

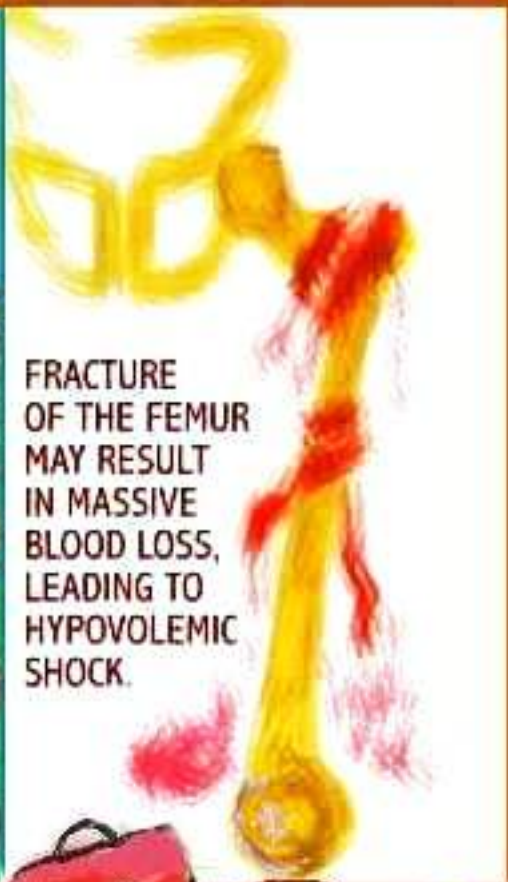


CHAPTER 2

1. HYPOVOLEMIC SHOCK- IV AND BLOOD MATH SOLUTIONS
2. LIVER FAILURE - PO FLUID AND PARACENTESIS MATH SOLUTIONS



TIM,
WHAT
HAPPENED ?



FRACTURE
OF THE FEMUR
MAY RESULT
IN MASSIVE
BLOOD LOSS,
LEADING TO
HYPOVOLEMIC
SHOCK.



BLOOD
PRODUCT

IV SOLUTIONS
AND BLOOD
PRODUCTS
USED.

TRAUMA - HYPOVOLEMIC SHOCK

FOR MORE HELPFUL INFORMATION ON THIS TOPIC, PLEASE
READ : THE CLINICAL SETTING STEP BY STEP (CHAPTER 1)
WWW.DEARNURSES.NET

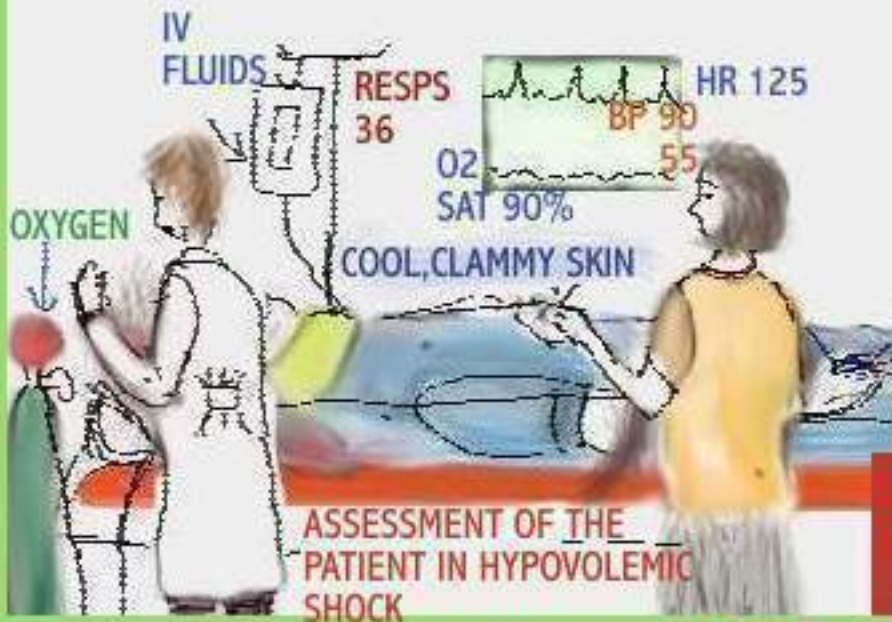


Jeremy was out drinking with friends. Shortly after, he was travelling in the passenger seat unrestrained, when the car struck a tree and Jeremy sustained injuries.

