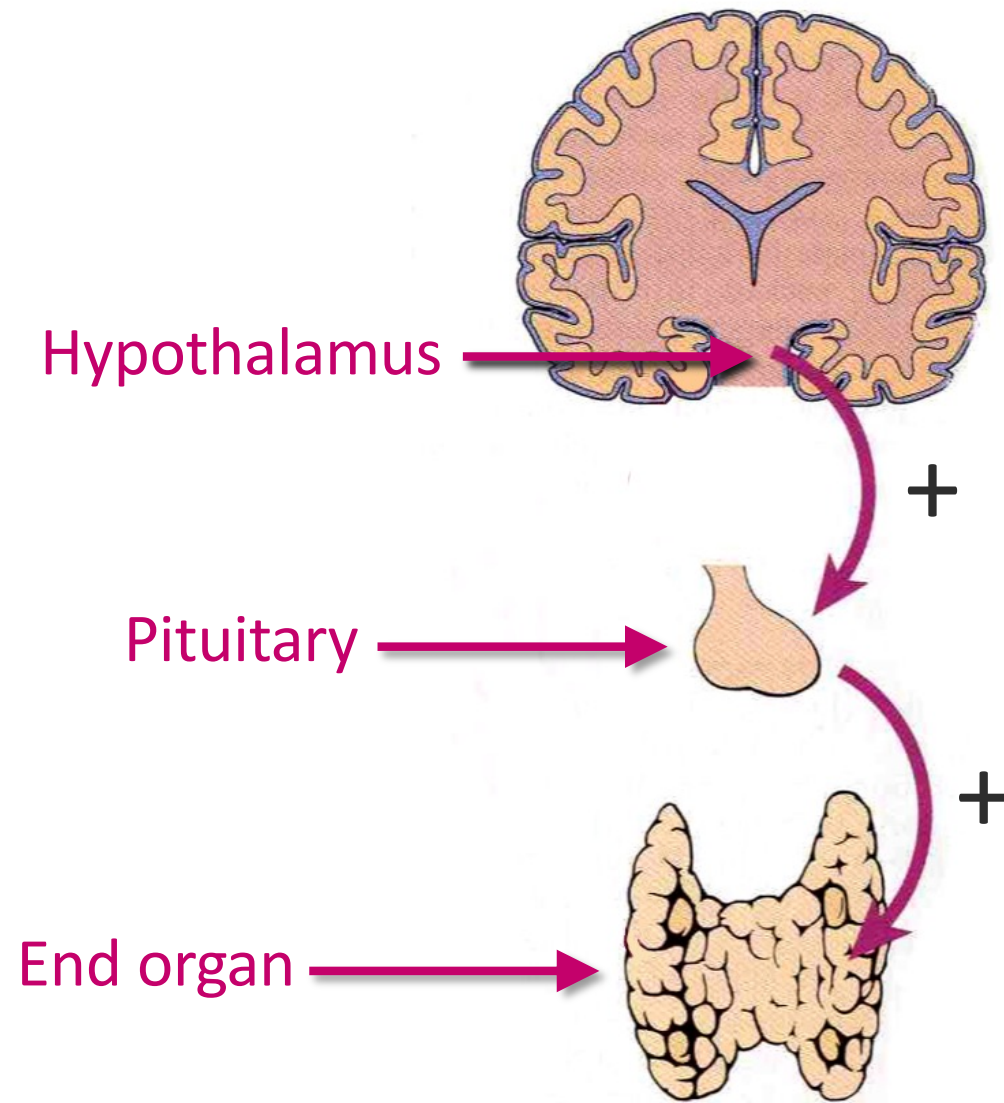




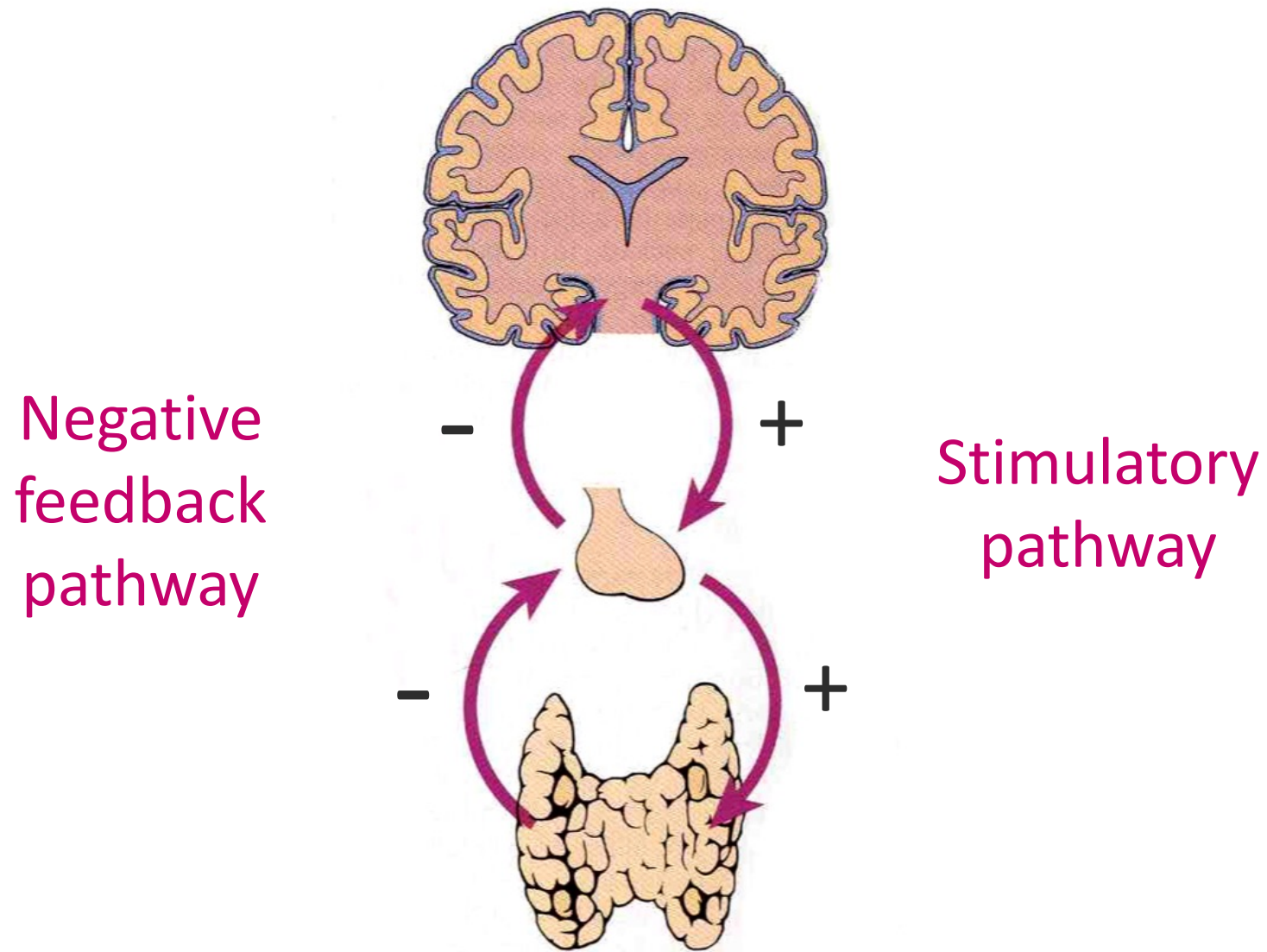
# Pituitary Pathology

Kristine Krafts, M.D.

