the topical treatment. Also, patient comfort is matter</p>	<p>Thank you for your answer and feedback.</p> <ol style="list-style-type: none"> <li>1. Three specific measures identified. 6 points</li> <li>2. Correct 2 points</li> <li>3. Correct 2 points</li> </ol>	10 / 10

	<p>as well, patient, and it's okay to choose the one that feels most comfortable.</p> <p>References:</p> <p>R, A. N. &amp; Rafiq, N. B. (2023). <i>Candidiasis</i>. StatPearls. <a href="https://www.ncbi.nlm.nih.gov/books/NBK560624/">https://www.ncbi.nlm.nih.gov/books/NBK560624/</a></p> <p>Feedback:</p> <p>Thank you for presenting such a clear and detailed case scenario, along with the image. Also, your thoughtful question encouraged me to reflect more deeply on the clinical approach and management.</p>		
3	<p>References:</p> <p>Feedback:</p>		/ 10
4	<p>1. Most likely diagnosis is endometriosis. Endometriosis is a chronic gynecologic condition characterized by the presence of endometrial glands and stroma outside the uterine cavity. It commonly presents with chronic pelvic or abdominal pain, severe dysmenorrhea, dyspareunia, heavy menstrual bleeding, and infertility. The pain is often persistent and described as dull, throbbing, sharp, or burning. Endometriosis affects up to 50% of women with infertility and is found in 47% of adolescents who undergo laparoscopy for pelvic pain. Several risk factors are associated with its development, including early onset of menstruation, shorter menstrual cycles, heavy bleeding, and nulliparity. These factors support the theory that endometriosis is strongly influenced by hormonal imbalances, particularly elevated estrogen and low progesterone levels (Tsamantioti &amp; Mahdy, 2023; Schenken, 2025).</p> <p>2. The gold standard diagnostic tool remains laparoscopy, that allows direct visualization of endometrial implants or lesions in the pelvic</p>	<p>1. You correctly identified that Quinn likely has endometriosis! I was looking for the patient's specific symptoms and risk factors to support the diagnosis. However, you provided a detailed overview of s/s and risk factors of the condition itself, so I will still give full credit. Wonderful job! (3/3 pts)</p> <p>2. Laparoscopy with biopsy is the definitive diagnostic pathway for endometriosis. Other pathways include MRIs, transvaginal ultrasounds, or presumption based on clinical symptoms. Awesome! (3/3 pts)</p> <p>3. You are right that medication is more focused towards symptom management whereas surgery is more focused on</p>	10 / 10

	<p>cavity and combined with an abdominal cavity exploration and a histological biopsy (Tsamantioti &amp; Mahdy, 2023).</p> <p>3. Endometriosis treatment is generally divided into two main approaches: pharmacological and surgical. First-line medications include non-steroidal anti-inflammatory drugs (NSAIDs), progestins, and combined hormonal contraceptives. Surgery is another option, though it carries potential risks and complications. Compared to medication, the primary benefit of surgical intervention is its potential to improve fertility while also relieving pain. During laparoscopic surgery, it is recommended to remove all visible endometriotic lesions and adhesions for optimal outcomes (Tsamantioti &amp; Mahdy, 2023).</p> <p style="text-align: center;">References:</p> <p>Schenken, R. S. (2025). Endometriosis in adults: Clinical features, evaluation, and diagnosis. <i>UpToDate</i>. Retrieved May 31, 2025, from <a href="https://www.uptodate.com/contents/endometriosis-in-adults-clinical-features-evaluation-and-diagnosis?search=Endometriosis&amp;source=search_result&amp;selectedTitle=1~150&amp;usage_type=default&amp;display_rank=1">https://www.uptodate.com/contents/endometriosis-in-adults-clinical-features-evaluation-and-diagnosis?search=Endometriosis&amp;source=search_result&amp;selectedTitle=1~150&amp;usage_type=default&amp;display_rank=1</a></p> <p>Tsamantioti, E. S. &amp; Mahdy, H. (2023). <i>Endometriosis</i>. StatPearls. <a href="https://www.ncbi.nlm.nih.gov/books/NBK567777/">https://www.ncbi.nlm.nih.gov/books/NBK567777/</a></p> <p style="text-align: center;">Feedback:</p> <p>Thank you for presenting such a clear and detailed case scenario. I have some friends who have endometriosis and face the difficulty of having kids.</p>	<p>improving fertility. Surgery could also include hysterectomy as well. (3/3 pts)</p> <p>+1 pt for citation</p> <p>Thanks for the feedback! It's unfortunate that endometriosis is one of the biggest causes of infertility in women. Hopefully spreading awareness can help women identify signs sooner and start treatment earlier.</p>	
