

Unit -10

Water And Minerals

Unit -10

Water And Electrolytes

* What is water →



- Man human body without water can only few days survive on →

* Distribution of water →

- Human body on 60% part water is 2/3
- Mitchell and others on according (1945) →

Biochemistry II D Pharm 2nd Year

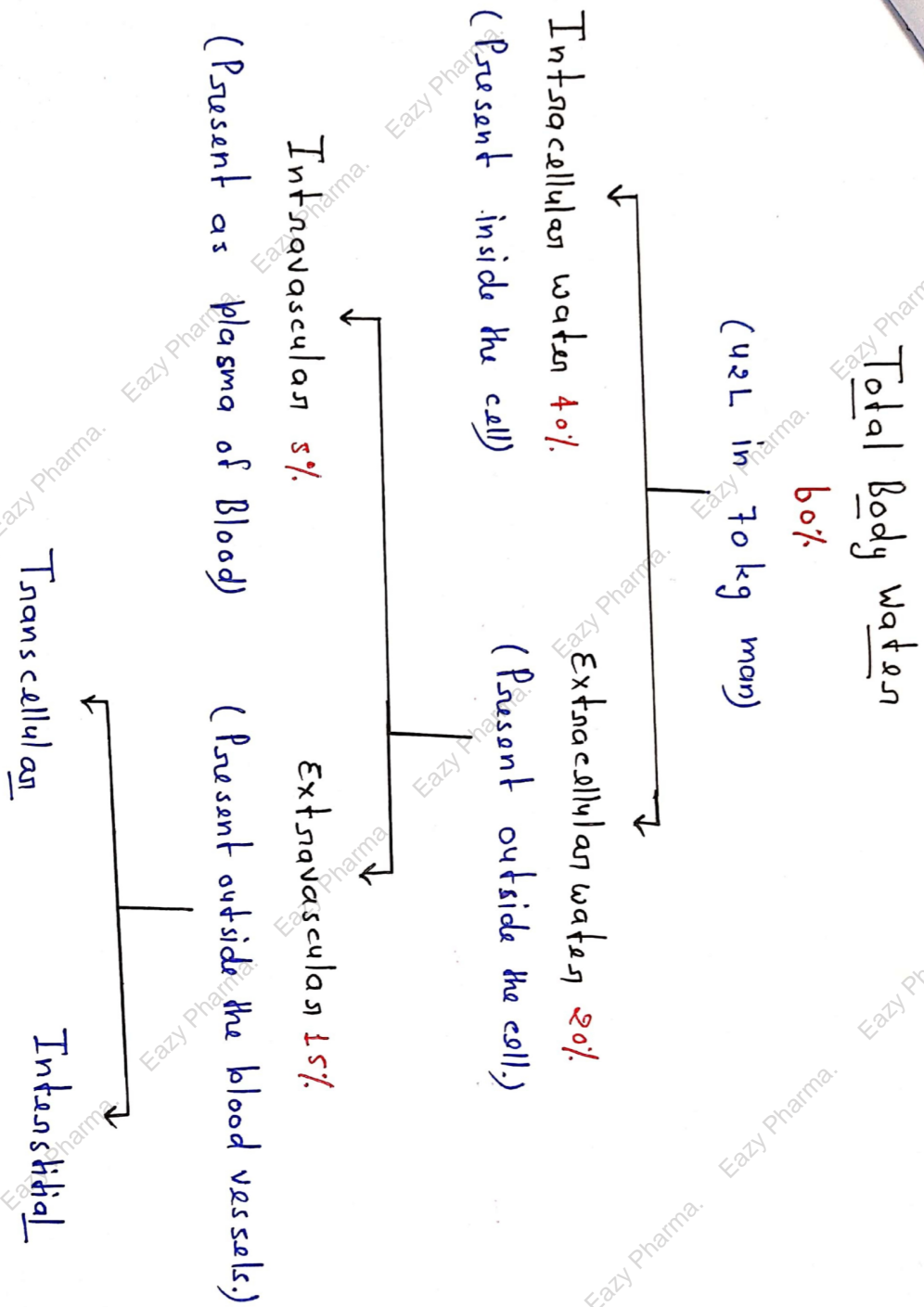
Unit-10

Water And Electrolytes

- * What is water →
 - H_2O human body without water H_2O only few days survive H_2O H_2O H_2O
 - water H_2O compound H_2O H_2O H_2O two hydrogen atoms and one oxygen atom H_2O H_2O composed H_2O H_2O H_2O
- formula → H_2O .

