N431 Care Plan # 1

Lakeview College of Nursing

Teah Rasche-Hill

Demographics (3 points)

Date of Admission	Patient Initials	Age	Gender
9/18/2020	JW	70	Female
Race/Ethnicity	**Occupation**	**Marital Status**	**Allergies**
Caucasian	Retired	Divorced	No Known Allergies
Code Status	**Height**	**Weight**	
Full Code	5'2 (157.5 cm)	112lb (50.8kg)	

Medical History (5 Points)

Past Medical History: CVA (Cerebrovascular accident), Generalized headaches, Hepatitis C, Hypertension, Liver Cirrhosis w/o ascites.

Past Surgical History: Tonsillectomy (Bilateral) & EGD

Family History: Asthma (Daughter), Bleeding Disorder (Mother), Cancer (Father & Sister), Hypertension (Mother).

Social History (tobacco/alcohol/drugs): Patient states she does smoke cigarettes and has for the past 52 years and smoking .30 packs per/day. She does not or has not used smokeless tobacco, she drinks alcohol occasionally more of a social drinker and reports no drug use. Client did have a urine drug test and the test was positive for amphetamine and opiates.

Assistive Devices: She is not using any assistive devices.

Living Situation: Client before being admitted into the hospital was living on her own. She was very independent was cooking, cleaning, bathing, etc. on her own.

Education Level: High School Diploma

Admission Assessment

Chief Complaint (2 points): AMS (Altered Mental Status)

History of present Illness (10 points): JW is a 70-year-old female who was brought to the ED by ambulance. Upon asking client what brought her into the hospital she stated that

she doesn't remember anything from her fall at home, ambulance ride, and ED visit. From the doctors note it stated that she fell out of bed and a sister came to check in on her and found her. She has two children and her daughter was at bedside when she was in the emergency room and states that the last well known was two days ago. Stated "mom was sleeping a lot yesterday which was out of normal". She has a history of Hepatitis C, Cirrhosis with thrombocytopenia, and elevated Bilirubin. She was treated with pegylated interferon in 2009. She has no fever, chills, no black stools. She is anemic with a hemoglobin of 8.6

Primary Diagnosis

Primary Diagnosis on Admission (2 points):Acute hepatic encephalopathy

Secondary Diagnosis (if applicable): Cirrhosis of the liver without ascites.

Pathophysiology of the Disease, APA format (20 points):

Upon admission to the ER the client had an altered mental status which made staff think my client could have suffered a stroke. After ruling that out with a CT stroke protocol along with an MRI on the brain they went to work and noted that the client is Hepatitis C positive as well as has a diagnosis of Cirrhosis. Labs were done to see what was elevated and the client's ammonia lab was elevated at a level of 157 and the normal range is 16-53. Ammonia is the major factor used in the development of hepatic encephalopathy. This lab draw was used in conjunction with many other labs and diagnostic tests to diagnosis my client with acute hepatic encephalopathy.

Hepatic encephalopathy occurs in clients who have cirrhosis which is a severe liver disease/ liver failure. Hepatic encephalopathy happens because of a buildup of ammonia

due to the liver not being able to filter the toxins out correctly. With high ammonia levels you can see someone exhibit personality change, confusion, or stupor. As ammonia levels rise you start to see these toxic levels start to affect the brain. Unfortunately, this can cause brain damage. This can lead a client into a state of confusion, disorientation, stupor, and even a coma. One can also see asterixis where one exhibits tremors of the hands. This occurs because the client has liver disease for years called cirrhosis. As cirrhosis progresses it starts to show different signs and symptoms. My client did show up to the ER with altered mental status, which was caused by the hepatic encephalopathy causing confusion, disorientation, which was affecting the brain.

The first symptoms that one will see in someone with hepatic encephalopathy is altered mental status as well as motor disruptions. One could also see one sleeping more during the day and having insomnia during the night. Eventually if not noticed it can become difficult to waken someone and they are completely disorientated to place and time. If this is missed due to independent living etc. it can even cause one to go into a coma and for them to have seizures.

In the case of my client she got diagnosed with acute hepatic encephalopathy due to multiple factors such as the diagnosis of Hepatitis C as well as Cirrhosis. All of these affect the liver function and effect how the liver filters toxins out of the body. The Hepatitis C attacked the liver causing cirrhosis of the liver. With years of having cirrhosis it started to affect my client more which then caused my client the diagnosis of hepatic encephalopathy. While in the hospital the physician has the client on two medications to help with hepatic encephalopathy and they are lactulose which is a sugar that helps soften stools in the body and helps produce more bowel movements. This is used to help remove the ammonia waste

and toxins that are built up in the client's system which has caused the confusion, fatigue, and changes in personality. The second medication that the client is on is rifaximin which is an antibiotic that helps reduce bacteria growth that aids in production of toxins. With someone who has high ammonia levels it is not uncommon to see an antibiotic like this prescribed as well.

My client had several labs that were elevated due to her acute hepatic encephalopathy and cirrhosis diagnosis. They were her bilirubin (3.9), alkaline phosphate (110), AST (75), INR (1.4), and PT(16.2). This is very common to see in someone who is suffering from liver disease such as the cirrhosis and acute hepatic encephalopathy that my client has. It was also noted that she has had some elevated blood pressures (145/56) while in the care at OSF and this could be due to the liver not filtering toxins and waste correctly. The higher the ammonia levels the more ammonia is found in the blood stream causing the blood vessels to vasodilate triggering exacerbating portal hypertension.

