

BI 121 Lecture 10



...This Thursday more fun & data about me! Heck yeah!!

- I. Announcements** To make Lab 5 educational, fun & safe for all, **please read pp 5-1 thru 5-6 in LM twice before Thursday!** Remaining exams & notebooks returned > lecture. Key posted in glass box in Huestis near 120 HUE. Estimate grade? Q?
- II. Blood Chemistry Review** LS ch 11 + 17, DC Module 5, Q?
- III. Endocrinology Overview** LS ch 17, DC Module 13, SI Fox+
 - A. Vignette: Cushing's syndrome** LS fig 17-20 p 521-2
 - B. Endocrine system** DC p 103 fig 13-1, LS fig 17-1, tab 17-1
 - C. What's an endocrine? + classes** ~ LS pp 495 - 6
 - D. Hypothalamus (Master) – Pituitary (subcontroller)**
DC pp 104-6 + LS pp 499-506
 - E. Posterior pituitary + hormones** DC p 108, LS fig 17-4 p 502
 - F. Anterior pituitary + hormones** DC pp 105-7, LS pp 502-6
 - G. GH: Body builder's dream? Fountain of youth?** LS pp 506-11
 - H. Peripheral endocrine organs** DC pp 109-13, LS pp 513-36
 - 1. Pancreas (insulin – glucagon see-saw!) 2. Thyroid 3. Adrenals**

WOW!



SUPER



~ TOP 5-10!

EXCELLENT!!



~ TOP 15!

GREAT EFFORT



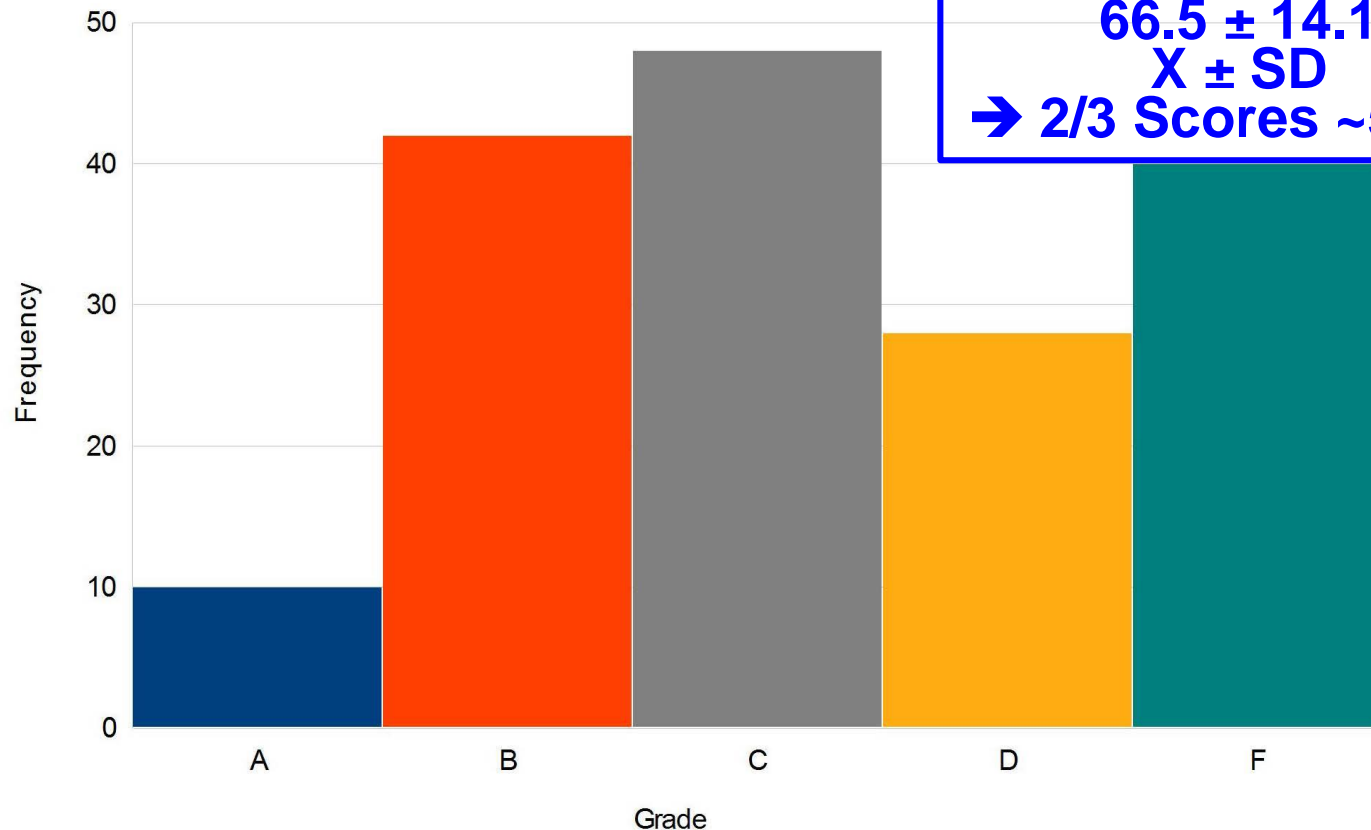
~ TOP 20-25!

Class Frequency Distribution Report for BI 121 Midterm F17, Multiple Choice, Part II

Overall

Mean Score: 70.34%

Grade	Percent Score	Raw Score	Frequency	Percent
A	90.00 - 100.00	36.00 - 40.00	10	5.95
B	80.00 - 89.99	32.00 - 35.99	42	25.00
C	70.00 - 79.99	28.00 - 31.99	48	28.57
D	60.00 - 69.99	24.00 - 27.99	28	16.67
F	0.00 - 59.99	0.00 - 23.99	40	23.81



Overall SA + MC
66.5 ± 14.1
X ± SD
→ 2/3 Scores ~52-80

👉 😊 ...I ♥ U of O!

Students who succeed are usually those who:

- (1) **Attend** class regularly
- (2) **Ask** questions
- (3) **Come** to office hours & problem-solving sessions
- (4) **Study** outside class both alone & in study groups
- (5) **Seek** to understand methods & overarching principles/concepts rather than specific answers
- (6) **Teach** or tutor others &
- (7) **Discuss** concepts informally with fellow students.



Science Teaching Reconsidered, National Academy Press, 1997.

Q? What do I need on the final, if I want to get...?

A? You can actually calculate given assumptions...

e.g., 62 for Exam I & desire $\geq B-$ (assume ≥ 80)

**Assume 100% for lecture (20% of grade)
+ lab attendance & participation (20% of grade!)**

$$X = [\text{Hope for? } 80 - ((0.3 \times \text{Exam I } 62) + (0.2 \times \text{Lecture } 100) + (0.2 \times \text{Lab } 100))] / 0.3$$

$$X = [80 - [(18.6) + (20) + (20)]] / 0.3$$

$$X = [21.4] / 0.3 = 71.3$$

Need this on Exam II for B- for course!