5	<p style="text-align: center;">References:</p> <p style="text-align: center;">Feedback:</p>		/ 10

6	<p>1. TPE (total pelvic exenteration), is performed as a palliative or curative option for patients with recurrent or locally invasive pelvic cancer. It is considered a curative option when the cancer is localized within the pelvis and resectable offering a chance for complete tumor removal when other treatments have failed. (Grimes et al., 2024).</p> <p>2. A complete pelvic exenteration involves resection of the distal sigmoid colon, rectum, and anus along with the bladder, seminal vesicles, prostate, and urethra in males or the uterus, ovaries, vagina, bladder, and urethra in females (Grimes et al., 2024).</p> <p>3. Postoperative and patient care considerations</p> <p>1) Mental health support: more physical, sexual, and social problems were, however, noted after exenteration. Younger patients and patients who underwent total pelvic exenteration had the most difficulty in adapting to daily life, disease, and treatment. They also had a worse body image, and the influence of the operation on their sex life was greater compared to other patient groups of this study (Roos et al., 2004).</p> <p>2) Infection prevention: patient probably have wounds and drainages, so monitor closely for signs of infection and maintain strict aseptic technique.</p> <p>3) Ostomy care, patients typically require urinary (urostomy) and fecal (colostomy or ileostomy) diversions, necessitating education on appliance use, skin care, and psychological support.</p> <p style="text-align: center;">References:</p>	<p>Great job answering this question! You answered each component of the question completely, and I appreciate your use of in-text citations.</p> <p>Mental health support is very crucial for these patients, and I liked how you mentioned that it impacts a person's physical, sexual, and social interactions. This is part of the reason why this surgery is so life-altering.</p>	10/ 10
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	<p>Grimes, W. R., Dunton, C. J. &amp; Stratton, M. (2024). <i>Pelvic Exenteration</i>. StatPearls. <a href="https://www.ncbi.nlm.nih.gov/books/NBK563269/">https://www.ncbi.nlm.nih.gov/books/NBK563269/</a></p> <p>Roos, E. J., de Graeff, A., van Eijkeren, M. A., Boon, T. A., &amp; Heintz, A. P. M. (2004). Quality of life after pelvic exenteration. <i>Gynecologic Oncology</i>, 93(3), 610–614. <a href="https://doi.org/10.1016/j.ygyno.2004.03.008">https://doi.org/10.1016/j.ygyno.2004.03.008</a></p> <p style="text-align: center;">Feedback:</p> <p>Thank you for sharing a clear and specific case scenario along with an image, and it really helped illustrate your point. Your question was well thought out and prompted me to think more deeply about the topic.</p>		
7	<p style="text-align: center;">References:</p> <p style="text-align: center;">Feedback:</p>		/ 10
8	<p>1. Yes, acute pancreatitis. Abdominal pain is a key symptom associated with pancreatitis. An essential part of the initial evaluation for suspected acute pancreatitis is obtaining a thorough medical history. This includes identifying symptoms or imaging evidence of gallstone disease, unexplained weight loss, recent onset of diabetes, history of alcohol use, medications, previous surgeries or injuries, as well as any history of high triglycerides, elevated calcium levels, autoimmune disorders, or a family history of recurrent acute pancreatitis (Gapp, 2023). For this patient, the combination of persistent vomiting, abdominal discomfort, feeding intolerance, and severe malnutrition, all of which are risk factors. Children with cerebral palsy and GJ tube feeds are also at increased risk for GI complications, including pancreatitis.</p> <p>2. Lab &amp; assessment According to the Revised Atlanta Classification, the diagnosis of acute pancreatitis requires meeting at least 2 of 3 criteria: 1) A</p>	<p>Great work. Your answers are excellent, very well thought out. You did a great job addressing all parts of the question and including in-text citations!</p> <p>You did amazing!</p>	10 / 10