While acute hepatic encephalopathy is being treated by the lactulose and rifaximin there is no cure for cirrhosis and while treatment will prolong life and help with symptoms this is something my client will deal with for the rest of her life. It is important to educate her on steps to take to help reduce pain and flair ups such as stop drinking alcohol. Even on occasions as this will induce more flair ups. It's also important to teach client of signs and symptoms so that she isn't found at home on the ground with an altered mental status. If she can report and notice signs and symptoms that are occurring before they get bad it will help my client out tremendously. It is also not uncommon for someone who is being discharged from the hospital to stay on lactulose medication to keep their ammonia levels down and at a safe level.

Pathophysiology References (2) (APA):

Capriotti, T., & Frizzell, J. P. (2016). *Pathophysiology: introductory concepts and clinical perspectives*. Philadelphia: F.A. Davis Company.

Hinkle, J. L., Cheever, K. H., & Brunner, L. S. (2018). *Brunner & Suddarths textbook of medical- surgical nursing* (14th ed.). Philadelphia: Wolters Kluwer.

Laboratory Data (15 points)

CBC Highlight All Abnormal Labs—Explanations must be in complete sentences and contain in-text citations in APA format.

Lab	Normal Range	Admission Value	Today's Value	Reason for Abnormal Value
RBC	**3.8-5.3**	**3.29**	**2.67**	**Low due to chronic illness of Hepatitis C, and acute hepatic encephalopathy.**
Hgb	**12.0-15.8**	**10.4**	**8.7**	**Low due to low RBC's / Anemia.**
Hct	**36-47**	**30.3**	**25.3**	**Low due to Anemia and cirrhosis.**
Platelets	**140-440**	**85**	**83**	**Low due acute or chronic infection such as her Hep C diagnosis.**
WBC	**4.0-12.0**	**4.00**	**5.10**	
Neutrophils	**47.0-73%**	**74.3**	**66.7**	**High due to viral infection such as her Hep C.**
Lymphocytes	**18.0-42.0%**	**13.6**	**17.2**	**Low due to drug therapy.**
Monocytes	**4.0-12.0%**	**11.4**	**12.2**	**High due to viral infections.**
Eosinophils	**0.0-5.0%**	**0.4**	**3.8**	
Bands	**0.0-1.0%**	**0.3**	**0.1**	

Chemistry Highlight All Abnormal Labs—Explanations must be in complete sentences and contain in-text citations in APA format.

Lab	Normal Range	Admission Value	Today's Value	Reason For Abnormal
Na-	133-144	139	145	High due to GI loss from the lactulose been given to lower ammonia level.
K+	3.5-5.1	4.2	3.2	Low due to GI disorder such as diarrhea.
Cl-	98-107	104	115	High due to excessive infusion of normal saline.
CO2	21-31	22	20	Low due to shock/starvation. She was on a liquid diet and now pureed diet and has had a lot going on the past few days.
Glucose	70-99	127	97	High due to the acute stress response from falling and the whole hospital stay.
BUN	7-25	35	26	High due to shock and starvation.
Creatinine	0.50-1.00	0.84	0.74	
Albumin	3.5-5.7	3.5	2.8	Low due to stress/ cirrhosis.
Calcium	8.8-10.2	9.9	8.4	Low due to pancreatitis.
Mag	N/A	N/A	N/A	
Phosphate	N/A	N/A	N/A	
Bilirubin	0.2-0.8	3.9	2.9	High due to cirrhosis.
Alk Phos	34-104	110	67	High due to cirrhosis.
AST	13-39	75	64	High due to hepatitis and hepatic cirrhosis
ALT	7-52	31	27	
Amylase	N/A	N/A	N/A	
Lipase	11-82	87	N/A	High due to acute pancreatitis

Lactic Acid	**N/A**	**N/A**	**N/A**	
Troponin	**0.000-0.040**	**< 0.030**	**N/A**	
CK-MB	**N/A**	**N/A**	**N/A**	
Total CK	**N/A**	**N/A**	**N/A**	
Ammonia	**16-53**	**157**	**82**	**High due to hepatic encephalopathy.**

Other Tests Highlight All Abnormal Labs—Explanations must be in complete sentences and contain in-text citations in APA format.

Lab Test	Normal Range	Value on Admission	Today's Value	Reason for Abnormal
INR	**0.8-1.1**	**1.4**	**N/A**	**High due to cirrhosis and hepatitis.**
PT	**10.1-13.1**	**16.2**	**N/A**	**High due to cirrhosis and hepatitis.**
PTT	**N/A**	**N/A**	**N/A**	
D-Dimer	**N/A**	**N/A**	**N/A**	
BNP	**N/A**	**N/A**	**N/A**	
HDL	**>40**	**46**	**N/A**	
LDL	**<130**	**78**	**N/A**	
Cholesterol	**<200**	**140**	**N/A**	
Triglycerides	**<150**	**80**	**N/A**	
Hgb A1c	**N/A**	**N/A**	**N/A**	
TSH	**N/A**	**N/A**	**N/A**	

Urinalysis Highlight All Abnormal Labs—Explanations must be in complete sentences and contain in-text citations in APA format.