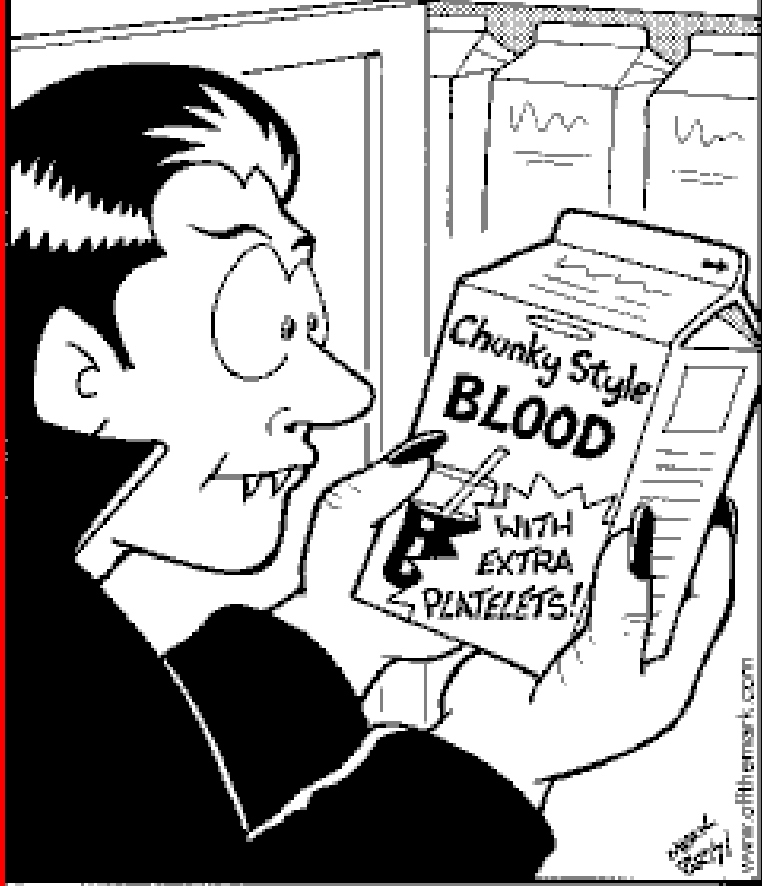


...Fortunately, the lab buffers the grade!

off the mark by Mark Parisi

www.offthemark.com

ATLANTA: BENTLEY SYDNEY: ©2007 MARK PARISI MarkParisi@aol.com



Today & next time we'll cover blood chemistry to ensure for adequate lab prep time & incubation.