* Distribution of water →

- Human body H_2O 60% part water H_2O H_2O
- Mitchell and others H_2O according (1945) →
 - The brain and heart are composed of 73% water.
 - Lungs are about 83% water.
 - The skin contains 64% water.
 - muscles and kidneys are 79%.
 - The bones are watery. 31%.



* Functions of water →

- Body temperature of regulate our self
- vital organ of protect our self
- metabolism of help our self
- Joints of moisturizes our self
- skin of dryness prevents our self
- kidney functions of help our self
- saliva of formation of help our self
- Blood pressure of maintenance of
- etc.....

* water turnover and balance →

- water of amount of body of enter and of in comparison to the amount of water loss in a specific time periods.

* Daily requirement of water

- for men → 3.7 liters.
- for women → 2.7 liters.

* Body of water four distinct routes of air

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remove एरर डै -

1) Urine →

- न^२ Body अत water loss अत major route एरर डै।

• न^२ healthy person अत urine output 1 to 2 l/day एरर डै।
एत.....

2) skin →

- Human body न^२ एरर डै 450 ml water per day skin अत एरर डै।
less एरर डै।

3) Lungs →

- During respiration, some amount of (About 400 ml/day) is lost through the expired air।

4) feces →

- न^२ healthy individual feces अत एरर डै 150 ml/day water loss अररर डै।
एत.....

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* Electrolytes →

* Definition →

- Electrolytes minerals el^2 & body fl^2 of urine, blood, tissues and other body fluids fl^2 present el^2 & fl^2

like - Sodium, potassium, chloride etc---

- Electrolytes important el^2 & because fl^2 body fl^2 water fl^2 amount fl^2 balance fl^2 el^2
- * Electrolyte composition →

Solutes	Plasma	Intestinal fluid	Intracellular fluid
<u>cations</u> (mmol/L)			
• Sodium Na^+	142	139	14
• K^+	4	4	140
• Mg^+	0.8	0.7	20
• Ca^{++}	1.3	1.2	0
<u>Anions</u> (mmol/L)			
• Cl^-	105	108	4
• Protein	1.2	0.2	4
• HPO_4	2.0	2.0	11

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*** Dietary Intake of Electrolyte**

Electrolyte	Functions	Daily requirements (mmol)
1) Calcium	<ul style="list-style-type: none"> • Bone health. • Muscle contraction. 	5 to 7.5.
2) Magnesium	<ul style="list-style-type: none"> • Muscle Relaxation • ATP Production. 	5 to 10
3) Phosphate	<ul style="list-style-type: none"> • Acid-base balance. 	20 to 45
4) Sodium	The main extracellular cation	60 to 100

* Electrolyte balance →

• Star electrolytes body need according present in the body electrolyte balance need to

* Dehydration →

* Definition →

• Dehydration was a condition of the body of water in the intracellular, intravascular, interstitial fluids and

Level drop in urine is

- Dehydration or reason body if
or fluid (water) is and urine
output is is

* causes of dehydration →

- urine sweating is
- Diabetes.
- heavy blood loss is
- urine vomiting
- chronic diarrhoea is
- electrolyte imbalance is
etc.....

* Oral Rehydration Therapy →

- or dehydration or
treatment is is
- it involves or is
special drinking mixture,
water, glucose and salt
etc or
- water and electrolyte
balance is after normal
or is is
- it death is risk is
decrease or is is

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THANK YOU.

By Dr Firoz khan

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