Lab Test	Normal Range	Value on Admission	Today's Value	Reason for Abnormal
Color & Clarity	**----------**			

pH	**5.0-9.0**	**6.0**		
Specific Gravity	**1.003-1.030**	**1.017**		
Glucose	**Negative**	**Negative**		
Protein	**Negative**	**1+**		**Elevated due to hypertension**
Ketones	**Negative**	**Negative**		
WBC	**0-5**	**11-20**		**Elevated due to bacterial infection in the urinary tract.**
RBC	**Negative**	**3-5**		**Due to possible infection.**
Leukoesterase	**Negative**	**3+**		**Possible UTI.**

Arterial Blood Gas Highlight All Abnormal Labs—Explanations must be in complete sentences and contain in-text citations in APA format.

Test	Normal Range	Value on Admission	Today's Value	Explanation of Findings
pH	**7.35-7.45**	**7.45**	**N/A**	
PaO2	**80-100**	**88**	**N/A**	
PaCO2	**35-45**	**36**	**N/A**	
HCO3	**22-26**	**24.7**	**N/A**	
SaO2	**95-100%**	**95%**	**N/A**	

Cultures Highlight All Abnormal Labs—Explanations must be in complete sentences and contain in-text citations in APA format.

Test	Normal Range	Value on Admission	Today's Value	Explanation of Findings
Urine Culture	**N/A**	**N/A**	**N/A**	
Blood Culture	**N/A**	**N/A**	**N/A**	
Sputum Culture	**N/A**	**N/A**	**N/A**	

Stool Culture	**Negative**	**Positive On 9/20/2020**	**N/A**	**She had bacteria in her stool culture.**

Lab Correlations Reference (APA):

Kee, J. L. F. (2017). *Pearson handbook of laboratory & diagnostic tests with nursing implications*. Boston: Pearson.

Hinkle, J. L., Cheever, K. H., & Brunner, L. S. (2018). *Brunner & Suddarths textbook of medical-surgical nursing* (14th ed.). Philadelphia: Wolters Kluwer.

Normal ranges were pulled from EPIC.

Diagnostic Imaging

All Other Diagnostic Tests (5 points):

9/18/2020- CT Stroke Protocol

Findings: Third, Fourth, and lateral ventricles and sulci show enlargement with moderate atrophy. Persistent septum cavum persistent seen.

Brainstem and cerebellum and the remainder of the posterior fossa show no abnormality.

Parasellar region are unremarkable.

Periventricular white matter shows severe deep white matter and chronic deep white matter ischemic changes.

No hemorrhage or mass effect

Calvarium and paranasal sinuses appear unremarkable.

Impression: Moderate atrophy. Multiple hypodense areas in the deep white matter most likely representing old ischemic changes. No previous examination available for comparison.

Persistent septum cavum pellucidum seen

No Hemorrhage or mass effects

9/19/2020 MRI Brain w/o Contrast

Impression: 1. No acute or subacute infarction noted

2. Mild cerebral atrophy noted

3. Old lacunar infarction noted in both thalamus

4. Microvascular ischemic changes noted in periventricular white matter

5. Visualized sinuses are clear.

9/21/2020 US Abdomen Limited Level 3 Three Organ

Impression: Aorta and IVC and portal veins are normal. Liver is seen with mild fatty infiltration. Suspicious mass noted in the head of the pancreas. Size is 4.5 cm x 4.6 cm. Further evaluation is suggested by CT scan of the abdomen and pelvis w/o and w/ IV contrast. Gallbladder is visualized. Two small soft gallstones seen; CBD is normal. Right kidney is visualized. No hydronephrosis seen. No stone seen.

9/21/2020 CT Abdomen Pelvis W/WO Contrast

Impression: 4.6x3.3 cm solid mass seen in the body of the pancreas corresponding to the abnormality seen in the ultrasound. Further assessment to exclude malignancy suggested. Multiple air-fluid levels seen in the small and large intestine with mild generalized intramural edema. Findings are most likely secondary to non-specific enteritis.

Diagnostic Test Correlation (5 points):

Client was originally admitted due to altered mental status. After labs were drawn, they were ruling out stroke so had labs and diagnostic test done to rule a stroke out. They went ahead and did a CT Stroke Protocol to look at the brain to see if there were any findings pointing towards a stroke. They noted some old ischemic changes. Following day, they did an MRI of the brain to take a better look to rule out stroke. While doing labs they notice that ammonia level was elevated so on 9/21/2020 did an abdominal ultrasound to see how the liver looked due to the elevated ammonia levels. While doing the ultrasound they found a suspicious mass on the head of the pancreas, so they went ahead and did a CT of the abdomen and pelvis where the mass was noted again.

Diagnostic Test Reference (APA):

Kee, J. L. F. (2017). *Pearson handbook of laboratory & diagnostic tests with nursing implications*. Boston: Pearson.