<p>lipase or amylase level is 3 times the normal's upper limit; 2) Abdominal pain is consistent with pancreatitis. 3) Abdominal imaging is consistent with acute pancreatitis, such as abdominal CT, X-ray (Gapp, 2023).</p> <p>Lab: Laboratory evaluation of patients with acute pancreatitis should include routine tests, such as serum triglyceride, serum calcium, liver biochemical tests, additional genetic testing in patients with strong family history, and imaging studies, including abdominal ultrasound for assessment of choledocholithiasis and bile duct dilatation. For example, the lipase or amylase level is 3 times the normal's upper limit, liver function tests as AST and ALT, elevated CBCs, CRP and ESR indicating inflammation or infection (Gapp, 2023).</p> <p>Physical assessment: distension, tenderness, guarding, or rigidity to abdominal area, assess for the feeding tolerance whether feeds increase symptoms and emesis characteristics, such as frequency, volume, and content. Also, The critical element of the first assessment of suspected acute pancreatitis involves a detailed history, which includes symptoms of gallstone disease or evidence of gallstone disease on imaging, unexplained weight loss or new onset of diabetes, history of alcohol abuse, medication use, prior surgical procedure or trauma, history of hypertriglyceridemia or hypercalcemia, history of autoimmune disease or family history of recurrent acute pancreatitis (Gapp, 2023).</p> <p>Imaging: abdominal ultrasound and CT scan to assess pancreatic inflammation, gallbladder, and biliary tree. Performing computed tomography (CT) with intravenous contrast is recommended to establish or rule out the diagnosis. CT is also performed in cases where the patient has failed to improve or worsen despite adequate fluid resuscitation over 48 hours to determine the presence of necrosis (Gapp, 2023).</p>		
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	<p>References: Gapp, J., Tariq, A. &amp; Chandra, S. (2023). <i>Acute pancreatitis</i>. StatPearls. <a href="https://www.ncbi.nlm.nih.gov/books/NBK482468/">https://www.ncbi.nlm.nih.gov/books/NBK482468/</a></p> <p>Feedback: Thank you for presenting such a clear and detailed case scenario, it really helped illustrate your points. Pancreatitis is common diagnosis in my unit, but most of them due to the alcohol use.</p>		
9	<p>References: Feedback:</p>		/ 10
10	<p>1. Most likely diagnosis is <i>Helicobacter pylori</i> (<i>H. pylori</i>), associated peptic ulcer disease (PUD). Signs and symptoms of peptic ulcer disease may vary depending on the location of the disease and age. Common signs and symptoms include epigastric abdominal pain, bloating, abdominal fullness, nausea and vomiting, weight loss/weight gain, hematemesis and melena (Malik et al., 2023). For this patient, presenting the sign of epigastric pain that is worse at night, which is characteristic of duodenal ulcers, early satiety and bloating, which are common symptoms of upper GI inflammation, and positive urea breath test, which specifically indicates active <i>H. pylori</i> infection.</p> <p>2. Expected Treatment Regimen. Eradication Therapy First-line treatment for <i>H. pylori</i>-induced PUD is a triple regimen comprising two antibiotics and a proton pump inhibitor (such as pantoprazole, omeprazole or lansoprazole, twice daily). Pantoprazole, clarithromycin, and metronidazole, or amoxicillin are used for 7 to 14 days. Antibiotics and PPIs work synergistically to eradicate <i>H. pylori</i>. The antibiotic selected should take into consideration the presence of antibiotic resistance in the environment. If first-line therapy fails,</p>	<p>#1 Correct diagnosis of peptic ulcer disease, rationalized by patient's signs and symptoms: 3/3 points</p> <p>#2 Any of the following options to eradicate <i>H.pylori</i> w/specific medications: Optimized bismuth quadruple therapy, low-dose rifabutin triple therapy, triple therapy, vonoprazan dual therapy, or vonoprazan triple therapy: 3/3 points</p> <p>#3 Follow-up after a month, but not more than 2 months; ideally this should be stated in a way that the patient will understand:3/ 3 points</p> <p>References &amp; in-text citations: 1/1 point</p> <p>Thank you for your feedback, I intended for the image to help in diagnosing the condition.</p>	10/10