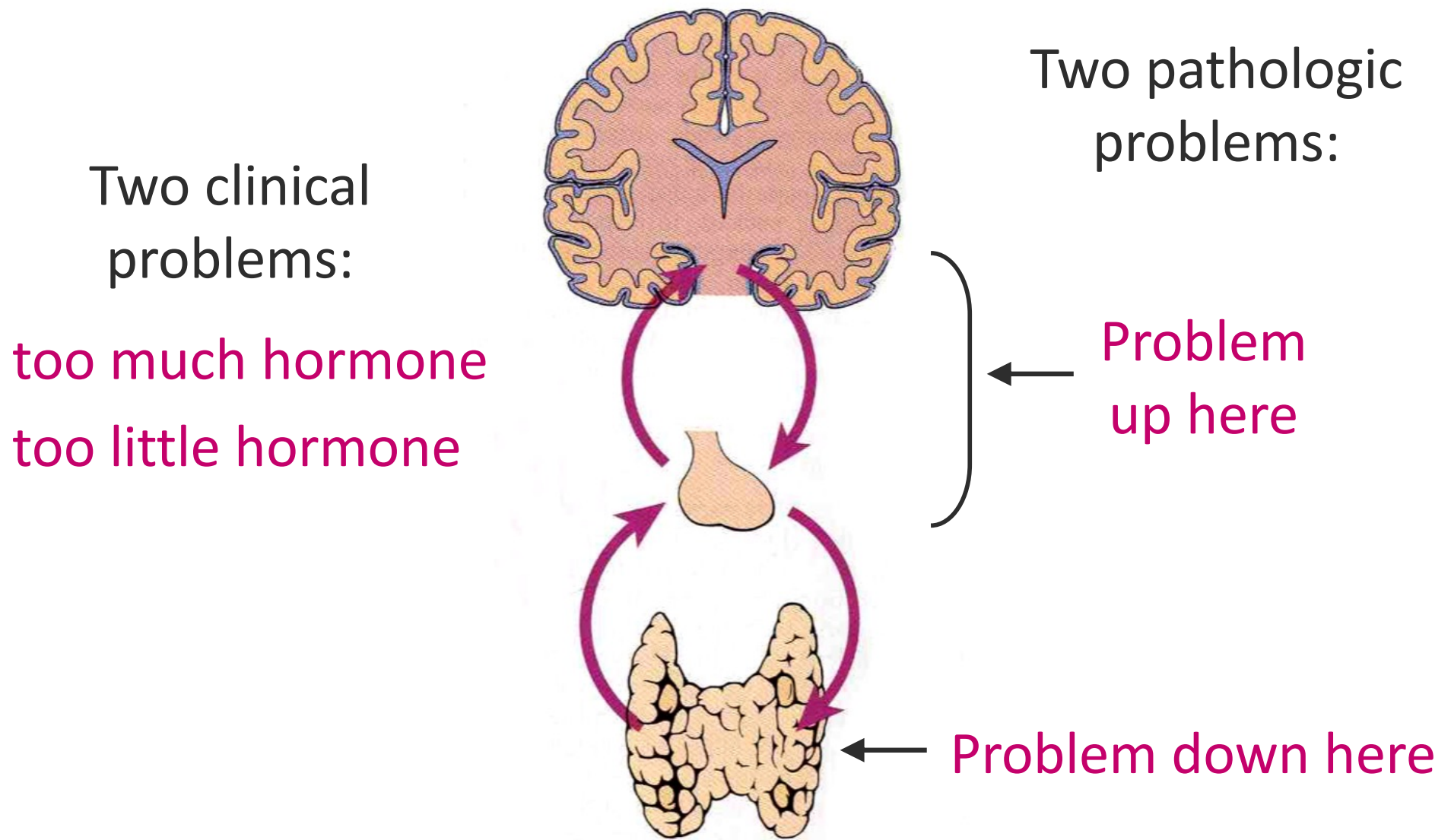
# The Endocrine System, Ridiculously Oversimplified