***No food, drink or gum in lab!
Thanks sincerely!***



PREPARATION



WASH & DRY



ALCOHOL



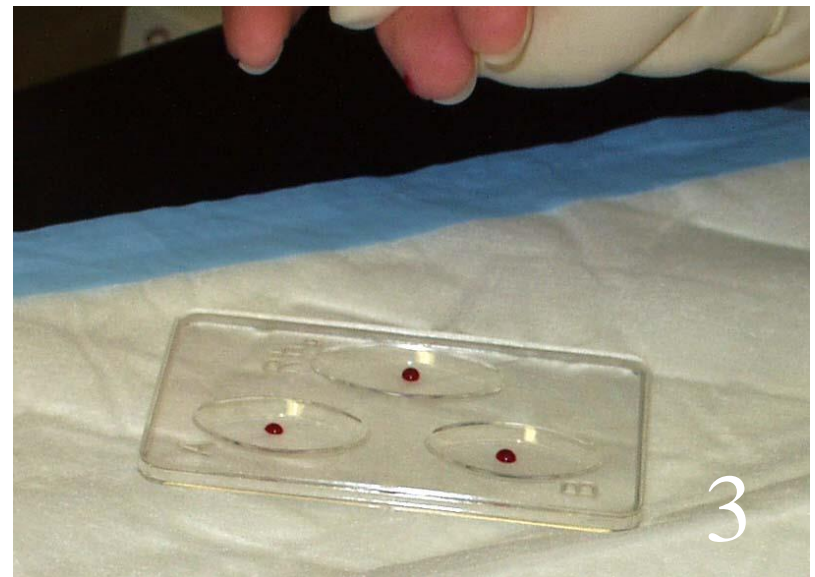
SAMPLE+TESTS



OBTAIN μ SAMPLE



BLOOD GLUCOSE

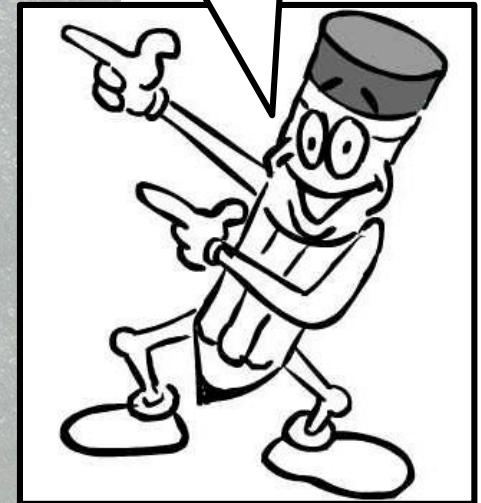


BLOOD TYPING

Glucose:
Sugar in Blood

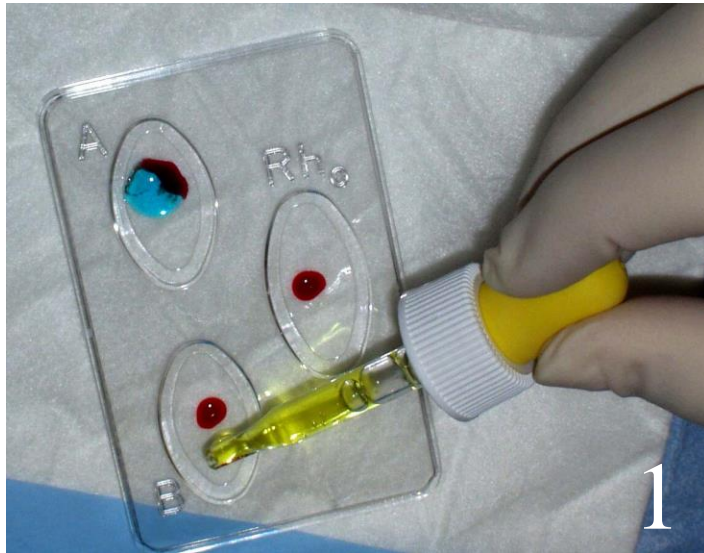


**NB: Read
& Record!**

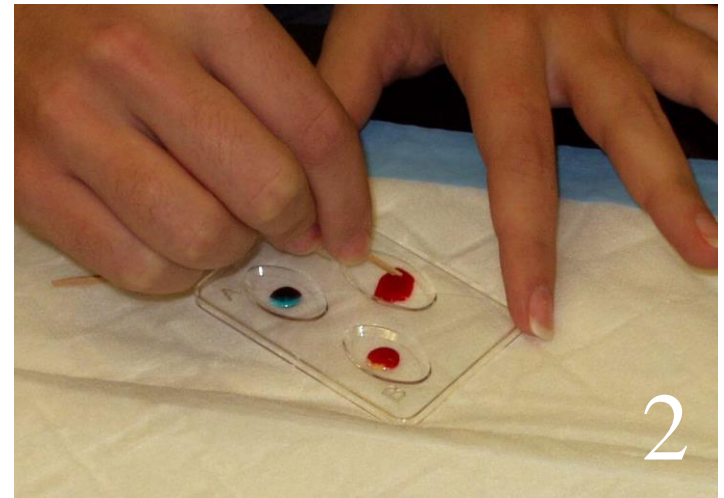


Normal: 70-99
Pre-Diabetes: 100-125