Current Medications (10 points, 1 point per completed med)
10 <u>different</u> medications must be completed

Home Medications (5 required)

Brand/ Generic	**omeprazole (Prilosec)**	**Lasix (furosemide)**	**Aldactone (spironolactone)**	**Prinzide Zestoretic (lisinopril-hydrochlorothiazide)**	**Reglan (metoclopramide)**
Dose	**20 mg**	**20 mg**	**25 mg**	**10-12.5 mg**	**5 mg**
Frequency	**BID Daily Before Meals**	**Daily**	**Daily**	**Daily**	**Daily**
Route	**Oral**	**Oral**	**Oral**	**Oral**	**Oral**
Classification	**Antiulcer**	**Antihypertensive/diuretic**	**Aldosterone antagonist, antihypertensive, diuretic.**	**Antihypertensive, vasodilator**	**Upper GI Stimulant**

Mechanism of Action	**Impedes gastric acid secretion and helps keep additional HCl from developing.**	**Hinders sodium and water reabsorption to help increase urine output and excretion of calcium, bicarbonate, ammonium, phosphate, and magnesium. This helps reduce BP and returns to normal.**	**Prevents sodium and water reabsorption causing it to excrete and increase output of urine which helps reduce blood pressure.**	**Prevents conversion of angiotensin 1 to angiotensin 2. This decreases the release of aldosterone which lowers water and sodium reabsorption causing it to excrete through urine and reduce BP.**	**Prevents nausea and vomiting by inhibiting dopamine on GI smooth muscle. This allows gastric contraction which provides gastric emptying.**
Reason Client Taking	**Client isn't taking this anymore but could be taking this due to stomach acid build up.**	**Client isn't taking this anymore but could have been taking it due to having hypertension.**	**Client is taking this because she has a diagnosis of hypertension but also acute hepatic encephalopathy which causes the body to hold on to fluid and toxins.**	**Client is taking this because she has a diagnosis of hypertension.**	**Client isn't taking this medication anymore but could have been taking it from a result of nausea and vomiting.**
Contraindications (2)	**1.Do not take if you have liver issues. 2.Do not take if you have an autoimmune disorder.**	**1.anuria unresponsive to furosemide. 2. hypersensitivity to furosemide.**	**1.Acute renal insufficiency 2. Hyperkalemia**	**1. Use of a neprilysin inhibitor such as sacubitril within 36 hours. 2.Hereditary or idiopathic angioedema or history of angioedema**	**1. GI hemorrhage 2.Tardive dyskinesia**

				related to previous treatment with and ACE inhibitor	
Side Effects/ Adverse Reactions (2)	**1.Hypertension 2.Diarrhea**	**1.Diarrhea 2. Weakness**	**1.Encephalopathy 2. Muscle weakness**	**1.Confusion 2.Hepatitis**	**1.Hypertension 2.Headache**
Nursing Considerations (2)	**1.Keep in mind that when taking while on an antibiotic it can cause diarrhea and you should withhold medication. 2. Monitor urine output while on this medication as it can cause acute interstitial nephritis.**	**1.Use with caution in clients who have hepatic cirrhosis. This could use to hepatic coma. 2. Make sure to monitor dosing and times given as you do not want to give medication close to bed as this will interrupt sleep by the increase need to urinate.**	**1. Evaluate effectiveness by assessing BP and presence of edema. 2.If client is having troubles swallowing it can be crushed and mixed with syrup. It good for 1 month if refrigerated.**	**1.Notify provider if client has a nonproductive cough. 2.Monitor client for hepatic dysfunction because lisinopril can cause cholestatic jaundice or hepatitis and progress to hepatic necrosis.**	**1. Use this medication cautiously in clients who have hypertension as it may increase catecholamine levels. 2. Monitor clients who have heart failure or cirrhosis for possible fluid retention or volume overload.**
Key Nursing Assessment(s) /Lab(s) Prior to Administration	**1. Check client's home and hospital medications before**	**1.Make sure to obtain clients weight before giving medication and periodically**	**1. Check clients BP before giving it. 2. Check potassium**	**1.Want to monitor serum creatinine level before and while on**	**1.Assess for signs of intestinal obstruction such as diarrhea,**

	administering as some medications can cause increase gastric secretions. **2. Check for anemia as long-term use can cause macrocytic anemia.**	**throughout.** **2. Do vitals before administering medication and monitor throughout taking medication.**	**levels before giving as this medication can elevate potassium levels.**	**this medication.** **2.Monitor serum potassium level before and while on this medication.**	**nausea, vomiting, abnormal bowel sounds before administration.** **2. Assess for depression in client before prescribing this medication as it can increase risk for suicidal ideations.**
Client Teaching needs (2)	**1. Educate to avoid alcohol, aspirin products, ibuprofen, and food that could increase gastric secretions.** **2. Notify the provider if you are experiencing decreased urine output or blood in urine.**	**1. Make sure to take this medication at the same time(s) each day to maintain therapeutic effects.** **2. You will want to change positions slowly as this medication can cause orthostatic hypotension.**	**1.Make sure to take this medication with a meal or milk.** **2. Teach how to check own BP at home and please report a BP greater then 140/90.**	**1.Make sure to take this medication at the same time every day.** **2. Do not use salt substitutes that contain potassium.**	**1. Avoid alcohol and CNS depressants while taking this medication as this may increase CNS depression.** **2. Stopping this medication can cause withdrawal symptoms such as dizziness, nervousness, and headache.**

Hospital Medications (5 required)