At the scene, he was stabilized by trained personnel and transported to the ER.

On arrival to the ER Jeremy was stable, with BP 118/62, T 97.6F, HR=96, Resps=22 and O2 Sats=97%.

HYPOVOLEMIC SHOCK



ASSESSMENT REVEALS:

- DECREASE IN O2 SAT
- DECREASE IN BP
- RAPID RESPIRATIONS
- RAPID HEART RATE
- COOL, CLAMMY SKIN
- DECREASED LEVEL OF CONSCIOUSNESS

BLOOD PRODUCTS AND IV FLUID REPLACEMENTS ARE ORDERED BY THE DOCTOR

JEREMY LOST APPROXIMATELY 2 LITERS OF FLUID.
HOW MANY ML/CC WOULD THIS BE?

- A) 1,500 ML
- B) 2,000 ML
- C) 2,500 ML

CORRECT ANSWER = B

EXPLANATION

1 LITER = 1,000 ML
2 LITERS = 1,000 X 2
= 2,000 ML



DOCTOR 'S ORDERS

(PLEASE NOTE THIS IS ONLY A SAMPLE)

1. INFUSE 500 ML NORMAL SALINE OVER 1 HOUR AS SOON AS POSSIBLE.
2. TRANSFUSE 2 UNITS PACKED RED BLOOD CELLS (PRBCs) OVER 4 HOURS, WHEN BLOOD HAS BEEN TYPED AND SCREENED. EACH UNIT OF BLOOD CONTAINS 250 ML.



UNIT OF BLOOD = 250 ML

MATH SOLUTIONS

1. HOW MUCH BLOOD WOULD THIS PATIENT RECEIVE AFTER 2 UNITS OF BLOOD IS TRANSFUSED, IF EACH UNIT CONTAINS 250 ML?

- A) 450 ML
- B) 500 ML
- C) 250 ML

ANSWER = B

EXPLANATION:

1 UNIT = 250 ML

2 UNITS = $250 \times 2 = 500$ ML

2. HOW MUCH FLUID WOULD THIS PATIENT RECEIVE AFTER NORMAL SALINE AND BLOOD WERE GIVEN?

- A) 1,000 ML
 - B) 750 ML
 - C) 500 ML
- ANSWER = A

NS = 500 ML

BLOOD = 500 ML

TOTAL = 1,000 ML

LIVER (HEPATIC) FAILURE

MR. O IS IN LIVER FAILURE AND HAS HEPATIC ENCEPHALOPATHY. THE DOCTOR GIVES INSTRUCTIONS TO HIS NURSE, TO GIVE LACTULOSE, WHICH WILL DECREASE HIS AMMONIA LEVEL.

FOR MORE HELPFUL INFORMATION ON LIVER FAILURE, PLEASE READ: THE CLINICAL SETTING STEP BY STEP (CHAPTER 10).
WWW.DEARNURSES.NET

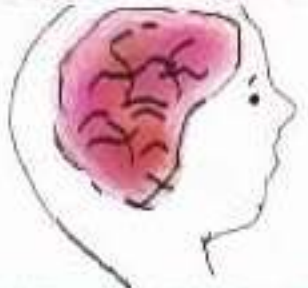


Skin is jaundiced

ABDOMINAL DISTENTION

pedal edema

HEPATIC ENCEPHALOPATHY



THE DAMAGED LIVER IS NO LONGER ABLE TO REMOVE AMMONIA AND OTHER TOXINS, THESE COLLECT IN THE BLOOD AND CAN BE TRANSPORTED TO THE BRAIN. PATIENTS MAY BECOME CONFUSED, LETHARGIC AND POSSIBLY COMATOSE.