Diabetes: \geq 126 mg/dL

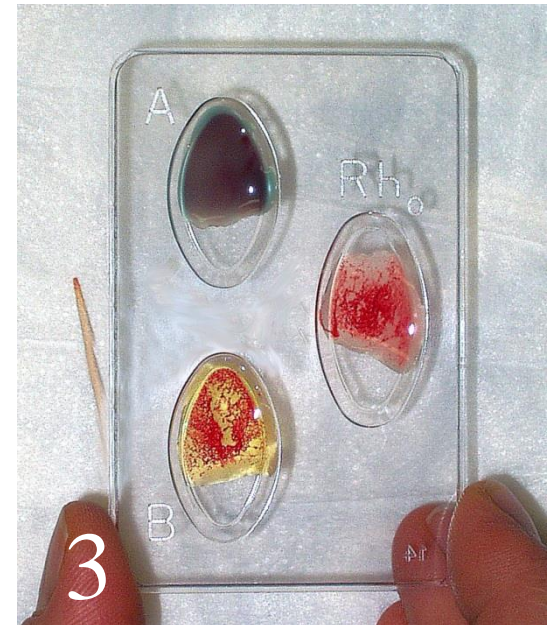
BLOOD TYPING



ADD ANTISERA



MIX W/TOOTHPICKS



READ & RECORD!!

CLEAN-UP!



FOLD DIAPER



BLOOD PRODUCTS



REWASH!!

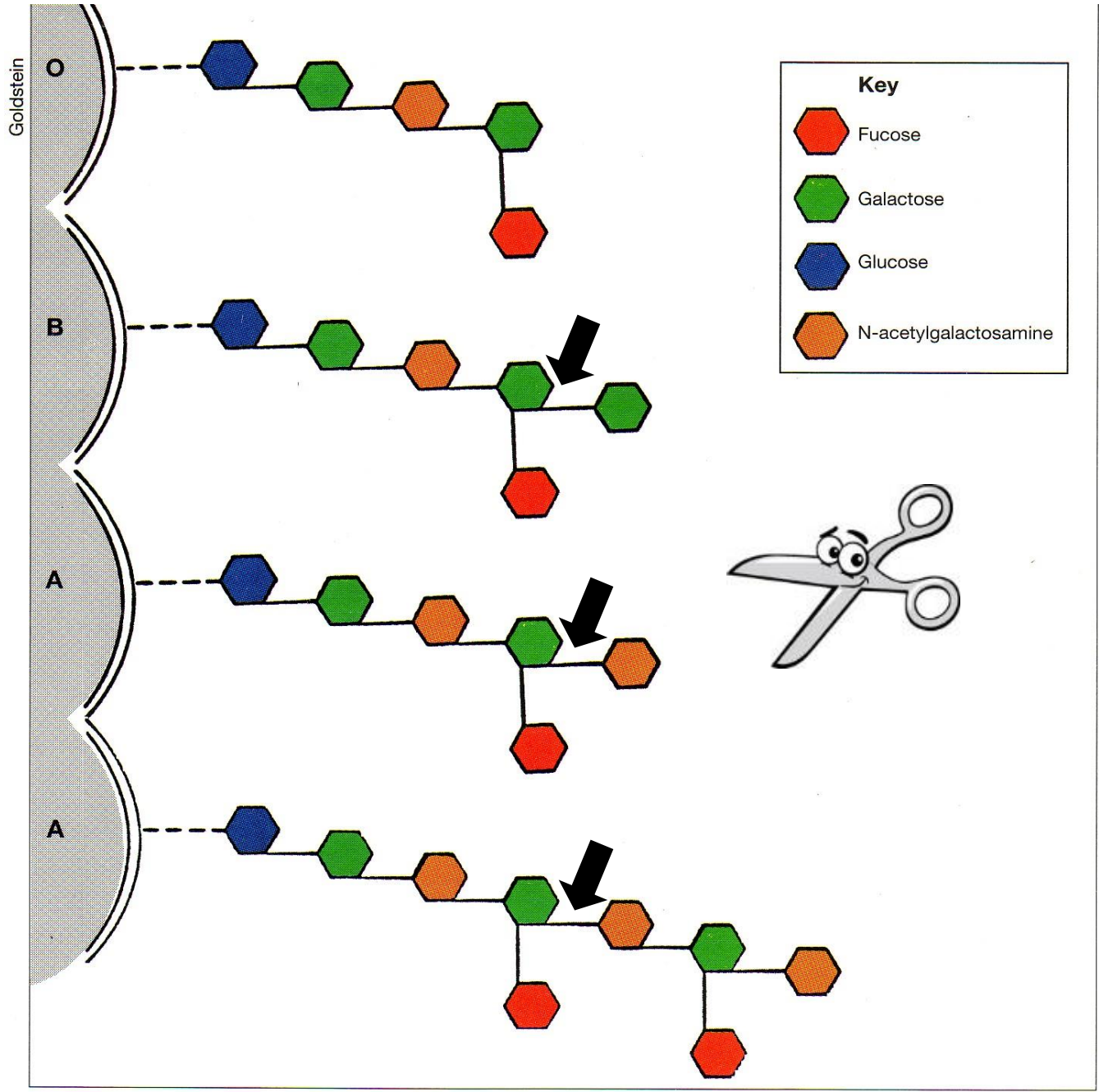
The Weekly Newsmagazine of Science

SCIENCE NEWS

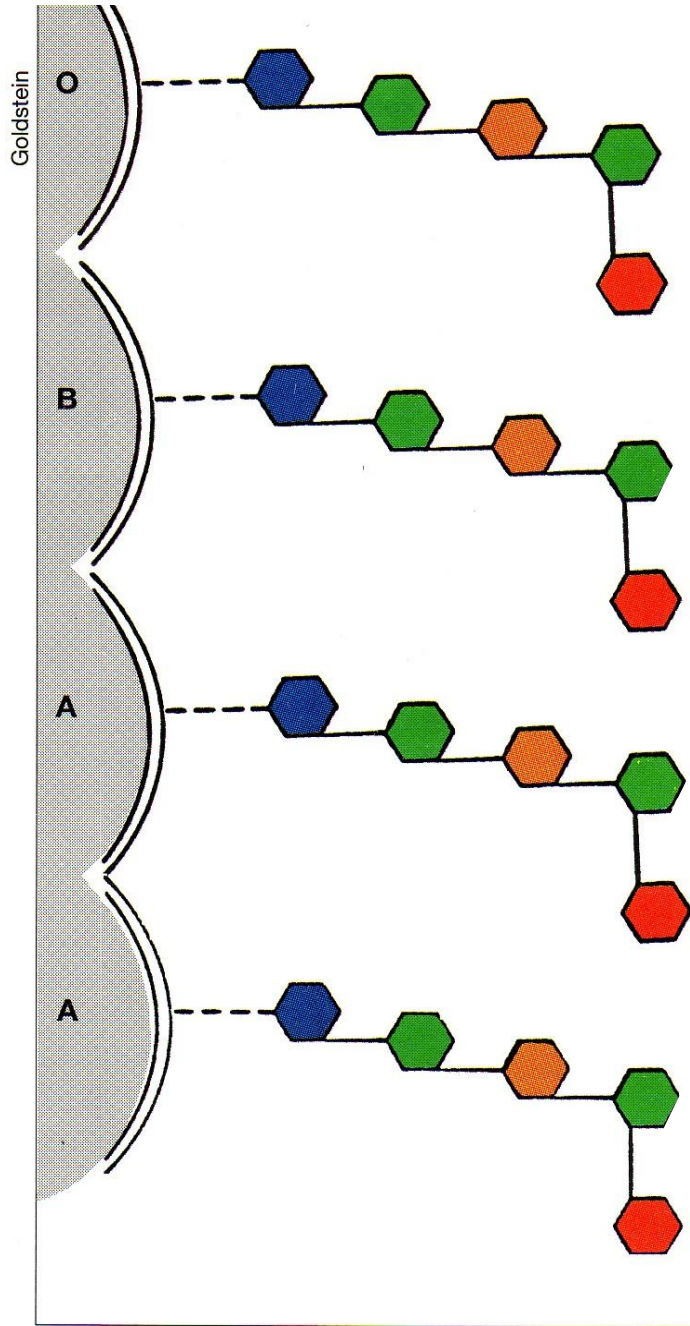
January 11, 1997
Vol. 151, No. 2
Pages 17-32







**Universal
Blood**



All like Type O!