# The Endocrine System, Ridiculously Oversimplified



# Endocrine Diseases, Ridiculously Oversimplified



Introduction

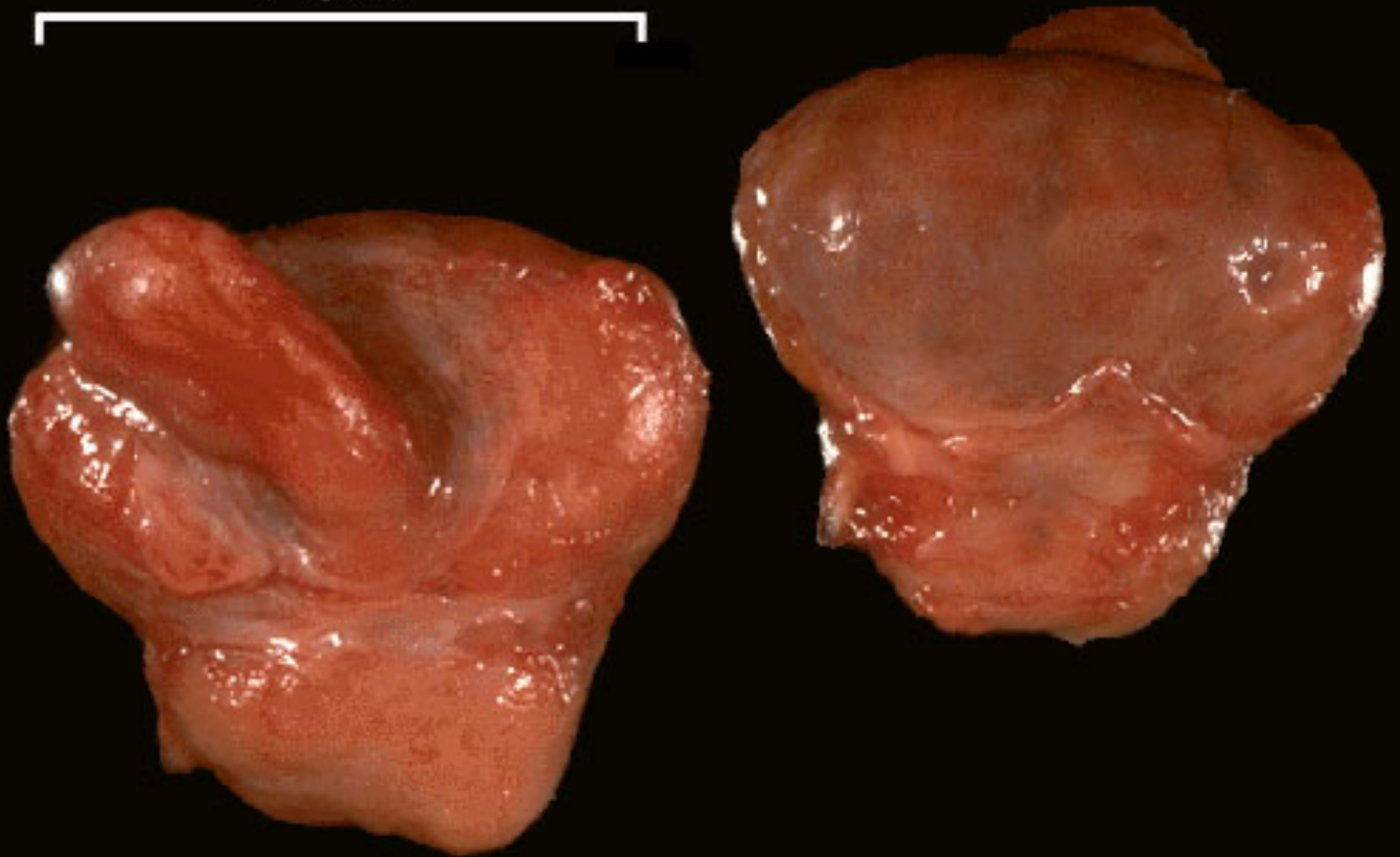
Hyperpituitarism