Brand/Generic	**Aspirin (acetylsalicylic acid)**	**Rocephen (ceftriaxone)**	**Xifaxan (rifaximin)**	**Protonix (pantoprazole)**	**Constulose (lactulose)**
Dose	**81 mg**	**1 g**	**400 mg**	**40 mg**	**20 g**
Frequency	**Daily**	**Every 24 hours**	**3x Daily**	**2x Daily**	**3x Daily**
Route	**Oral**	**Intravenous Injection**	**Oral**	**Intravenous Injection**	**Rectal until client is able to take orally. Pt was switched to oral at 1200.**
Classification	**Anti-inflammatory, antiplatelet, antipyretic, nonopioid analgesic**	**Antibiotic**	**Antibacterial**	**Antiulcer, gastric acid proton pump inhibitor.**	**Ammonia reducer/ laxative**
Mechanism of Action	**Blocks cyclooxygenase that is needed for prostaglandin synthesis. By blocking this it helps subside the inflammatory symptoms as well as relieving pain.**	**Inhibits bacterial cell wall synthesis of both gram-positive and gram-negative bacteria.**	**Inhibits bacterial and mycobacterial RNA synthesis by binding to DNA-dependent RNA polymerase. This results in cell impairment or death.**	**Reduces gastric acid secretion by inhibiting the hydrogen-potassium-adenosine triphosphatase enzyme thus preventing H+ from entering the stomach making sure HCl isn't forming.**	**This breaks down in the colon into lactic acid. This prevents ammonia diffusion from intestine into blood and expels it out in feces.**
Reason Client Taking	**Client is taking this as a**	**Is taking this to help with**	**Client is taking this due to the**	**Client is taking this to help reduce**	**Client has acute hepatic**

	preventative as they thought she was having a stroke when she arrived at the hospital.	**bacterial infection.**	**acute hepatic encephalopathy as well as Hepatitis C diagnosis.**	**heartburn and difficulty swallowing.**	**encephalopathy and has high ammonia levels. She is taking this to reduce the ammonia levels in the body.**
Contraindications (2)	**1.Bleeding problems 2. Asthma**	**1. Liver problems 2. Gallbladder disease**	**1.Hypersensitivity to antimicrobial agents 2.Hypersensitivity to rifaximin.**	**1.Hypersensitivity to pantoprazole. 2. Concurrent therapy with rilpivirine containing products.**	**1. Low-galactose diet 2. Hypersensitivity to lactulose or its components.**
Side Effects/Adverse Reactions (2)	**1. Confusion 2. Diarrhea**	**1. Hepatic failure 2.Headache**	**1. Fatigue 2. Elevated ALT liver enzymes.**	**1. Hepatic Failure 2.Confusion**	**1.Diarrhea 2.Flatulence**
Nursing Considerations (2)	**1.Do not crush time-release or controlled release aspirin tablets. 2. Use an immediate-release aspirin in situations where a rapid onset of action is required such as MI.**	**1.Protect the powder from light. 2.Monitor client for evidence of gallbladder disease.**	**1. This medication should not be used if the client has traveler's diarrhea. 2. Notify the provider if diarrhea last longer then 48 hours if being treated for hepatic encephalopathy.**	**1. Monitor clients urine output as this medication can cause acute interstitial nephritis. 2.Administer 30 min before a meal with some applesauce.**	**1. Plan to replace fluids if frequent bowel movements cause hypovolemia. 2.If giving medication rectally make sure to use a balloon to help keep medication in for 30-60**

					min.
Key Nursing Assessment(s)/ Lab(s) Prior to Administration	**1.Assess client's stool for tarry stool, coughing up blood, or coffee ground vomit as this is a sign to not give this medication. 2.Check INR levels before giving this medication.**	**1.Make sure calcium containing products are not given I.V. within 48 hours of ceftriaxone. 2. Obtain and culture and sensitivity result/ test before giving this drug.**	**1. Assess client's stool before giving this medication. 2. Assess fluid and electrolytes for dehydration.**	**1.Monitor INR and PT before and while taking this medication. 2. Monitor Vitamin B12 as if this is a long-term medication use client might not be able to absorb B12.**	**1.Check serum electrolytes before and while taking this medication. 2. Check ammonia levels before and while taking this medication.**
Client Teaching needs (2)	**1. Do not take ibuprofen because it may reduce the cardioprotective and stroke preventative effects of aspirin. 2. Take this medication with food or after meals because it may cause GI upset if taken on an empty stomach.**	**1. Report any watery, bloody stools to your provider immediately. 2. Report any rashes, itching skin, or hives to provider immediately.**	**1. Take this medication the full length it is prescribed even if you start feeling better. 2. Report to provider if you get diarrhea and if it last longer then 48 hours.**	**1. Notify provider if diarrhea occurs or become prolonged. 2. You will start to see relief of symptoms within two weeks call provider if this doesn't happen.**	**1. Take medication with food or with juice to help reduce the sweetness. 2. Do not take any other laxatives while taking this medication.**

Medications Reference (APA):

Jones & Bartlett Learning. (2019). *2019 Nurses drug handbook*. Burlington, MA.