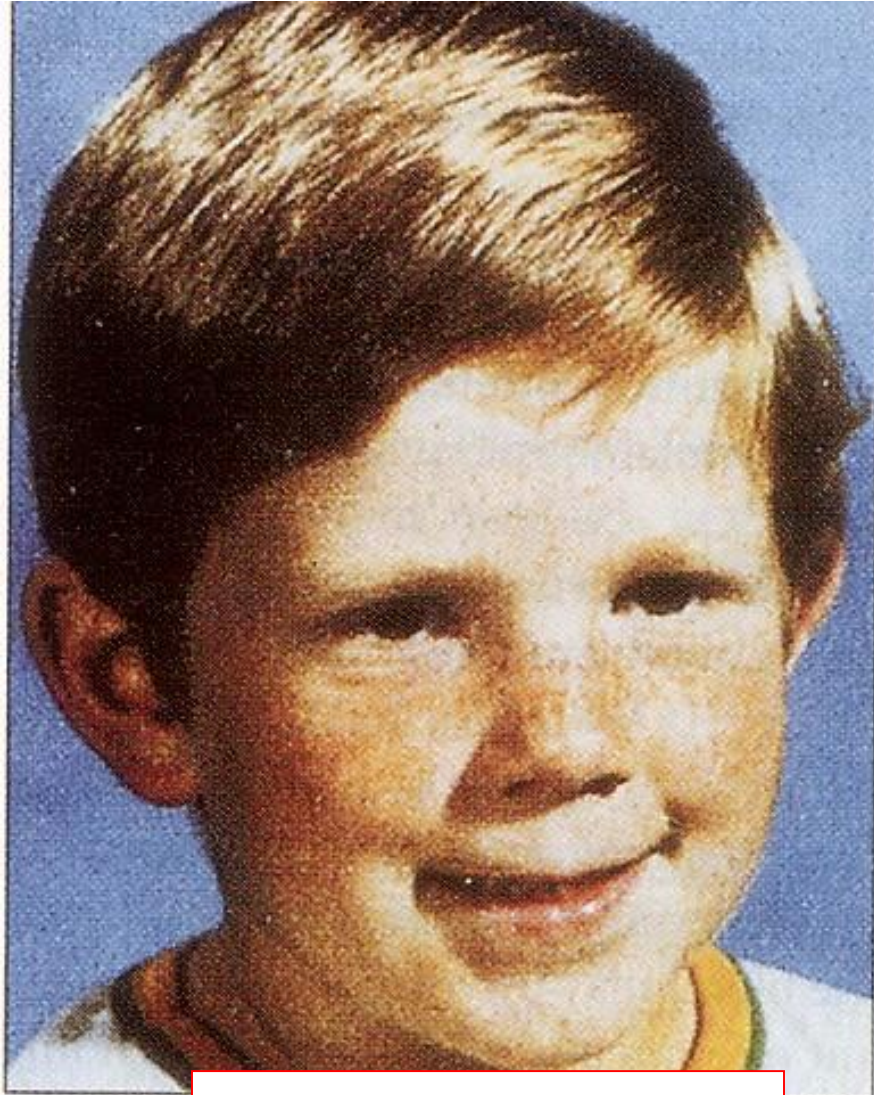


Key	
	Fucose
	Galactose
	Glucose
	N-acetylgalactosamine

TIME OUT



***Cushing's Syndrome = Hypersecretion
of Cortisol: Hypothalamic (CRH),
Pituitary (ACTH), or Adrenal (Cortisol)***



T = 0, near normal

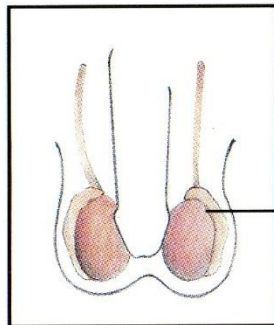


T = 4 months later

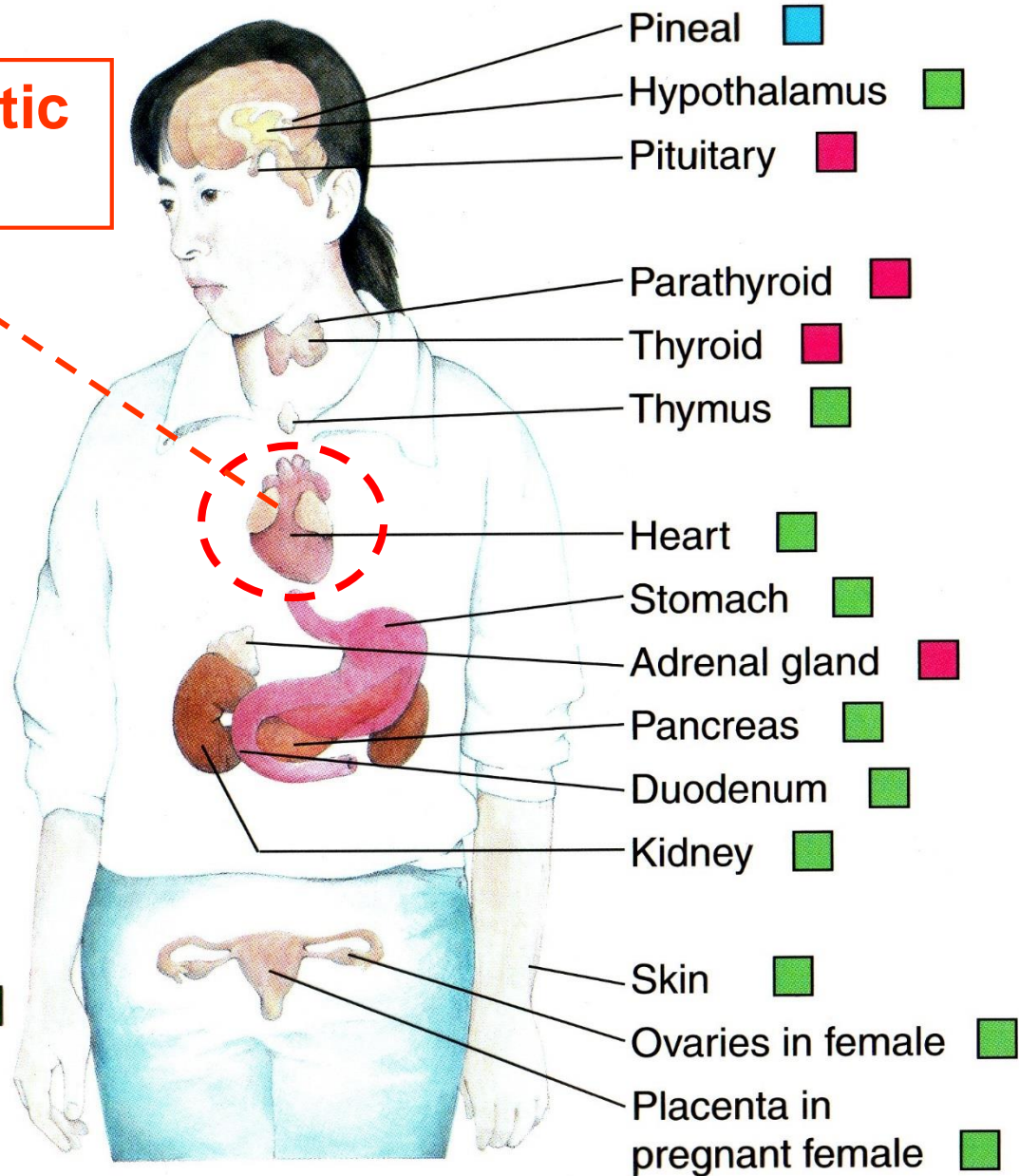
Endocrine System

ANP = Atrial Natriuretic Polypeptide

- Solely endocrine function
- Mixed function
- Complete function uncertain



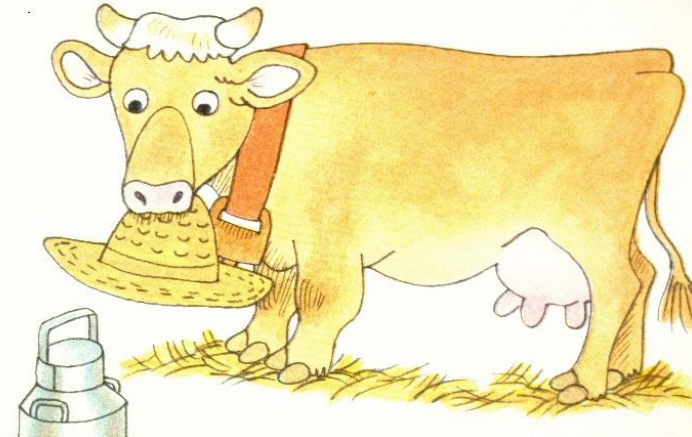
Testes in male



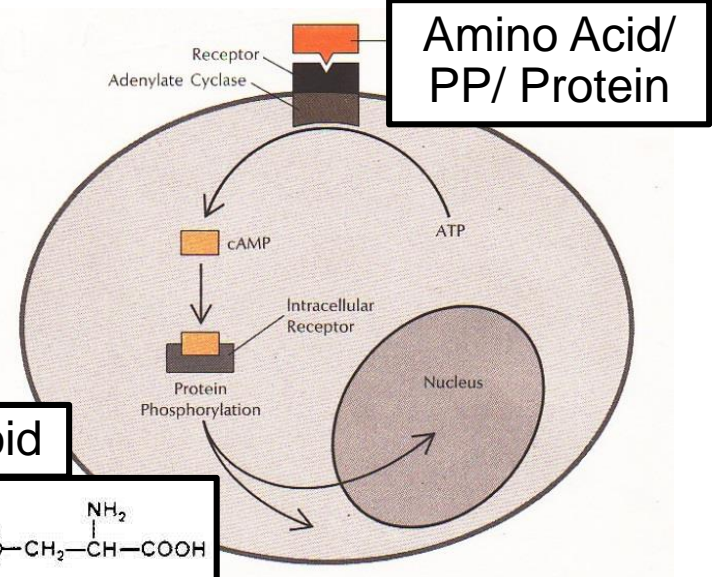
- Pineal ■
- Hypothalamus ■
- Pituitary ■
- Parathyroid ■
- Thyroid ■
- Thymus ■
- Heart ■
- Stomach ■
- Adrenal gland ■
- Pancreas ■
- Duodenum ■
- Kidney ■
- Skin ■
- Ovaries in female ■
- Placenta in pregnant female ■

Hormone/Endocrine Classifications?

