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**Basic Life Functions:
Homeostasis**

*For even as the body is one
and yet many members,
and all the members of the body,
though they are many,
are one body, so also is Christ.*
I Corinthians 12:12




BIO 100 John E. Silvius, Professor of Biology


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HOMEOSTASIS

MAINTAINING BODILY PROCESSES
WITHIN TOLERABLE LIMITS...



WHILE BEING EXPOSED TO A
VARIABLE ("CHOPPY")
ENVIRONMENT



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HOMEOSTASIS

EXAMPLE # 1: BODY TEMPERATURE REGULATION

REQUIREMENTS:

- Sensory Receptors -- in Hypothalamus (midbrain)**

100°F

- Set Point (98.6°F)**

97°F

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HOMEOSTASIS

EXAMPLE # 1: BODY TEMPERATURE REGULATION

REQUIREMENTS:

- Sensory Receptors -- in Hypothalamus (midbrain)**

2. Set Point (98.6°F)

3a. Heat-releasing mechanisms:
a. Perspiration
b. Arteries dilate (blood to skin)

3b. Heat-producing mechanisms:
a. Shivering
b. Arteries constrict (blood to body core)

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HOMEOSTASIS

CONCLUSION: HOMEOSTATIC MEGHANISMS SERVE TO MAINTAIN BODY TEMP. WITHIN TOLERABLE LIMITS.

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EXAMPLE # 2:

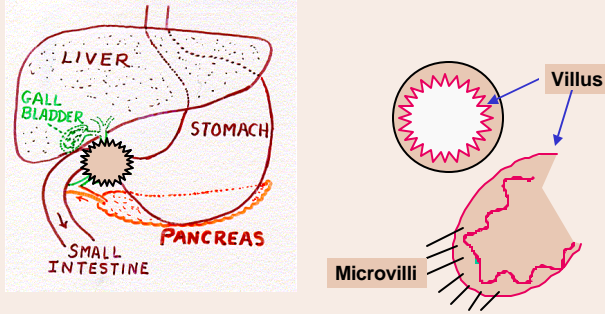
Homeostatic Regulation of Blood Glucose

Problem: Preventing "sugar surges" in blood during and after a meal.

EXAMPLE # 2:

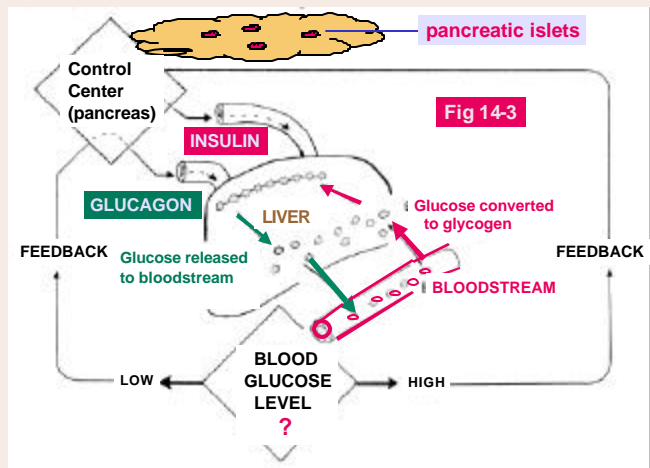
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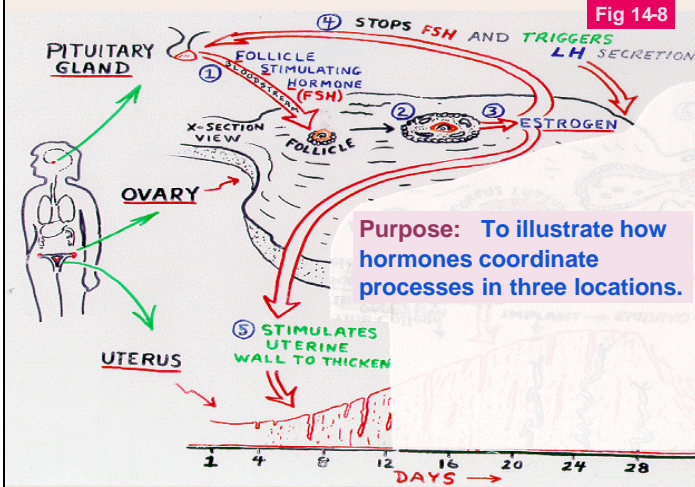
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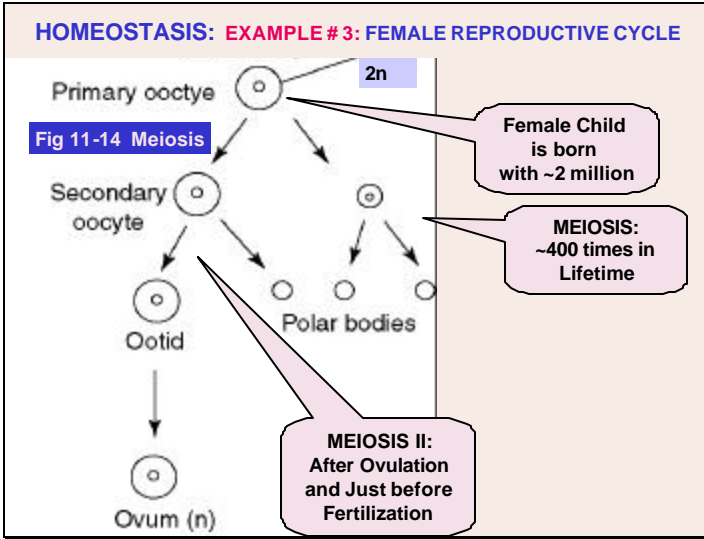
EXAMPLE # 2: HOMEOSTASIS and BLOOD GLUCOSE



