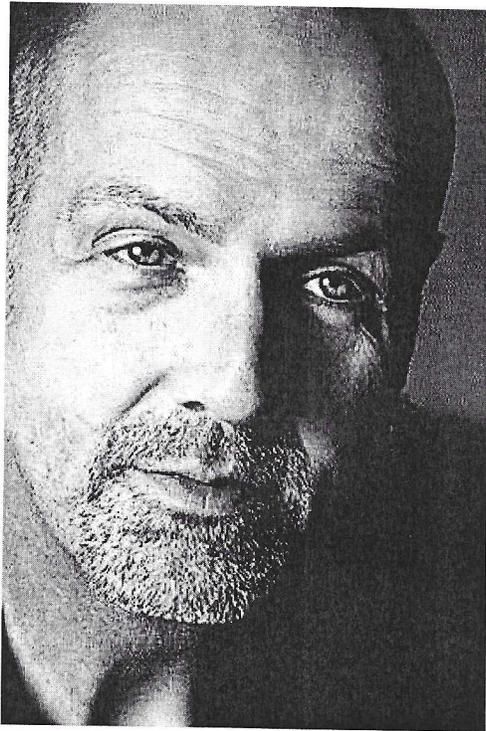


Cirrhosis



John Richards, 45 years old

Primary Concept
Nutrition
Interrelated Concepts (In order of emphasis)
<ol style="list-style-type: none">1. Fluid and Electrolyte Balance2. Perfusion3. Cognition4. Addiction5. Clinical Judgment6. Patient Education7. Communication8. Collaboration

Cirrhosis

History of Present Problem:

John Richards is a 45-year-old male who presents to the emergency department (ED) with abdominal pain and worsening nausea and vomiting the past three days that have not resolved. He is feeling more fatigued and has had a poor appetite the past month. He denies any ETOH (alcohol) intake the past week, but admits to episodic binge drinking on most weekends. John weighs 150 pounds (68.2 kg) and is 6'0" (BMI 17.6). You are the nurse responsible for his care.

Personal/Social History:

John is single, has never married, and lives alone in his own apartment. He has struggled with heroin use/abuse in the past, but has not used in the past two years. John is currently unemployed and has no health insurance. He was diagnosed with hepatitis C ten years ago but has had minimal follow-up medical care since.

What data from the histories are RELEVANT and have clinical significance to the nurse?

RELEVANT Data from Present Problem:	Clinical Significance:
- abdominal pain with nausea/vomiting without resolution - Feeling fatigued - no appetite	- abdominal pain without resolution can indicate an infection or more severe issue. - persistent nausea/vomiting can lead to dehydration
RELEVANT Data from Social History:	Clinical Significance:
- HepC 10 years ago - no health insurance - alcohol/drug abuse - Minimal follow up care	Hepatitis C can lead to further liver complications. No health insurance means he can't pay for his medical bills/care. Drug/alcohol use affects the liver.

What is the RELATIONSHIP of your patient's past medical history (PMH) and current meds?

(Which medication treats which condition? Draw lines to connect.)

PMH:	Home Meds:	Pharm. Classification:	Expected Outcome:
*Hepatitis C - past history of IV drug abuse *ETOH abuse x 25 years	Ibuprofen 600 mg PO prn for headache	NSAID	Relieve Pain

One disease process often influences the development of other illnesses. Based on your knowledge of pathophysiology, (if applicable), which disease likely developed FIRST that created a "domino effect" in his/her life?

- Circle the PMH problem that likely started FIRST.
- Underline the PMH problem(s) FOLLOWED as domino(s).

Patient Care Begins:

Current VS:	P-Q-R-S-T Pain Assessment (5th VS):	
T: 100.5 F/38.1 C (oral)	Provoking/Palliative:	Nothing/nothing
P: 110 (regular)	Quality:	Ache
R: 20	Region/Radiation:	RUQ/epigastric
BP: 128/88	Severity:	6/10
O2 sat: 95% RA	Timing:	Continuous

Orthostatic BP's:

Position:	HR:	BP:
Lying	110	128/88
Standing	132	124/80

What VS data are RELEVANT and must be recognized as clinically significant by the nurse?

RELEVANT VS Data:	Rationale:
- low grade fever - pain 6/10 ↳ continuous Achy, RUQ - tachycardia	The patient has a low-grade fever, fast pulse, and continuous pain that is in the RUQ and is achy. This could indicate an infection or liver issue (RUQ).

