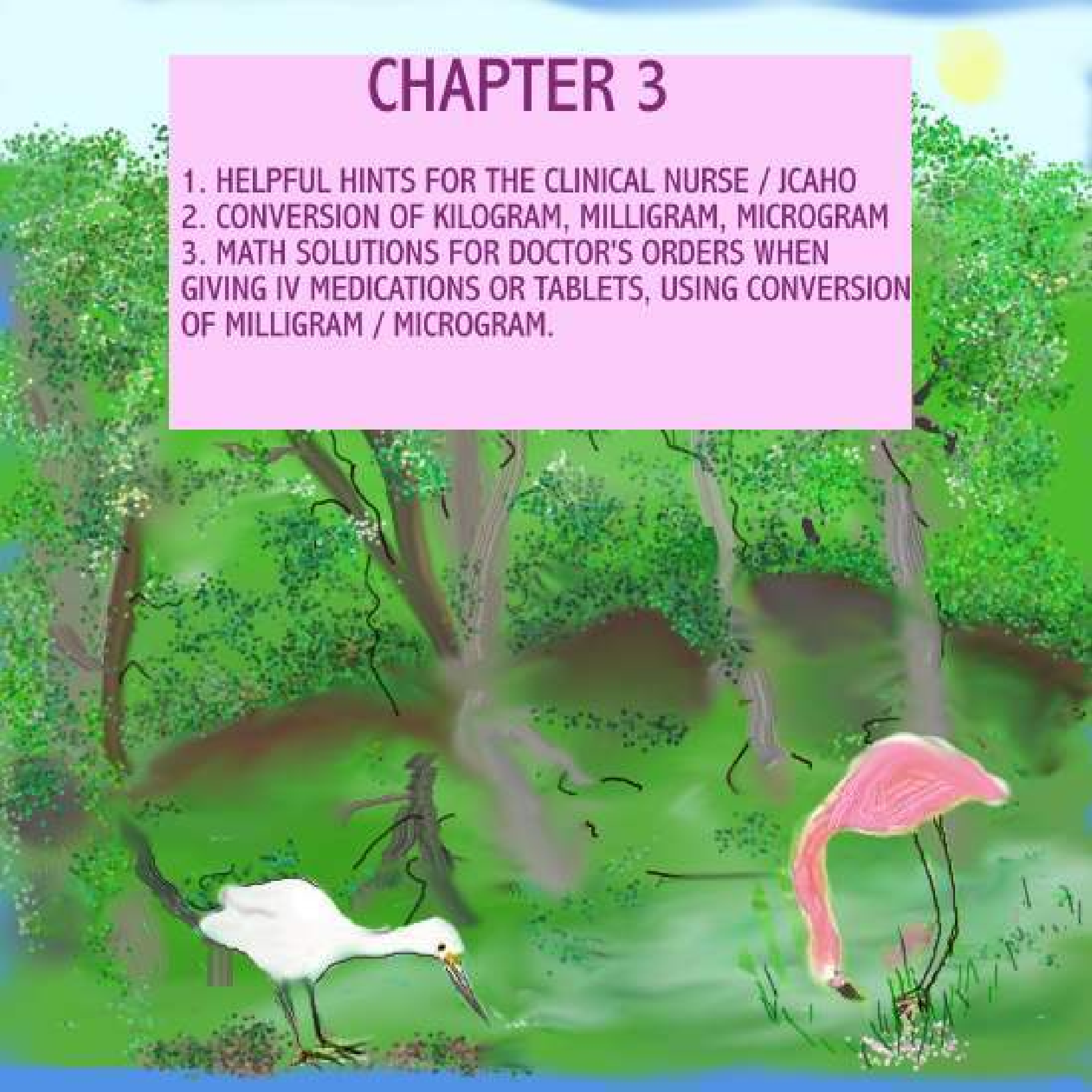
CHAPTER 3

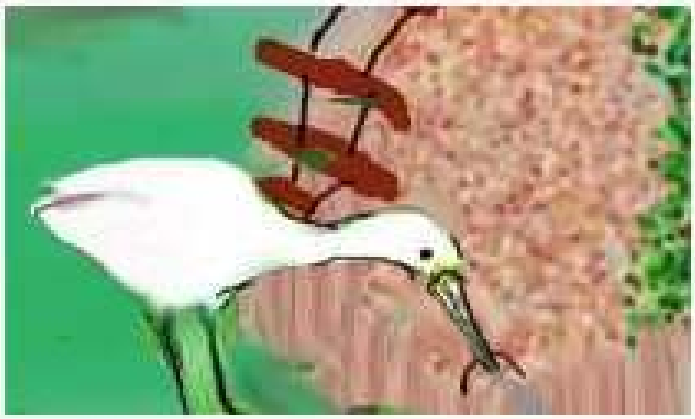
1. HELPFUL HINTS FOR THE CLINICAL NURSE / JCAHO
2. CONVERSION OF KILOGRAM, MILLIGRAM, MICROGRAM
3. MATH SOLUTIONS FOR DOCTOR'S ORDERS WHEN GIVING IV MEDICATIONS OR TABLETS, USING CONVERSION OF MILLIGRAM / MICROGRAM.