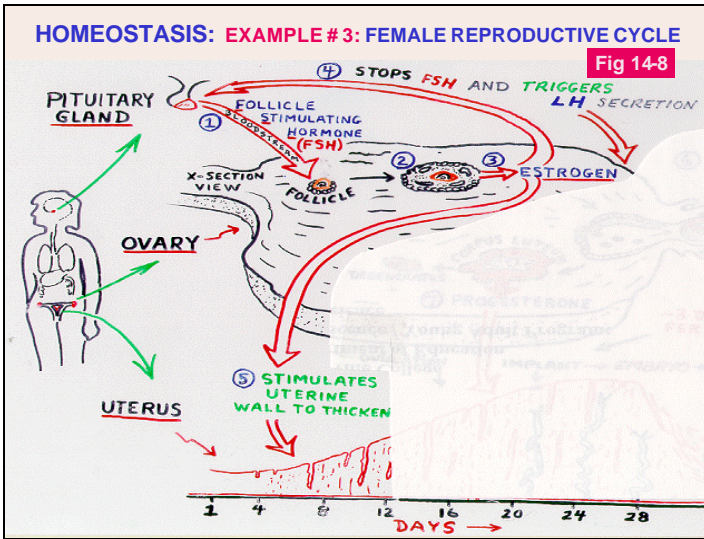
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HOMEOSTASIS: EXAMPLE # 3: FEMALE REPRODUCTIVE CYCLE

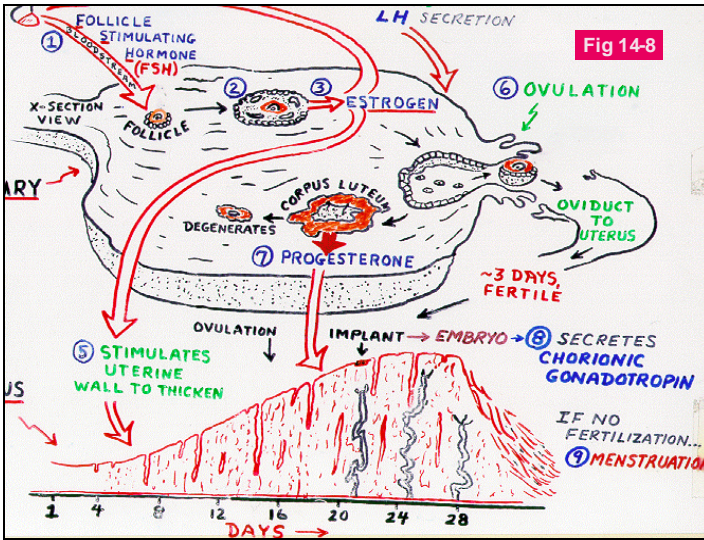




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