	<p>quadruple therapy with bismuth and different antibiotics is used (Malik et al., 2023).</p> <p><b>3. Follow-Up</b>          After completing <i>H. pylori</i> treatment, it is important to have repeat testing to ensure that the infection has been successfully treated. This is typically done with a breath or stool test. Testing should be done at least four weeks after completing treatment. It is important to avoid taking a PPI or PCAB for two weeks before the test because these medications may cause a "false-negative" result (Moss, &amp; Shah, 2025).</p> <p style="text-align: center;">References:</p> <p>Malik, T. F., Gnanapandithan, K. &amp; Singh, K. (2023). <i>Peptic Ulcer Disease</i>. StatPearls.  <a href="https://www.ncbi.nlm.nih.gov/books/NBK534792/">https://www.ncbi.nlm.nih.gov/books/NBK534792/</a></p> <p>Moss, S. F. &amp; Shah, S. C. (2025). Patient education: Helicobacter pylori infection and treatment (Beyond the Basics). <i>UpToDate</i>. Retrieved May 30, 2025, from <a href="https://www.uptodate.com/contents/helicobacter-pylori-infection-and-treatment-beyond-the-basics?search=Helicobacter%20pylori%20infection&amp;source=search_result&amp;selectedTitle=6~150&amp;usage_type=default&amp;display_rank=5">https://www.uptodate.com/contents/helicobacter-pylori-infection-and-treatment-beyond-the-basics?search=Helicobacter%20pylori%20infection&amp;source=search_result&amp;selectedTitle=6~150&amp;usage_type=default&amp;display_rank=5</a></p> <p style="text-align: center;">Feedback:</p> <p>Thank you for sharing a clear and specific case scenario along with an image, it really helped illustrate your point. Your question was well thought out and prompted me to think more deeply about the topic.</p>		
<p>1 1</p>	<p style="text-align: center;">References: Feedback:</p>		<p>/ 10</p>

1 2	<p>1. Colonic polyps, which are protrusions occurring in the colon lumen most commonly sporadic or as part of other syndromes (Meseha &amp; Attia 2023).</p> <p>2. Colonic polypectomy is done during colonoscopy for diagnostic and therapeutic purposes using snare polypectomy with electrocautery for pedunculated polyps, or mucosal resection for sessile polyps (Meseha &amp; Attia 2023).</p> <p>3. Significance of Early Detection of Polyps. Because there is a potential risk of malignancy, all patients should be educated about polyps and follow up. Patients with a family history of polyps may benefit from screening colonoscopy. Those with hereditary nonpolyposis colon cancer should undergo screening colonoscopy every 1-2 years. In addition, these patients are also at risk for cancers in the ovary and uterus. If the polyp is not removed then it may cause bleeding, intussusception or even become malignant. However, colonic polyps grow slowly, and formation of a small polyp can take up to a decade. The risk of cancer is much higher in hereditary nonpolyposis cancer. The risk of cancer from a sporadic 1 cm colonic polyp is about 8% at ten years and 24% at 20 years (Meseha &amp; Attia 2023).</p> <p style="text-align: center;">References:</p> <p>Meseha, M. &amp; Attia, M. (2023). <i>Colon Polyps</i>. StatPearls. <a href="https://www.ncbi.nlm.nih.gov/books/NBK430761/">https://www.ncbi.nlm.nih.gov/books/NBK430761/</a></p> <p style="text-align: center;">Feedback:</p> <p>Thank you for sharing a clear and specific case scenario along, and it really helped illustrate your point. Your question was well thought out and prompted me to think more deeply about the topic.</p>	<p>You did fantastic! you were able to identify the diagnosis, procedure name, and also answer the bonus question with detail. Thank you for your feedback.</p>	10/ 10
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1 3	References: Feedback:		/ 10
1 4	<p>1. Small bowel obstruction. It presents with hallmark symptoms of abdominal pain, vomiting, distension, and obstipation. For this patient, presenting cramping periumbilical pain, nausea/vomiting, abdominal bloating, inability to pass gas, tachycardia, hypotension, and history of prior abdominal surgery (Schick et al., 2025).