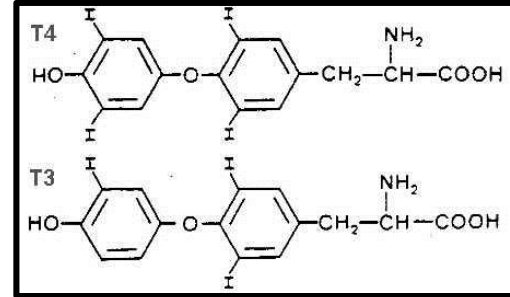
Exogenous



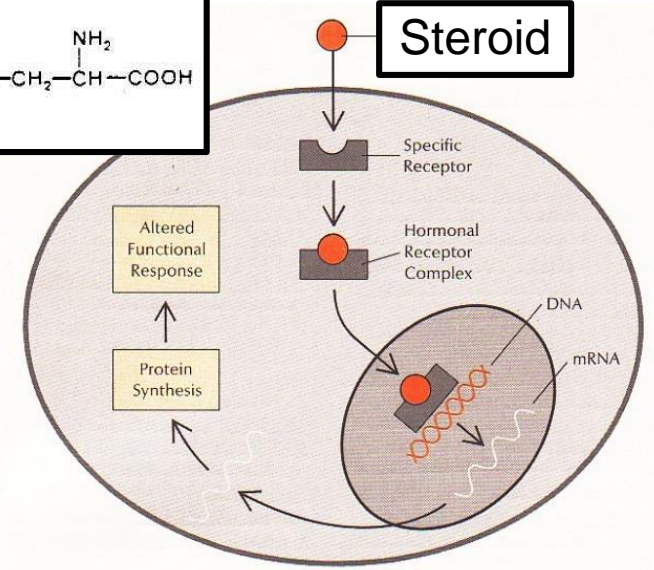
Endogenous



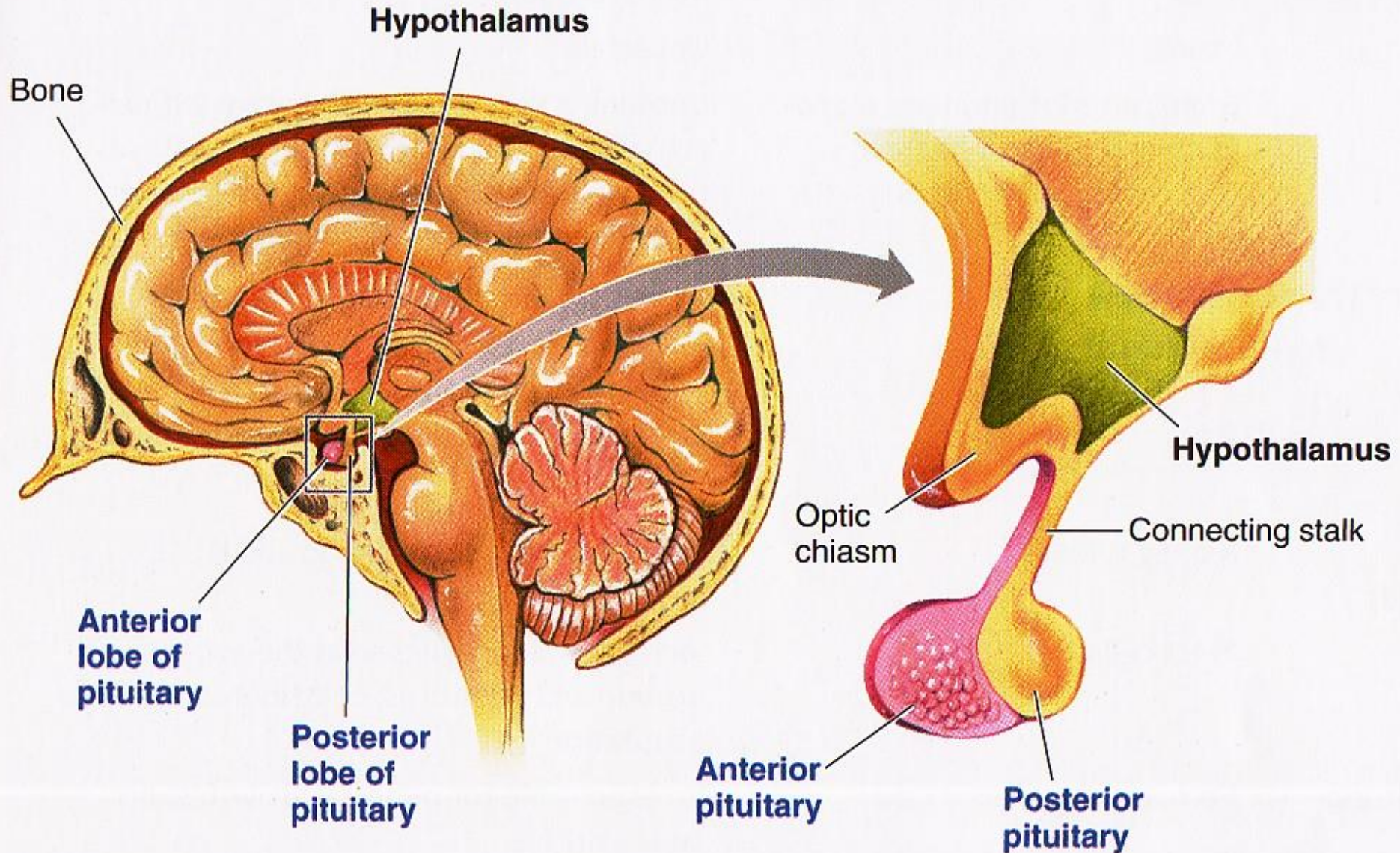
Thyroid



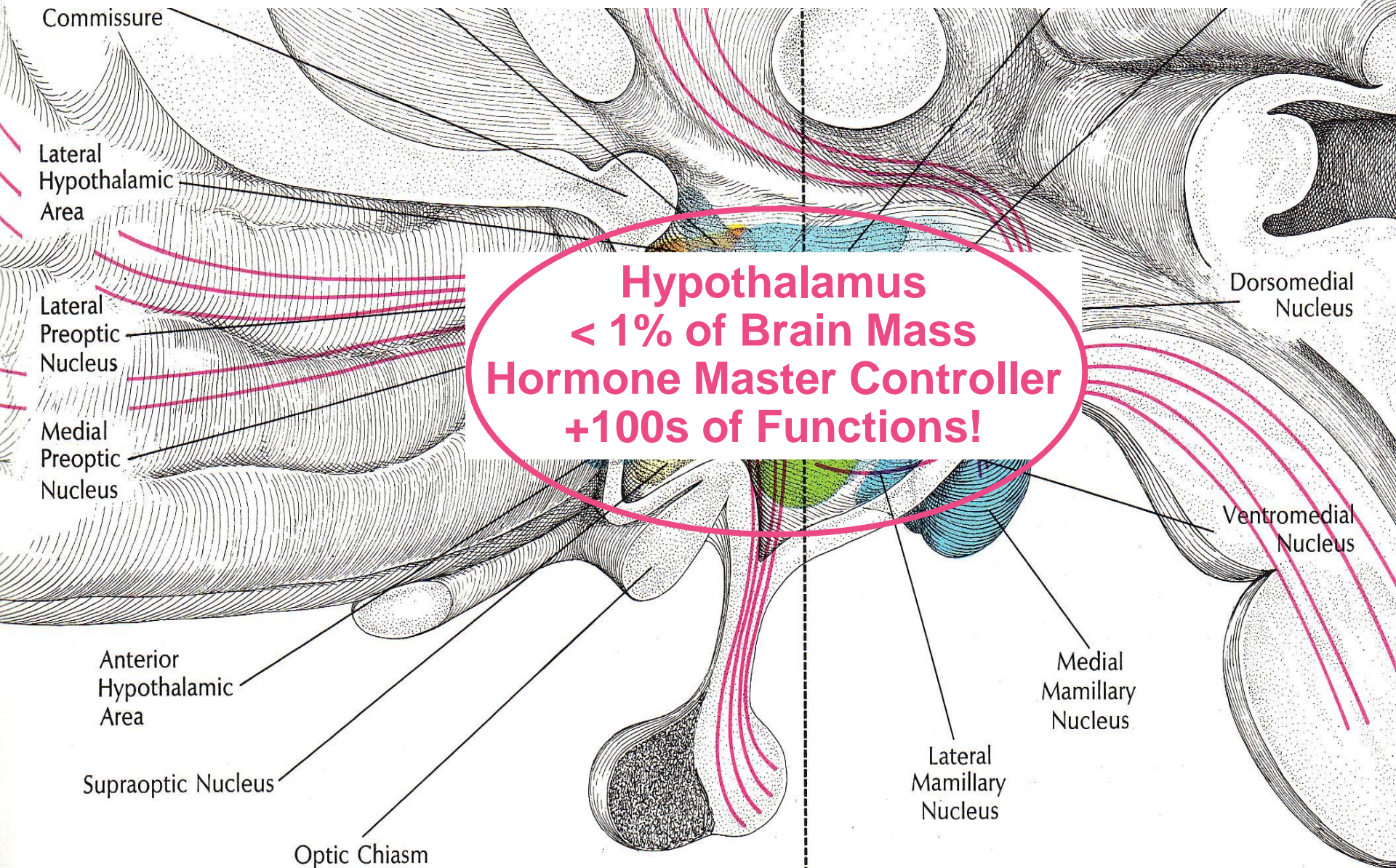