Current Assessment:	
GENERAL APPEARANCE:	Appears uncomfortable, body tense, occasional facial grimacing
RESP:	Breath sounds clear with equal aeration bilaterally, non-labored respiratory effort
CARDIAC:	Pink, warm & dry, 1+ pitting edema lower extremities, heart sounds regular-S1S2, pulses strong, equal with palpation at radial/pedal/post-tibial landmarks
NEURO:	Alert & oriented to person, place, time, and situation (x4)
GI:	Abdomen distended, large-rounded-firm to touch, bowel sounds audible per auscultation in all 4 quadrants
GU:	Voiding without difficulty, urine clear/light orange, loss of pubic hair
SKIN:	Skin integrity intact, color normal for patient, sclera of eyes light yellow in color, lips and oral mucosa tacky dry, softball-sized ecchymosis on abdomen

What assessment data are RELEVANT and must be recognized as clinically significant by the nurse?

RELEVANT Assessment Data:	Rationale:
- Jaundice - Ecchymosis on abdomen - Abdominal distension/rounded	Jaundice can indicate liver issue b/c bilirubin is blocked or not functioning properly. Ecchymosis/abdominal distension can indicate a blockage somewhere in the hepatic region.

Lab Results:

Complete Blood Count (CBC:)	Current:	High/Low/WNL?	Previous:
WBC (4.5-11.0 mm ³)	12.8	High	9.5
Hgb (12-16 g/dL)	10.2	Low	11.2
Platelets (150-450 x10 ³ /μl)	98	Low	122
Neutrophil % (42-72)	88	High	75
Band forms (3-5%)	3	WNL	0

What lab results are RELEVANT and must be recognized as clinically significant by the nurse?

RELEVANT Lab(s):	Clinical Significance:	TREND: Improve/Worsening/Stable:
- WBC - Hgb + Platelet - Neutrophils	- High WBC can indicate infection - low Hgb + Platelet due to Necrosis of Fat / dehydration - High neutrophils can indicate infection - first to fight.	labs are worsening

Basic Metabolic Panel (BMP):	Current:	High/Low/WNL?	Previous:
Sodium (135-145 mEq/L)	135	NML	138
Potassium (3.5-5.0 mEq/L)	3.5	WNL	3.8
Glucose (70-110 mg/dL)	78	WNL	88
BUN (7-25 mg/dl)	38	High	25
Creatinine (0.6-1.2 mg/dL)	1.5	High	1.1

What lab results are RELEVANT and must be recognized as clinically significant by the nurse?

RELEVANT Lab(s):	Clinical Significance:	TREND: Improve/Worsening/Stable:
- BUN - creatinine	- BUN can be increased with the liver in the presence of bleeding - creatinine is a chemical waste product of the liver so when there is a liver issue, the chemical may not be broken down	Worsening (BUN, creatinine) everything else is stable.

Coags:	Current:	High/Low/WNL?	Previous:
PT/INR (0.9-1.1 nmol/L)	1.5	High	1.2

RELEVANT Lab(s):	Clinical Significance:	TREND: Improve/Worsening/Stable:
PT/INR: 1.5	The liver may not be producing the proper amount of proteins to clot the blood.	UP...worsening

Liver Function Test (LFT):	Current:	High/Low/WNL?	Previous:
Albumin (3.5-5.5 g/dL)	2.5	Low	2.9
Total Bilirubin (0.1-1.0 mg/dL)	4.2	High	2.2
Alkaline Phosphatase male: 38-126 U/l female: 70-230 U/l	285	High	155
ALT (8-20 U/L)	128	High	65
AST (8-20 U/L)	124	High	85
Misc. Labs:			
Ammonia (11-35 mcg/dL)	35	WNL	28

What lab results are RELEVANT and must be recognized as clinically significant by the nurse?

RELEVANT Lab(s):	Clinical Significance:	TREND: Improve/Worsening/Stable:
- Bilirubin - Albumin - Alkaline Phosphatase - ALT/AST	- ALT indicates liver damage when increased. - AST indicates liver damage when increased. - Bilirubin lets us know how well the liver is able to excrete. High levels could indicate a blockage.	Worsening.

- Alkaline phos indicates issue with liver, gallbladder, and bone malnutrition.
- Albumin: indicates cirrhosis, hepatitis, or ascites.

Lab Planning: Creating a Plan of Care with a PRIORITY Lab:

Lab:	Normal Value:	Why Relevant?	Nursing Assessments/Interventions Required:
ALT Value: 128	Critical Value:	ALT is increased when there is liver damage, specific to liver.	- Pt's I's and O's, Fluid intake, VS, assess skin, GI system (abdomen distended, nausea/vomiting, pain) - Nutrition (small frequent meals, high calorie, sodium restriction) - encourage rest with alternating activity - encourage proper nutrition - treat nausea/vomiting/pain.