DOCTOR'S ORDER
(THIS IS A SAMPLE)

GIVE LACTULOSE 30 ML
QID (4 TIMES A DAY)
(GOAL 2-3 STOOLS DAILY)
HOLD LACTULOSE IF PATIENT
HAS DIARRHEA.



30 ML = 1 FLUID Ounce
15 ML = 1/2 FLUID Ounce



1 TEASPOON = 5 ML



1 TABLESPOON = 15 ML

HOW MANY ML/CC WOULD THIS
PATIENT RECEIVE IN A DAY?

- A) 120 ML
- B) 140 ML
- C) 60 ML

ANSWER = A

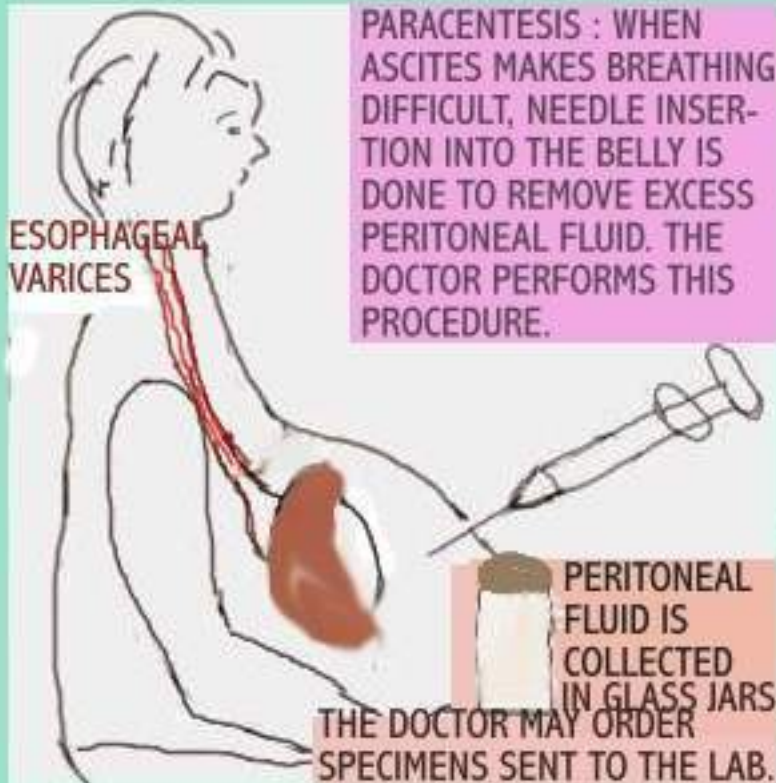
EXPLANATION

1 DOSE = 30 ML
4 DOSES = 30 X 4
= 120 ML



LIVER FAILURE

PARACENTESIS : WHEN ASCITES MAKES BREATHING DIFFICULT, NEEDLE INSERTION INTO THE BELLY IS DONE TO REMOVE EXCESS PERITONEAL FLUID. THE DOCTOR PERFORMS THIS PROCEDURE.



1 LITER =
1,000 ML/CC

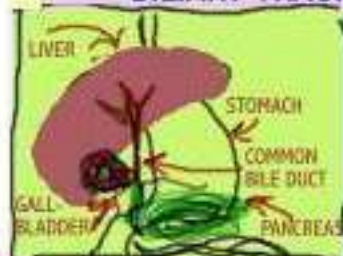
1 LITER = 1,000 ML

.5 LITER = 500 ML

1/2 LITER =
500ML/CC

1.5 LITERS = 1,000 + 500 =
1,500 ML

BILIARY TRACT



MEDICATIONS SUCH AS LACTULOSE (TO DECREASE AMMONIA LEVELS), VASOPRESSIN AND OCTREOTIDE (SANDOSTATIN) ARE USED TO DECREASE VASODILATION (BLOOD FLOW) AND PREVENT BLEEDING.