</p> <p>2. Assessment: abdominal inspection and palpation and abdominal auscultation. On physical exam, patients with small bowel obstruction may appear anxious or uncomfortable due to pain, and signs of dehydration like dry mucous membranes and tachycardia are common, especially with persistent vomiting. The abdomen may show visible peristalsis and distension, particularly in thin individuals. Tenderness is often present over the obstruction site, and in severe cases, dilated bowel loops may be palpable. Percussion usually reveals a tympanic sound from gas buildup, though dullness may suggest fluid or perforation. Early bowel sounds are often high-pitched or hyperactive, but may become absent with worsening obstruction, especially if strangulation or ischemia occurs. Signs of peritonitis as rigidity, rebound tenderness, and guarding, indicate a surgical emergency (Schick et al., 2025).</p> <p>3. Treatments: non-surgical and surgical options 1) Non-surgical treatments include NPO, NG tube, IV fluid resuscitation, Electrolyte monitoring and replacement and Pain control and antiemetics. Initial management of small bowel obstruction (SBO) involves fluid resuscitation with isotonic IV fluids like lactated Ringer or normal saline to correct hypovolemia and electrolyte imbalances. Nasogastric decompression helps relieve gastric distension, control vomiting, and reduce aspiration risk. In</p>	<p>1. Correct, great description! (2/2)</p> <p>2. Great job of describing the assessment findings of auscultation, percussion, inspection and palpation. I was only looking for 2, so full points here. I will say that the bowel sounds are typically more hypoactive than fully absent, but can be in late, late stages (2/2).</p> <p>3. Great description of non-surgical management. I was looking for IVF, NPO and NG tube for decompression. (3/3)</p> <p>4. Good job at identifying starting with an exploratory laparotomy for a lysis of adhesions with potential to transition to a bowel resection if presence of necrosis! (3/3)</p>	10 / 10

	<p>prolonged or delayed cases, nutritional support may be needed. Broad-spectrum antibiotics are recommended if strangulation or perforation is suspected. Conservative treatment is appropriate for uncomplicated SBO without signs of ischemia or clinical decline. Close monitoring of vitals, abdominal exams, and labs is crucial, and water-soluble contrast studies like gastrograffin can aid in both diagnosis and management decisions (Schick et al., 2025).</p> <p>2) Surgical options: Surgical consultation should be obtained early in cases of small bowel obstruction, especially with complete blockage or signs of ischemia. The most common procedure is adhesiolysis, done laparoscopically or through open surgery to remove fibrous bands. If strangulation is present, necrotic bowel may need to be resected, with either primary anastomosis or stoma creation based on damage and patient condition. In severe cases with uncertain bowel viability, a second-look surgery or temporary abdominal closure may be necessary (Schick et al., 2025).</p> <p style="text-align: center;">References:</p> <p>Schick, M. A., Kashyap, S. &amp; Collier, S. A. &amp; Meseha, M. (2025). <i>Small Bowel Obstruction</i>. StatPearls.  <a href="https://www.ncbi.nlm.nih.gov/books/NBK448079/">https://www.ncbi.nlm.nih.gov/books/NBK448079/</a></p> <p style="text-align: center;">Feedback:</p> <p>Thank you for sharing a clear and specific case scenario along with an image, it really helped illustrate your point. Your question was well thought out and prompted me to think more deeply about the topic.</p>		
<p>1 5</p>	<p style="text-align: center;">References: Feedback:</p>		<p style="text-align: right;">/ 10</p>
<p>1 6</p>	<p>1. C) Small bowel perforation. Small bowel obstruction (SBO) is a common and potentially life-threatening surgical emergency that</p>	<p><u>Grading Criteria</u>            1. Multiple Choice: 2/2            2. Response to Pt: 4/4</p>	<p style="text-align: right;">10/ 10</p>

<p>accounts for a significant proportion of hospital admissions. This condition is characterized by the triad of abdominal pain, vomiting, and abdominal distension, reflecting the disruption of normal intestinal flow (Schick et al., 2025). For this patient, the abdominal CT scan provided shows dilated bowel loops, and more importantly, the presence of free air in the peritoneal cavity, and combined with Mr. Jones' clinical picture with high fever, elevated WBC and lactate, low HCO<sub>3</sub>, high anion gap, acute abdominal distension, rebound, guarding, and sudden relief of pain followed by worsening.