Steroid

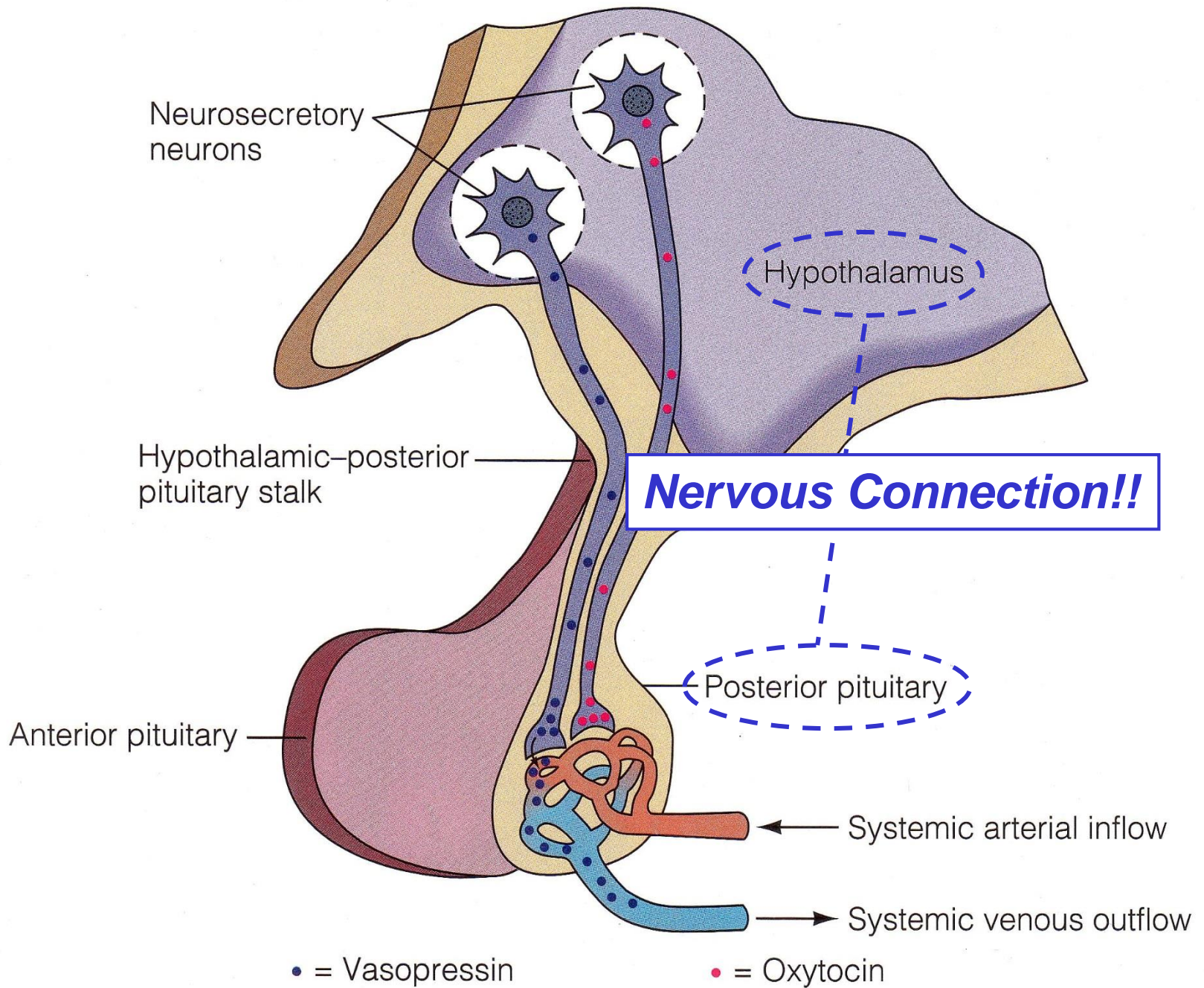


Hypothalamus & Pituitary: Intimate Relationship



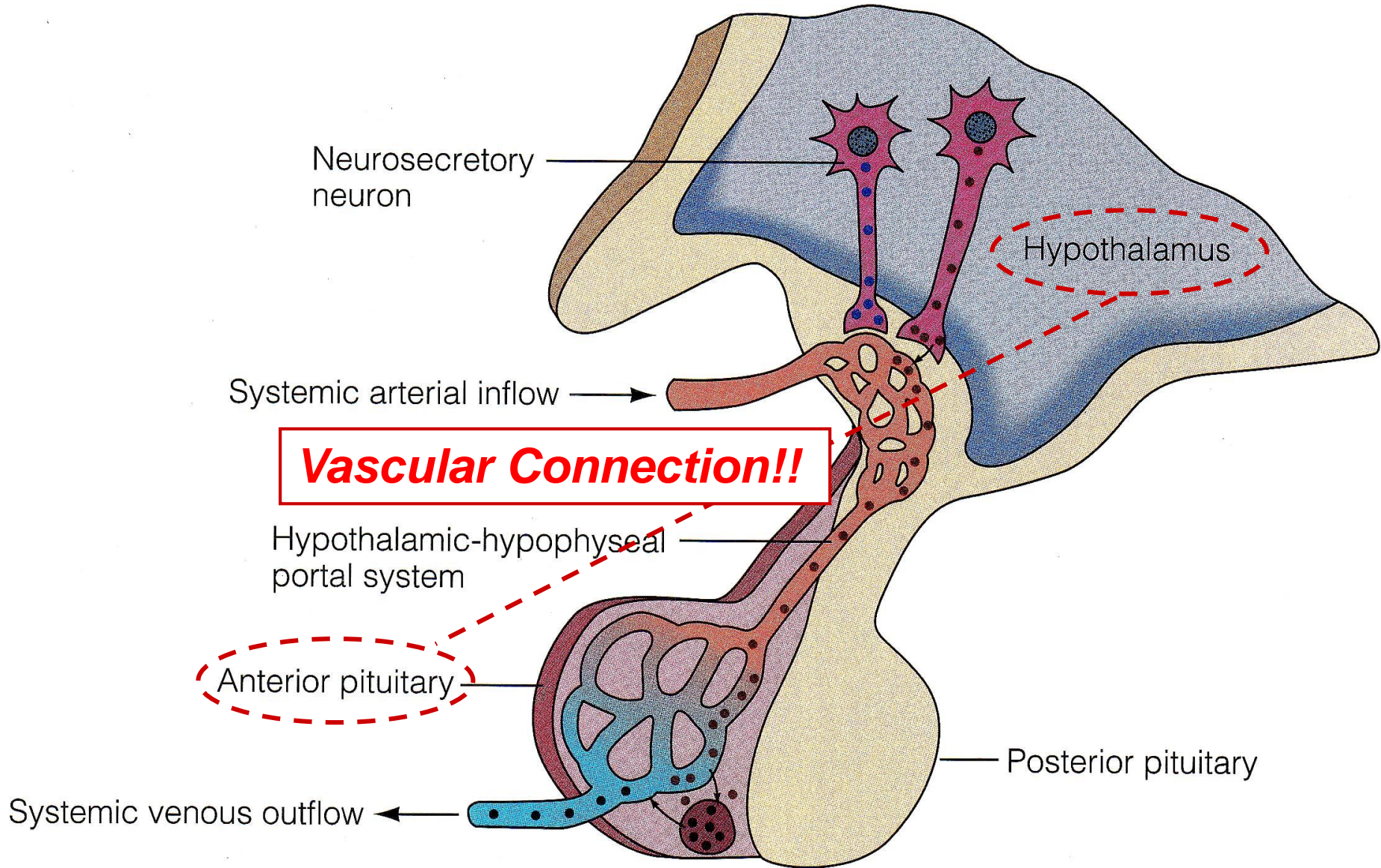
Good Things Come in Small Packages!