Clinical Reasoning Begins...

1. What is the primary problem that your patient is most likely presenting with?

Cirrhosis of the liver.

2. What is the underlying cause/pathophysiology of this primary problem?

Hepatitis C, Alcohol consumption (Binge), and a history of drug abuse. Hepatitis C is the primary cause of this patient's cirrhosis, but was worsened by drinking alcohol and doing drugs.

Collaborative Care: Medical Management

Care Provider Orders:	Rationale:	Expected Outcome:
Establish peripheral IV NS 0.9% bolus of 1000 mL	Establishing an IV access and administering fluids to prevent dehydration.	- Prevent dehydration.
Ondansetron 4 mg IV every 4 hours PRN	Zofran for nausea/vomiting.	- Reduce nausea/vomiting
Orthostatic BP	check orthostatic BP just in case of dehydration	- monitor BP to reduce risk of BP dropping.

PRIORITY Setting: Which Orders Do You Implement First and Why?

(Remember your ABCs!)

Care Provider Orders:	Order of Priority:	Rationale:
1. Establish peripheral IV 2. NS 0.9% bolus of 1000 mL 3. Ondansetron 4 mg IV every 4 hours PRN nausea 4. Orthostatic BP	ASSESS patient Administer fluids Assess for nausea Assess BP	Always assessing the patient can help determine what interventions need to be done. Reducing the patient's nausea is important so he can keep food/fluids down and making sure BP stays within normal limits.

Medication Dosage Calculation:

Medication/Dose:	Mechanism of Action:	Volume/time frame to Safely Administer:	Nursing Assessment/Considerations:
Ondansetron 4 mg IV 4mg/2 mL vial	Blocks the action of Serotonin, which blocks nausea/vomiting.	IV Push: Volume every 15 sec?	Assess the patient to make sure he is experiencing nausea/vomiting before administering.

Collaborative Care: Nursing

3. What nursing priority (ies) will guide your plan of care? (if more than one, list in order of PRIORITY)
Prevention of pain, nausea/vomiting, and dehydration.

4. What interventions will you initiate based on this priority?

Nursing Interventions:	Rationale:	Expected Outcome:
<ul style="list-style-type: none"> - monitor/manage pain - administer Zofran PRN - assess labs - check orientation status - check daily weight - change diet (low sodium, high calorie) 	<ul style="list-style-type: none"> - Status may improve if pt. is not in pain or vomiting. this will encourage eating and proper nutrition. - checking daily weight to monitor fluid volume - change diet to help condition. 	<ul style="list-style-type: none"> expected outcome is to reduce pain/nausea/vomiting to enhance overall condition. monitor for overall better condition.

5. What body system(s) will you most thoroughly assess based on the primary/priority concern?
GI, neurological status.

6. What is the worst possible/most likely complication to anticipate?
Complications of liver cirrhosis: Hepatic encephalopathy, Portal hypertension.

7. What nursing assessments will identify this complication EARLY if it develops?
Bleeding signs - petechiae.

Peritonitis - abdominal distension.

8. What nursing interventions will you initiate if this complication develops?

- Paracentesis - continuous monitoring
- Bleeding Precautions

9. What psychosocial needs will this patient and/or family likely have that will need to be addressed?

Alcohol counseling, medication schedule, follow up appointments.

10. How can the nurse address these psychosocial needs?

mention that Alcohol counseling is needed for his condition, as well as knowing medication regimen and following up with doctors.

Evaluation: Six Months Later...

John continues to drink ETOH on a daily basis and has not followed through with his discharge plan when he was discharged from the hospital six months ago. John is now homeless and lives in a shelter. He was brought into the ED by emergency medical services (EMS) because he was found wandering aimlessly in the neighborhood and was completely disoriented.

The primary care provider in the ED orders the following labs: CBC, BMP, LFT, and INR.