Assessment

Physical Exam (18 points)

GENERAL (1 point): **Alertness:** **Orientation:** **Distress:** **Overall appearance:**	Client is Alert and Oriented x4. She is in no apparent distress. She greeted me when I walked through the door. She seemed tired but other than that was fine. She was laying down in the bed with legs bent. She is skinny, upon appearance she looks malnourished. Her nails, skin, and hair look taken care of and no physical findings abnormal off what I have seen so far.
INTEGUMENTARY (2 points): **Skin color:** **Character:** **Temperature:** **Turgor:** **Rashes:** **Bruises:** **Wounds:** . **Braden Score:** **Drains present: Y☐ N ☒** **Type:**	Skin is usual for ethnicity and is pale pink. She is warm to touch all over body besides her hands (cold to touch) and turgor is loose. No rashes or wounds noted but bruising is noted on left arm where IV was and where they tried to start and IV. Braden score is a 16 as she is put at a mild risk.
HEENT (1 point): **Head/Neck:** **Ears:** **Eyes:** **Nose:** **Teeth:**	Head is normal cephalic, and trachea is midline. No vein distention noted. Eyes are symmetrical, sclera is white, conjunctiva was clear with no drainage. PERRLA was done and pupils were equal, round, reactive to light, and accommodation. Clients hearing is well she responded great to my verbal cues and external ear is intact. Nose is symmetrical and septum is midline. Nostrils were pink and moist, and turbinate's were noted. Client had clear thin drainage coming from nostrils. Client's mouth was a pale pink, moist, and intact. Client has dentures and lost the bottom set of teeth recently.

CARDIOVASCULAR (2 points): **Heart sounds:** **S1, S2, S3, S4, murmur etc.** **Cardiac rhythm (if applicable):** **Peripheral Pulses:** **Capillary refill:** **Neck Vein Distention: Y ☐ N ☒** **Edema Y ☐ N ☒** **Location of Edema:**	S1 and S2 noted in all 5 areas with normal rhythm and rate. No murmur, gallop, or rub heard. I did peripheral pulse's and radial pulse's and were normal strong 3+ in both arms and legs. Capillary refill was less than 3 seconds. Edema was 0 meaning no edema.
RESPIRATORY (2 points): **Accessory muscle use: Y☐ N ☒** **Breath Sounds: Location, character**	Lungs are clear when auscultated. Breath sounds noted in all locations no wheezing, crackles, or rubs heard. Respirations were unlabored, regular, and she wasn't using her abdomen or accessory muscles.
GASTROINTESTINAL (2 points): **Diet at home:** **Current Diet** **Height:** **Weight:** **Auscultation Bowel sounds:** **Last BM:** **Palpation: Pain, Mass etc.:** **Inspection:** **Distention:** **Incisions:** **Scars:** **Drains:** **Wounds:** **Ostomy: Y ☐ N ☒** **Nasogastric: Y ☐ N ☒** **Size:** **Feeding tubes/PEG tube Y ☐ N ☒** **Type:**	.Client states she follows a well-balanced diet at home with fruits, vegetables, proteins, and carbs. She is currently on a pureed diet till the morning as she had her NG tube taken out around 1140 this morning. She is tolerating her diet well but only ate about half of her meal. She is 5'2" and 112lbs. Abdomen is soft, non-distended, and bowel sounds active in all four quadrants. No complaint of pain during palpation and no masses noted. Clients last bowel movement was today at 1443 and was diarrhea. She is on lactulose to help have more frequent bowel movements to eliminate ammonia out of body as it has been elevated. No drains, scars, wounds, distention, incisions noted.
GENITOURINARY (2 Points): **Color:** **Character:** **Quantity of urine:** **Pain with urination: Y ☐ N ☒** **Dialysis: Y ☐ N ☒** **Inspection of genitals:** **Catheter: Y ☐ N ☒** **Type:** **Size:**	Client urinated while she had her bowel movement. I was not in the room so when asked she stated her urine has been a yellow color and she has been urinating normal and frequent. She feels like when she urinates, she empty's her bladder. She doesn't have any pain while urinating and genitals were not inspected while in my care.
MUSCULOSKELETAL (2 points):	Clients neurovascular status is alert and oriented

Neurovascular status: **ROM:** **Supportive devices:** **Strength:** **ADL Assistance: Y☒ N ☐** **Fall Risk: Y ☒ N☐** **Fall Score:** **Activity/Mobility Status:** **Independent (up ad lib)** ☐ **Needs assistance with equipment** ☐ **Needs support to stand and walk**☐	x4. She responds to person, place, situation, and today's date. Musculoskeletal is a 4 with active motion but has some right sided arm weakness. Her ROM is active as she could move arms and legs without any pain or discomfort but does have some slight weakness with her right arm. She is a fall risk of a 30 so she needs assistance when getting up. She is living a sedentary lifestyle in the hospital as she has been on bedrest. She does use a gait belt when getting up to go to bathroom but doesn't have an unsteady gait. OT came in this afternoon and had her put on her own socks, brush her hair, and wash her hands and she did very well. She didn't need any assistance with the tasks she was asked to do.
NEUROLOGICAL (2 points): **MAEW: Y ☒ N☐** **PERLA: Y ☒ N☐** **Strength Equal: Y ☐ N ☒ if no -** **Legs ☐ Arms ☒ Both ☐** **Orientation:** **Mental Status:** **Speech:** **Sensory:** **LOC:**	Client does move all extremities well but does have some slight right arm weakness. He A&O is x4. Her LOC is well and has improved greatly throughout her stay here in the hospital. She greeted me when I entered the room and allowed me to sit down so we could talk. I got the impression that she was ready to be out of the hospital but understood that she needed to be here due to her diagnosis of acute hepatic encephalopathy. She followed my commands both simple and complex while doing the head-to-toe assessment. She was alert and awake and could answer my questions I asked and did so appropriately. I asked her to rate her pain 0 to 10 10 being the worse pain she has ever been in and she rated it both times a 0.
PSYCHOSOCIAL/CULTURAL (2 points): **Coping method(s):** **Developmental level:** **Religion & what it means to pt.:** **Personal/Family Data (Think about home environment, family structure, and available family support):**	Client seems to be coping well. She seems to be leaning on her family while in the hospital. Her sister is staying with her while in the hospital and has been her strength while here. Her daughter was in the ER when she arrived at the hospital. She has great support as her sister is allowing her to move in with her to help support her while she gets better. She has no developmental issues and states she is religious but didn't state anything else about it when asked. Her daughter and sisters visited her frequently at her home to check in on her and are very helpful and supportive.