</p> <p>2. Response: Acknowledge the patient's fear, explain the urgency, and stress the life-saving purpose of treatment. For example: "I understand you're uncomfortable with more needles, that's completely valid. However, your symptoms and scan suggest a possible internal tear that could lead to a serious infection. Starting an IV now is the fastest way to give you antibiotics and fluids to stabilize you and prepare for surgery. I'll do my best to make it as quick and gentle as possible.</p> <p>3. Response to Mrs. Jones. Educating patients about small bowel obstruction (SBO) is key to early detection and treatment. Those with prior surgeries, cancer, or GI conditions should know the warning signs as abdominal pain, vomiting, distension, and inability to pass stool or gas, and seek immediate care if they occur. Preventive steps include eating a fiber-rich diet and avoiding high-risk foods like persimmons or fibrous vegetables. Patients on medications that affect bowel motility should consult their providers for possible adjustments (Schick et al., 2025). In response to Mrs. Jones, it seems Mr. Jones had a severe bowel obstruction that led to a perforation. His schizophrenia and use of clozapine increase his risk for serious constipation. Going forward,</p>	<p>3.Response to Wife: 3/3 4.APA Format: 1/1</p> <p>I'm happy that you liked the question :)</p>	
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	<p>it's important to monitor his bowel habits, keep him well-hydrated, and ensure he regularly takes prescribed stool softeners or laxatives. Any new abdominal pain, bloating, or bowel changes should be reported to his provider immediately.</p> <p style="text-align: center;">References:</p> <p>Schick, M. A., Kashyap, S. &amp; Collier, S. A. &amp; Meseeha, M. (2025). <i>Small Bowel Obstruction</i>. StatPearls.  <a href="https://www.ncbi.nlm.nih.gov/books/NBK448079/">https://www.ncbi.nlm.nih.gov/books/NBK448079/</a></p> <p style="text-align: center;">Feedback:</p> <p>Thank you for sharing a clear and specific case scenario along with an image, it really helped illustrate your point. Your question was well thought out and prompted me to think more deeply about the topic.</p>		
1 7	<p style="text-align: center;">References:</p> <p style="text-align: center;">Feedback:</p>		/ 10
1 8	<p>1. Marco is most likely experiencing hepatic encephalopathy (HE) Elevated serum ammonia is a key factor in hepatic encephalopathy. Normally, the liver converts ammonia from protein breakdown into urea, but in liver failure or with shunting, ammonia enters the bloodstream, leading to hyperammonemia. This disrupts brain function by causing astrocyte swelling, oxidative stress, and neurotransmitter imbalances. Other factors, like inflammation and blood-brain barrier changes, also contribute (Mandiga et al., 2025). For this patient, has elevated ammonia level, recent high-protein intake, and clinical signs (confusion, asterixis, fetor hepaticus) are consistent with HE.</p> <p>2. The management of hepatic encephalopathy generally involves supportive care and ammonia-lowering therapy.</p>	<p>This was a clear, well-organized answer that hit all the right notes. You explained the condition well and provided thoughtful treatment priorities. Your nutrition section was especially strong. Great job!</p>	10/ 10

	<p>1) Common medications used in the management of hepatic encephalopathy include disaccharides such as lactulose and lactitol, along with the antibiotic rifaximin. Lactulose works through multiple mechanisms to reduce blood ammonia levels. When bacteria in the gut break down lactulose, it creates an acidic environment that promotes the conversion of ammonia (<math>\text{NH}_3</math>) to ammonium (<math>\text{NH}_4^+</math>), reducing the diffusion of <math>\text{NH}_3</math> into the bloodstream (Mandiga et al., 2025).</p> <p>2) Non-Pharmacologic: Protein Intake Modification. Patients with hepatic encephalopathy should not have their protein intake restricted. Instead, they should receive nutritional support with an appropriate energy intake of approximately 35 to 40 kcal/kg/d. This dietary plan should maintain protein intake at around 1.2 to 1.5 gm/kg/d. Notably, it is important to encourage the consumption of small meals throughout the day to prevent fasting, which can increase ammonia production (Mandiga et al., 2025).</p> <p style="text-align: center;">References:</p> <p>Mandiga, P., Kommu, S. &amp; Bollu, P. C. (2025). <i>Hepatic Encephalopathy</i>. StatPearls. <a href="https://www.ncbi.nlm.nih.gov/books/NBK430869/">https://www.ncbi.nlm.nih.gov/books/NBK430869/</a></p> <p style="text-align: center;">Feedback:</p> <p>Thank you for presenting such a clear and detailed case scenario, along with the image. Also, your thoughtful question encouraged me to reflect more deeply on the clinical approach and management. Hepatic encephalopathy is also another common diagnosis in my unit, and lactulose is one of essential medication as well.</p>		