Current VS:	Current PQRST:
T: 99.5 F/37.5 C (oral)	Provoking/Palliative: DENIES
P: 118 (reg)	Quality:
R: 22 (reg)	Region/Radiation:
BP: 88/50	Severity:
O2 sat: 94% room air	Timing:

Current Assessment:	
GENERAL APPEARANCE:	Disheveled, clothing dirty, has strong body odor, appears unkempt, does not smell of ETOH
RESP:	Breath sounds clear with equal aeration bilaterally, non-labored respiratory effort
CARDIAC:	Jaundiced, warm & dry, no edema, heart sounds regular with no abnormal beats, pulses strong, equal with palpation at radial/pedal/post-tibial landmarks
NEURO:	Confused and disoriented to person, place, time, and situation (x4)
GI:	Abdomen protuberant-distended, bowel sounds audible per auscultation in all 4 quadrants
GU:	Voiding without difficulty, urine clear/orange
SKIN:	Skin integrity intact, skin is yellow/jaundiced in color with yellow sclera

1. What clinical data is RELEVANT that must be recognized as clinically significant?

RELEVANT VS Data:	Rationale:
- PULSE, BP, TEMP	- The patient's BP is too low. This could indicate the patient's condition worsening / dehydration. - PULSE is tachycardic. - Low-grade temp.
RELEVANT Assessment Data:	Rationale:
- Jaundiced - Not alert / oriented - unkempt - Distended abdomen - orange urine / yellow skin	- Jaundice indicates a buildup of bilirubin. - orientation status could indicate further complications. - distended abdomen could indicate further complication

Compare & Contrast: Last Nursing Assessment 6 Months Ago:

Emphasize that the nurse should look back at previous admissions, especially admission H&P, consultation H&P, discharge summary, and labs/diagnostics as time allows. Discharge summary may be most important if time is of the essence. An essential component of clinical reasoning is TRENDING clinical data. This TREND can be established from most recent documentation in the medical record that could be hours, days or even months ago. This data is still relevant and needed to establish this trend!

Last Nursing Assessment 6 Months Ago:	
GENERAL APPEARANCE:	Appears uncomfortable, restless
RESP:	Breath sounds clear with equal aeration bilaterally, non-labored respiratory effort
CARDIAC:	Pink, warm & dry, no edema, heart sounds regular-S1S2, pulses strong, equal with palpation at radial/pedal/post-tibial landmarks
NEURO:	Alert & oriented to person, place, time, and situation (x4)
GI:	Abdomen large-rounded-firm to touch, bowel sounds audible per auscultation in all 4 quadrants
GU:	Voiding without difficulty, urine clear/light orange
SKIN:	Skin integrity intact, color normal for patient, sclera of eyes light yellow in color, lips and oral mucosa tacky dry

2. Compare the current nursing assessment with his last assessment above. What has changed most dramatically from his last assessment six months ago that is clinically significant?

The patient's condition is worsening. Significant data includes; orientation, physical assessments. Could have hepatic encephalopathy.

3. Has his status improved or not as expected to this point?

NO improvement: condition has worsened.

Lab Results:

Complete Blood Count (CBC):	Current:	High/Low/WNL?	Previous:
WBC (4.5-11.0 mm ³)	6.9	WNL	12.8
Hgb (12-16 g/dL)	8.9	LOW	10.2
Platelets (150-450 x10 ³ /μl)	47	LOW	98
Neutrophil % (42-72)	68	WNL	88
Band forms (3-5%)	3	WNL	3

What lab results are RELEVANT that must be recognized as clinically significant to the nurse?

RELEVANT Lab(s):	Clinical Significance:	TREND: Improve/Worsening/Stable:
Hgb Platelets	low hemoglobin and platelets can indicate bleeding.	worsening

Basic Metabolic Panel (BMP):	Current:	High/Low/WNL?	Previous:
Sodium (135-145 mEq/L)	127	Low	135
Potassium (3.5-5.0 mEq/L)	2.8	Low	3.5
Glucose (70-110 mg/dL)	74	WNL	78
BUN (7-25 mg/dl)	55	High	38
Creatinine (0.6-1.2 mg/dL)	1.8	High	1.5

RELEVANT Lab(s):	Clinical Significance:	TREND: Improve/Worsening/Stable:
- Sodium - Potassium - BUN - Creatinine	- low sodium can indicate dehydration. - low potassium can indicate dehydration and can cause dysrhythmias. - BUN/creatinine indicates liver failure.	worsening.