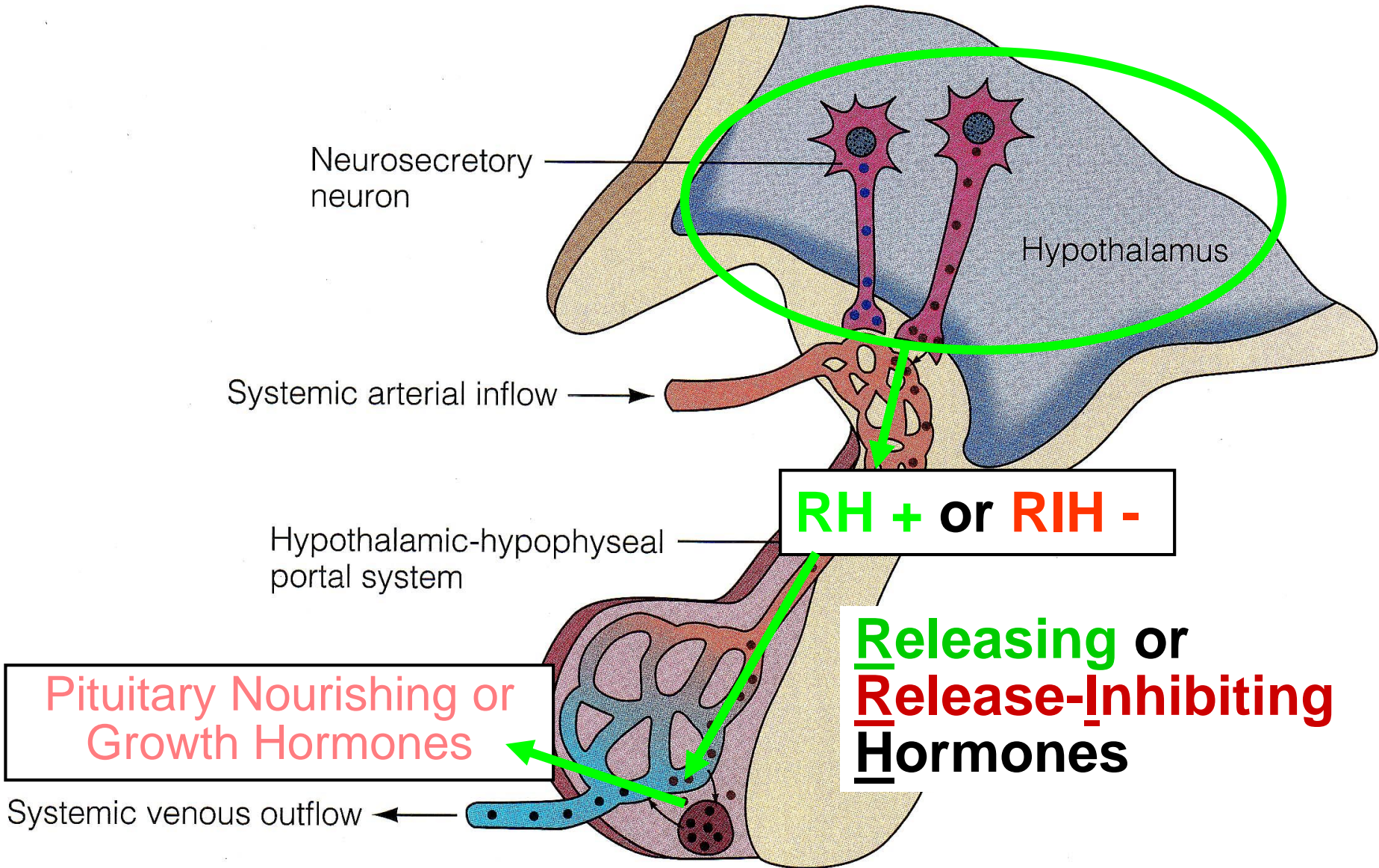
Nervous Connection!!

Hypothalamus-Anterior Pituitary Vascular Connection!



• = Hypophysiotropic hormones

• = Anterior pituitary hormone

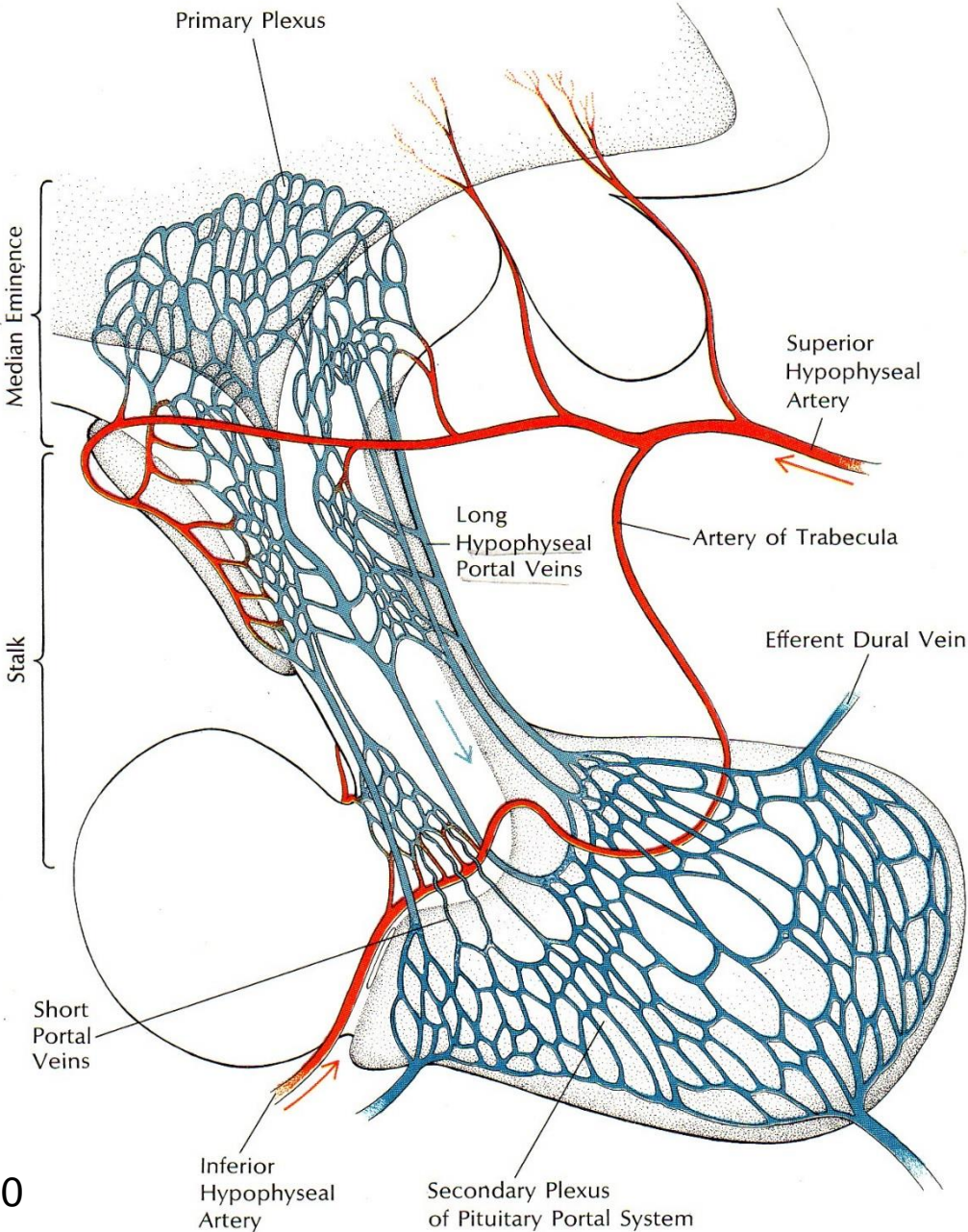


• • = Hypophysiotropic hormones

• = Anterior pituitary hormone

Hypophysis ≡ Pituitary

Capillary-Venule-Capillary Intimate Circulation





1 mm