FOR MORE HELPFUL CLINICAL INFORMATION, PLEASE READ: THE CLINICAL SETTING STEP BY STEP.

HELPFUL INFORMATION FOR THE CLINICAL NURSE

STOP!



ALWAYS CHECK THE CONCENTRATION OF THE MEDICATION IN THE BOTTLE OF SOLUTION.
FOR EXAMPLE:
- 2MG /1ML
-10MG /2ML

IF A VIAL OF MEDICATION IS IN A POWDER FORM AND NEEDS DILUTION WITH A LIQUID LIKE NORMAL SALINE, ALWAYS FOLLOW MANUFACTURER'S INSTRUCTIONS.

- BE AWARE THAT PILLS MAY HAVE THE SAME COLOR AND SIZE, BUT NOT HAVE THE SAME AMOUNT OF MEDICATION.

DID YOU CHECK THAT DOCTOR'S ORDER CAREFULLY, TO SEE IF THE MEDICATION WAS ORDERED IN MG OR MCG?

WHEN A PATIENT IS ADMITTED TO THE HOSPITAL, AN ASSESSMENT IS DONE. A HISTORY AND PHYSICAL AS WELL AS HEIGHT/ WEIGHT ARE RECORDED.

1 KILOGRAM = 1,000 GRAM

MEDICATIONS SUCH AS DOPAMINE IS GIVEN VIA THE IV PUMP AND ORDERED USING: MCG /KG /MIN.

KILOGRAM=2.2 LBS

FAMILIARIZE YOURSELF WITH CORRECT CONVERSION

1 GRAM

TO CONVERT 1 GRAM TO MIILIGRAMS:

1GRAM X 1,000
=1,000 MILLIGRAMS

TO CONVERT MILLIGRAMS(MG) TO MICROGRAMS(MCG):

I MG X 1,000
=1,000 MCG (MICROGRAMS)

NOW WE GET THE PICTURE.


1 GRAM


0.5 GRAM


1 MILLIGRAM


5 MILLIGRAM

ALL 4 TABLETS ARE THE SAME COLOR, AND SIZE, BUT ARE NOT EQUAL.

HELPFUL HINT:

MANY PILLS MAY HAVE THE SAME COLOR, BUT THAT DOES NOT MEAN THEY ARE OF EQUAL STRENGTH. IT IS IMPORTANT TO KNOW HOW TO DISTINGUISH 1GM FROM 1MG.

MEDICATION ADMINISTRATION

SHANNON HAS JUST RECEIVED A DOCTOR'S ORDER TO GIVE 2 GRAM OF A CERTAIN MEDICATION. SHE HAS 500 MILLIGRAM TABS ON HAND. HOW MANY WOULD SHE GIVE?

SOLUTIOIN:

1G (GRAM) = 1,000 MILLIGRAM (MG)
2G (GRAM) = 2,000 MILLIGRAM (MG)

AMOUNT ORDERED = 2 GRAM (2,000 MG)
TABS ON HAND = 500 MILLIGRAM
CORRECT DOSE = $\frac{2{,}000\ \text{MG}}{500\ \text{MG}} = 4\ \text{TABS}$

MR.N HAS A DIAGNOSIS OF CHF. HIS DOCTOR ORDERED LASIX (FUROSEMIDE) 80 MG DAILY.

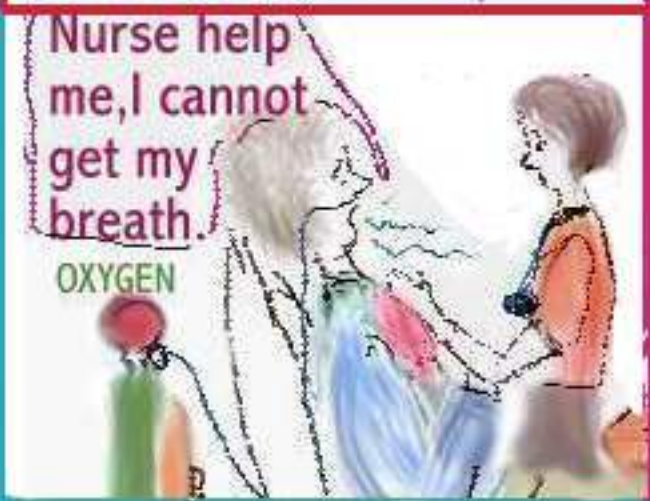
LASIX IS AVAILABLE IN 20 MG TABS, HOW MANY PILLS WILL MR.N RECEIVE?