Coags:	Current:	High/Low/WNL?	Previous:
PT/INR (0.9-1.1 nmol/L)	2.6	high	1.5

RELEVANT Lab(s):	Clinical Significance:	TREND: Improve/Worsening/Stable:
PT/INR	The liver may not be producing the proteins needed to clot blood.	worsening

Liver Function Test (LFT):	Current:	High/Low/WNL?	Previous:
Albumin (3.5-5.5 g/dL)	2.2	Low	2.5
Total Bilirubin (0.1-1.0 mg/dL)	7.2	High	4.2
Alkaline Phosphatase male: 38-126 U/l female: 70-230 U/l	140	High	285
ALT (8-20 U/L)	59	High	128
AST (8-20 U/L)	62	High	124
Misc. Labs:			
Ammonia (11-35 mcg/dL)	78	High	30

RELEVANT Lab(s):	Clinical Significance:	TREND: Improve/Worsening/Stable:
- Albumin - Bilirubin - Alkaline phos - ALT/AST - Ammonia	- Buildup of ammonia can indicate hepatic encephalopathy - ALT/AST indicates liver failure. - High bilirubin could indicate a blockage.	worsening

Lab Planning: Creating a Plan of Care with a PRIORITY Lab:

Lab:	Normal Value:	Why Relevant?	Nursing Assessments/Interventions Required:
Ammonia Value: 78	Critical Value:	A buildup of ammonia can indicate Hepatic encephalopathy.	- patient needs to be given lactulose. - monitor orientation/neurological status

Medical Management: Rationale for Treatment & Expected Outcomes

Care Provider Orders:	Rationale:	Expected Outcome:
Lactulose 200 g/300 mL rectal x1 NOW	Lactulose excretes ammonia.	Decrease ammonia.
Banana bag (thiamine 100 mg-folic acid 1 mg-multivitamin 10 mL) in 1000 mL of 0.9% NS over 2 hours	Vitamin replacement for diet purposes.	
Potassium Chloride 10 mEq IVPB (x4) each dose over 1 hour. Recheck potassium per hospital protocol	Potassium is low	
Transfer to ICU	patient needs a higher level of care.	Better monitoring for patient.

4. Does your nursing priority or plan of care need to be modified in any way after this evaluation and assessment of all clinical data including labs?

NO-

5. Based on your current evaluation, and assessment of all clinical data, what are your nursing priorities and plan of care?

decrease ammonia, get BP back up, watch neurological status.

John is going to be admitted to ICU. Effective and concise handoffs are essential to excellent care and if not done well can adversely impact the care of this patient. You have done an excellent job to this point, now finish strong and give the following SBAR report to the nurse who will be caring for this patient:

Situation:

Name/age: John Richards

BRIEF summary of primary problem: John Richards came in 6 months ago with signs of liver cirrhosis. His condition has worsened to hepatic encephalopathy (complication of cirrhosis).

Day of admission/post-op #: 2-17-21

Background:

Primary problem/diagnosis: Liver cirrhosis with possible hepatic encephalopathy.

RELEVANT past medical history:

Liver cirrhosis, history of alcohol / drug abuse.

RELEVANT background data:

The patient had hepatitis C, drug / alcohol abuse.

Assessment:

Current vital signs: Temp: 99.5 F P: 118 R: 22
BP: 88/50 O2: 94% RA.

RELEVANT body system nursing assessment data:

Disheveled, jaundiced, not alert / oriented, distended abdomen.

RELEVANT lab values:

- High Bilirubin, AST, ALT, BUN, creatinine
- low Platelets / Hgb.

TREND of any abnormal clinical data (stable-increasing/decreasing):

The patient's labs are increasing / decreasing.

How have you advanced the plan of care?

The patient is being transferred to the ICU.

Patient response:

The patient is restless and uncomfortable.

INTERPRETATION of current clinical status (stable/unstable/worsening):

Unstable and worsening.

Recommendation:

Suggestions to advance plan of care: Fluids, medications, rest, Alcohol and medication counseling, follow up care.

Education Priorities/Discharge Planning

1. What will be the most important discharge/education priorities you will reinforce with their medical condition to prevent future readmission with the same problem?

For future prevention this patient needs education on abstaining from alcohol and following the proper medication regimen as well as proper diet.

Caring and the "Art" of Nursing

1. What is the patient likely experiencing/feeling right now in this situation?

irritation, hopelessness, depression, frustration

2. What can you do to engage yourself with this patient's experience, and show that he matters to you as a person?

Listen to how he feels, help him get the appropriate care he needs,

Use Reflection to THINK Like a Nurse

Reflection-IN-action (Tanner, 2006) is the nurse's ability to accurately interpret the patient's response to an intervention in the moment as the events are unfolding to make a correct clinical judgment.

1. What did I learn from this scenario?

I learned that if a patient does not take care of themselves, complications occur. When you do not manage a disease, there are complications,

2. How can I use what has been learned from this scenario to improve patient care in the future?

From this scenario, I can improve patient care by knowing about the complications of liver cirrhosis and how to educate the patient.