Vital Signs, 2 sets (5 points)

Time	Pulse	B/P	Resp Rate	Temp	Oxygen
1157	95	145/56	18	97.7 Fahrenheit (Orally)	100 (Room air)
1533	98	110/44	15	98.4 Fahrenheit (Orally)	99 (Room air)

Vital Sign Trends:

Patients vitals seem to be doing well. Her BP is was elevated around noon and could have been due to NG tube being removed around that time. Upon checking vitals again at 1533 vitals were back to her normal range. Systolic bp was a little low but seemed to be normal for while she was in the hospital.

Pain Assessment, 2 sets (2 points)

Time	Scale	Location	Severity	Characteristics	Interventions
1157	Numerical	N/A	0	N/A	N/A
1452	Numerical	N/A	0	N/A	N/A

IV Assessment (2 Points)

IV Assessment	Fluid Type/Rate or Saline Lock
Size of IV: 24 gauge **Location of IV: Medial left side of arm** **Date on IV: 9/21/2020 @ 1030** **Patency of IV:** **Signs of erythema, drainage, etc.:** **IV dressing assessment:**	Flushed without difficulty, blood return, and patent. No signs of erythema or drainage. IV was clean, dry, and intact. No fluids were being given at the time.

Intake and Output (2 points)

Intake (in mL)	Output (in mL)
Water and Sprite **360 mL**	**Stool and Urine** **Not measured not visually seen while on the floor. OT took patient to the bathroom while doing OT and flushed it without letting nurses know.**

Nursing Care

Summary of Care (2 points)

Overview of care:

Client was admitted for AMS but while in my care has been diagnosed with acute hepatic encephalopathy. She has had multiple diagnostic tests done to rule out a stroke and to figure out what the mass was that was found on ultrasound. She had a NG tube for the past two days as she could not swallow on her own. At 1140 today her NG tube was removed, and she went on a pureed diet. She ate half of her meal and tolerated well. OT came and had her walk around the room and test her gait and strength. She tolerated it well, but they did notice that her right arm is weak. OT stated they would recommend her

living with someone for awhile and having home health to help her become independent and stronger.

Procedures/testing done: Client had a US on the abdomen, CT of the abdomen and pelvis, CT of Stroke, and MRI of Brain.

Complaints/Issues: Client's only complaint/issues was she wanted to go home, and she didn't like taking the lactulose because she is embarrassed to go to the bathroom in bed.

Vital signs (stable/unstable): Her vitals were stable for the most part. She did have elevated and low BP readings today. The high BP was right after her NG tube was taken out and then the low BP reading was taken right after she woke up. Other then BP all vitals were stable.

Tolerating diet, activity, etc.: Client is tolerating her diet well tomorrow she is going to switch from pureed diet to a normal diet eating little bites. She swallowed medication that was a pill just fine this afternoon. She got up with OT and walked with a walker fine, so they tried without walker and she did just as well.

Physician notifications: No physicians did rounding on JW this afternoon but I did read a note from physician from the morning. Physician stated that the client was more alert and awake today and was able to swallow. Physician stated that the NG tube should be taken out and the client should be started on a pureed diet.

Future plans for patient: Client should be changed tomorrow to a normal diet and see how it is tolerated. If tolerated well client will be discharged as soon as ammonia levels are in normal range.

Discharge Planning (2 points)

Discharge location: It was recommended by OT to have the client be discharged to her sister's house to have someone to help her and watch her. This is to make sure client is taking medication, monitor her to make sure she is safe etc.

Home health needs (if applicable): OT also suggest home health 3-4 days a week. This is for OT to come in and help with impairments and functional limitations. They suggested treatment to include ADL's, balance training, cognition endurance training, gait/ mobility transfers, Nero re-education, safety, and stairs.

Equipment needs (if applicable): N/A

Follow up plan: She is to follow up with her primary care provider within two weeks after discharge. This is to make sure she is doing better and managing medications and home health well.

Education needs: Client needs to be educated on Cirrhosis and the diagnosis of hepatic encephalopathy. She should also be educated on substance abuse and the risks she is taking when using different substances.