1 9	<p style="text-align: center;">References: Feedback:</p>		/ 10

20	<p>1. Sarah likely has acute liver failure (ALF) due to acetaminophen (Tylenol) overdose. Acetaminophen overdose (either intentional or unintentional) is the most common cause of acute liver failure in the United States and much of the developed world (Bethesda, 2012). For this patient, presents Tylenol ingestion and blood noted from NG tube.</p> <p>2. 1) Labs: Prolonged INR greater than or equal to 1.5, often elevated bilirubin and aminotransferases, thrombocytopenia, with anemia, hypoglycemia, elevated ammonia and features of acute renal injury (with elevated serum creatinine), and dyselectrolytemia (hypokalemia, hypophosphatemia) is common (Shah et al., 2023). Liver function tests (AST, ALT, bilirubin, to assess the extent of hepatic injury; INR/PT, aPTT , liver failure impairs clotting factor synthesis, increasing bleeding risk; ammonia level to elevate in hepatic encephalopathy; acetaminophen level, to guide treatment and assess toxicity severity; lactate and ABGs to monitor for metabolic acidosis and hypoperfusion.; renal panel (BUN/Cr) to assess for hepatorenal syndrome.</p> <p>2) Medications The management of ALF consists of supportive care, prevention, and management of complications, specific treatment when the exact etiology is known, and determination of prognosis and the need for liver support including possible liver transplantation. For patients with known or suspected acetaminophen-induced ALF, activated charcoal (if presented within 4 hours of ingestion) and prompt administration of N-acetyl cysteine (NAC) is indicated (Shah et al., 2023). Vitamin K to supports clotting factor production. Mannitol or hypertonic saline (if ICP increases) to manage cerebral edema from encephalopathy.</p>	<p>For full credit, answer should include diagnosis of <b>acute/fulminant liver failure (1 pts)</b>; interventions, including <b>necessary labs (liver enzymes, ammonia, coags) (2 pts)</b>, medications to consider (<b>acetylcysteine) (2 pts)</b>, assessments (<b>bleeding, LOC) (2 pts)</b> Liver functions that place Sarah at the highest risk at this point are <b>clotting factors and hepatic encephalopathy (2 pts)</b>. <b>APA citation (1 pt)</b>.</p> <p>Excellent answer! Thank you for the feedback. I'm glad you found the case scenario straightforward as that was the goal! Thanks for the detailed answer. Well done!</p>	10/10
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<p>3) Assessments: Neuro checks every hour to monitor for worsening encephalopathy or cerebral edema. Strict I/Os and hemodynamic monitoring, fluid shifts and hypotension are common in ALF. Bleeding precautions to assess gums, bruising, and IV sites regularly.</p> <p>3. Encephalopathy is a key feature of ALF. Like encephalopathy, coagulopathy is also a defining feature of ALF. Bleeding events are rare despite the presence of severe coagulopathy. Sepsis, including aspiration pneumonia and fever, should be covered with broad-spectrum antibiotics. Metabolic disorders, such as hypoglycemia, hypophosphatemia, alkalosis, acidosis, hypoxemia, acute respiratory distress syndrome, or pulmonary hemorrhage (Shah et al., 2023).</p> <p style="text-align: center;">References:</p> <p>Bethesda (2012). <i>Acute liver failure</i>. StatPearls. <a href="https://www.ncbi.nlm.nih.gov/books/NBK548171/">https://www.ncbi.nlm.nih.gov/books/NBK548171/</a></p> <p>Shah, N. J., Royer, A. &amp; John, S. (2023). <i>Acute Liver Failure</i>. StatPearls. <a href="https://www.ncbi.nlm.nih.gov/books/NBK482374/">https://www.ncbi.nlm.nih.gov/books/NBK482374/</a></p> <p style="text-align: center;">Feedback:</p> <p>Thank you for presenting such a clear and detailed case scenario, along with the image. Also, your thoughtful question encouraged me to reflect more deeply on the clinical approach and management.</p>		
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