ORDER = 80 MG
ON HAND = 20 MG

FORMULA =
AMOUNT TO BE GIVEN = 80 MG /
AMOUNT ON HAND = 20 MG

$\frac{80\ MG}{20\ MG} = 4\ TABS$

VISIT: DEARNURSES.NET AND READ THE CLINICAL SETTING STEP BY STEP (CHAPTER 2)



IF LASIX IS AVAILABLE IN 40 MG, HOW MANY PILLS WILL MR.L RECEIVE?

ORDER = 80 MG
ON HAND = 40 MG

FORMULA =
AMOUNT TO BE GIVEN = 80 MG
AMOUNT ON HAND = 40 MG

$\frac{80\ MG}{40\ MG} = 2\ TABS$

1 LITER =
1,000 ML/CC

1/2 LITER =
500ML/CC

SAMPLE OF IV FLUID BAGS USED IN THE CLINICAL SETTING.
IV FLUID BAGS USUALLY COME IN ML/CC.
ML AND CC ARE OF EQUAL MEASUREMENT AND ARE USED INTERCHANGE-ABLY.

TABLETS COME IN DIFFERENT STRENGTHS.

1 GRAM = 1,000 MG
0.75 GRAM =750 MG
0.5 GRAM = 500 MG
0.25 GRAM =250 MG

1 MG = 1,000 MCG
0.75 MG =750MCG
0.5 MG = 500 MCG
0.25 MG = 250MCG

MEDICATION
IS IN A SOLUTION
5 MG/1 ML

TIM NEEDS HELP. THE DOCTOR ORDERED AN INJECTION FOR HIS PATIENT. THE ORDER READS: GIVE 10 MG OF MEDICATION IM. ON HAND THERE IS 5 MG IN 1 ML HOW MUCH WOULD TIM GIVE?

SOLUTION:

DRUG ORDER =10 MG
ON HAND = 5 MG /1 ML

AMOUNT TO BE GIVEN =
ORDER / ON HAND

$$\frac{10\ \text{MG}}{5\text{MG}} \times 1\ \text{ML} = 2\text{ML}$$

CONCENTRATION
OF DRUG ON HAND

SARA NEEDS HELP. SHE WAS GIVEN A DOCTOR'S ORDER TO GIVE A 1MG TABLET TO A PATIENT. THERE ARE TABS 250 MCG ON HAND. HOW MANY TABLETS WOULD SHE GIVE?

SARA COULD SOLVE THIS PROBLEM BY:

CONVERTING:
1MG TO MCG
1MG X 1,000 =1,000 MCG

ORDER = 1,000 MCG
ON HAND = 250 MCG
SOLUTION:

$$\frac{1{,}000\ \text{MCG}}{250\ \text{MCG}} = 4\ \text{TABS}$$

BRAIN SURGERY

SAMPLE OF
DOCTOR'S ORDERS

DAY 1-
GIVE DECADRON 10 MG IV
(START TODAY AT 14:00)
DAY 2 - DECADRON 8 MG IV
DAY 3 - DECADRON 6 MG IV
DAY 4 - DECADRON 4 MG IV
DAY 5 - DECADRON2 MG IV
THEN DISCONTINUE

SARA HAD A TUMOR RESECTION A FEW HOURS AGO. THE NEUROSURGEON WROTE AN ORER TO START DECADRON AND TAPER AS ORDERED.

DECADRON IS AVAILABE IN: VIALS OF 4MG/ML. HOW MANY ML PER DAILY DOSE WOULD SARA RECEIVE ?

ORDER = 10 MG
ON HAND = 4 MG/ML
$= \frac{10}{4} \times 1ML = 2.5ML$

ORDER = 8 MG :
$\frac{8}{4} \times 1 = 2ML$

ORDER = 6 MG
$\frac{6}{4} \times 1 = 1.5\ ML$

ORDER = 4 MG
= 1ML

ORDER = 2 MG
$\frac{2}{4} \times 1 = .5\ ML$