Nursing Diagnosis (15 points)
Must be NANDA approved nursing diagnosis and listed in order of priority

Nursing Diagnosis • Include full nursing diagnosis with "related to" and "as evidenced by" components	**Rational** • Explain why the nursing diagnosis was chosen	**Intervention (2 per dx)**	**Evaluation** • How did the patient/ family respond to the nurse's actions? • Client response, status of goals and outcomes, modifications to plan.
1. Risk for injury related to acute	**This was chosen due to**	**1.Issued client as a Fall risk and had**	**Client handled it well although she is very**

hepatic encephalopathy as evidence by recent fall, right arm weakness, INR and PT elevated, high ammonia levels, confusion, and AMS.	**my client having multiple factors that could lead her to being injured. She had an elevated INR and PT which could cause her to bleed if she fell or was injured. She also had weakness in right arm which could make her unsteady when getting up out of bed or from the bathroom.**	**someone assist on trips to bathroom.** **2. Client was put on bedrest to prevent any chances of injury.**	**independent and doesn't like asking for help she did allow us to use a gait belt and help with assisting her up out of bed and her walks to the bathroom. She did stay in bed other then bathroom but was getting more fidgety and restless in bed. OT came in to assess her and physical therapy was to come in later to help build that arm strength in her right arm.**
2. **Risk for bleeding related to liver failure as evidence by elevated INR, PT, and aspirin.**	**Client is at a risk for bleeding due to her unsteady gait. She has an elevated INR and PT which means her blood is thin and if injured she could bleed to death. On top of the they have her on a baby aspirin which can cause blood thinning as well.**	**1. Monitor INR and PT routinely to make sure that levels start to go back down and back into normal level.** **2.Educate client on signs and symptoms of excessive bleeding both externally and internally.**	**Client handled this well and understood why we were doing the lab draws routinely. She was alert while teaching about signs and symptoms of bleeding and seemed to be interested in the information that was being given.**
3. Risk for acute confusion related to hepatic encephalopathy as evidence	**My client even three days later can't recall anything that brought her to the hospital.**	**1. Medication was given (lactulose) to lower ammonia levels in the**	**My client didn't like the medication that we were giving multiple times a day to produce more frequent bowel movements to get ride**

by client not remembering sister finding her at home, ambulance ride, and ER visit.	**She doesn't remember her sister finding her on the floor of her house after she had fallen, doesn't remember the ambulance ride or the ER visit. It wasn't till the last day that she is starting to recall what's happened throughout the day.**	**body which help reduce confusion had by the client.** **2. Labs were drawn, and routine checks were had to make sure client wasn't becoming worse again and having more confusion.**	**of ammonia that was in the body. She would fight taking the medication but would eventually take it. Labs were drawn daily to check ammonia levels and routine visits to check on client to make sure she was doing well and not becoming confused again. Everyone could notice a huge change in the client from yesterday. This means that the interventions are working.**
4. Imbalanced nutrition: less than body requirements related to Inadequate diet; inability to process or digest nutrients as evidence by weight loss.	**When looking at the client you can tell she has poor nutrition habits. She was on a pureed diet and wasn't eating much. Her weight has gone down since she was admitted into the hospital.**	**1. Give small, frequent meals.** **2. Encourage frequent mouth care , especially before meals.**	**Upon my arrival was the first time my client had ate today. She just got her NG tube out and was on a pureed diet. She had Jell-O and mashed potatoes and ate about half of each. Encouraging small frequent meals will help strengthen and add pounds onto her. We also encouraged frequent mouth care before meals because not having routine mouth care makes things taste different and sometimes not in a good way which could be a contributing factor into why she isn't eating much and having a nutritional imbalance. Client seemed to love the oral**

			care before meals but she wasn't interested in eating very much while in my care.

Other References (APA):

Concept Map (20 Points):

Subjective Data

Pain rated a 0
Right sided arm weakness
Altered mental status
Confused
Memory problem (Not remembering her fall or ambulance/ ER visit).

Nursing Diagnosis/Outcomes

1.Risk for injury related to acute hepatic encephalopathy as evidence by recent fall, right arm weakness, INR and PT elevated, high ammonia levels, confusion, and AMS.

2.Risk for bleeding related to liver failure as evidence by elevated INR, PT, and aspirin.

3.Risk for acute confusion related to hepatic encephalopathy as evidence by client not remembering sister finding her at home, ambulance ride, and ER visit.

4.Imbalanced nutrition: less than body requirements related to Inadequate diet; inability to process or digest nutrients as evidence by weight loss.

Objective Data

BP: 145/56
Pulse: 95
Resp rate: 18
Temp:97.7 Fahrenheit
O2:100
Ammonia:157
INR: 1.4
PT: 16.2
CT Stroke Protocol
MRI Brain
CT of Pelvis and abdomen
Ultrasound of Abdomen

Patient Information

JW is a 70-year-old Caucasian Female who has a history of Cirrhosis.
Full code
5'2"
112lb
No Known Allergies
PMH: CVA, generalized headaches, Hepatitis C, Hypertension, Liver cirrhosis w/ o ascites.

Nursing Interventions

1.Implement a fall risk to make sure client isn't getting up and walking without someone help such as a tech, nurse, or staff.
2. Pureed diet to help with client swallowing so she doesn't choke.
3. Small frequent meals to help her increase her intake and gain weight.
4. Routine medication was given to help reduce ammonia levels and help with reducing the confusion.
5. Routine checks to make sure clients wasn't AMS or confused.
6. Routine lab draws to make sure lab levels were going down in ammonia, INR, PT.
7. Educated on signs and symptoms and when to call 911.