Hypopituitarism

# Introduction



1 cm



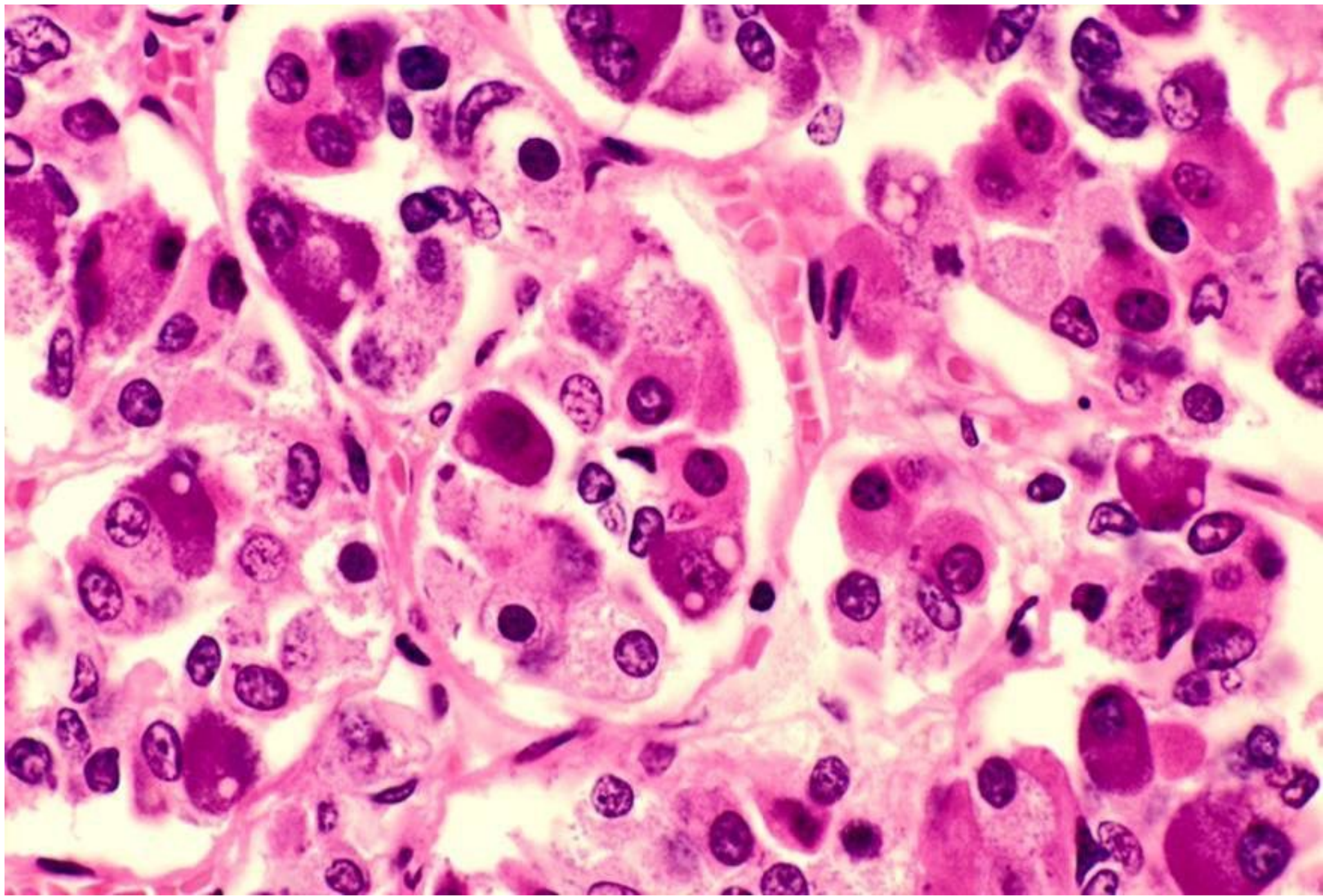
Pituitary gland

# Anterior Pituitary

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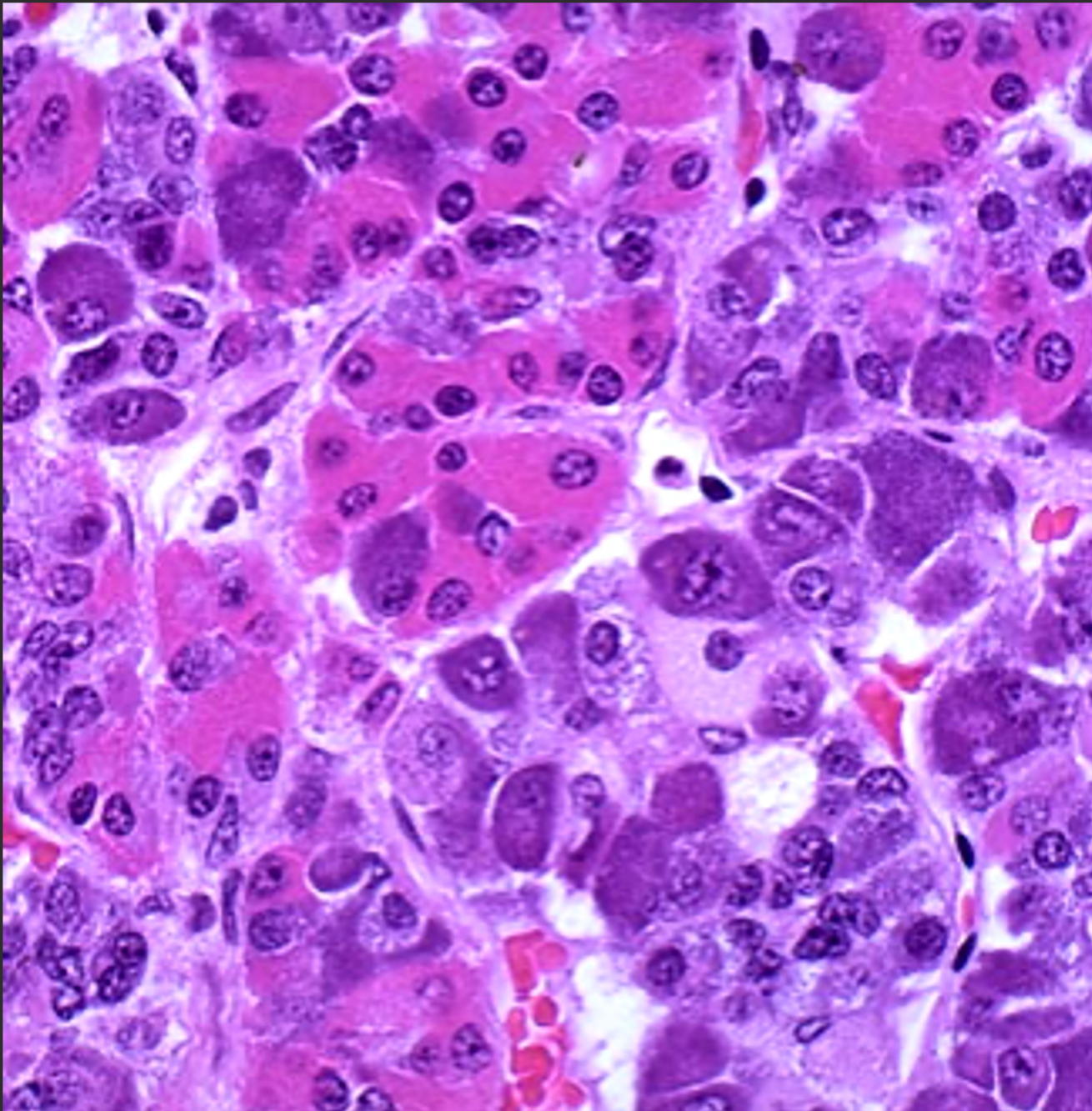
- GH, ACTH, TSH, LH, FSH, and prolactin.
- Controlled by hypothalamus.
- Most problems happen here.





Anterior pituitary





## Acidophils

GH

PL

## Basophils

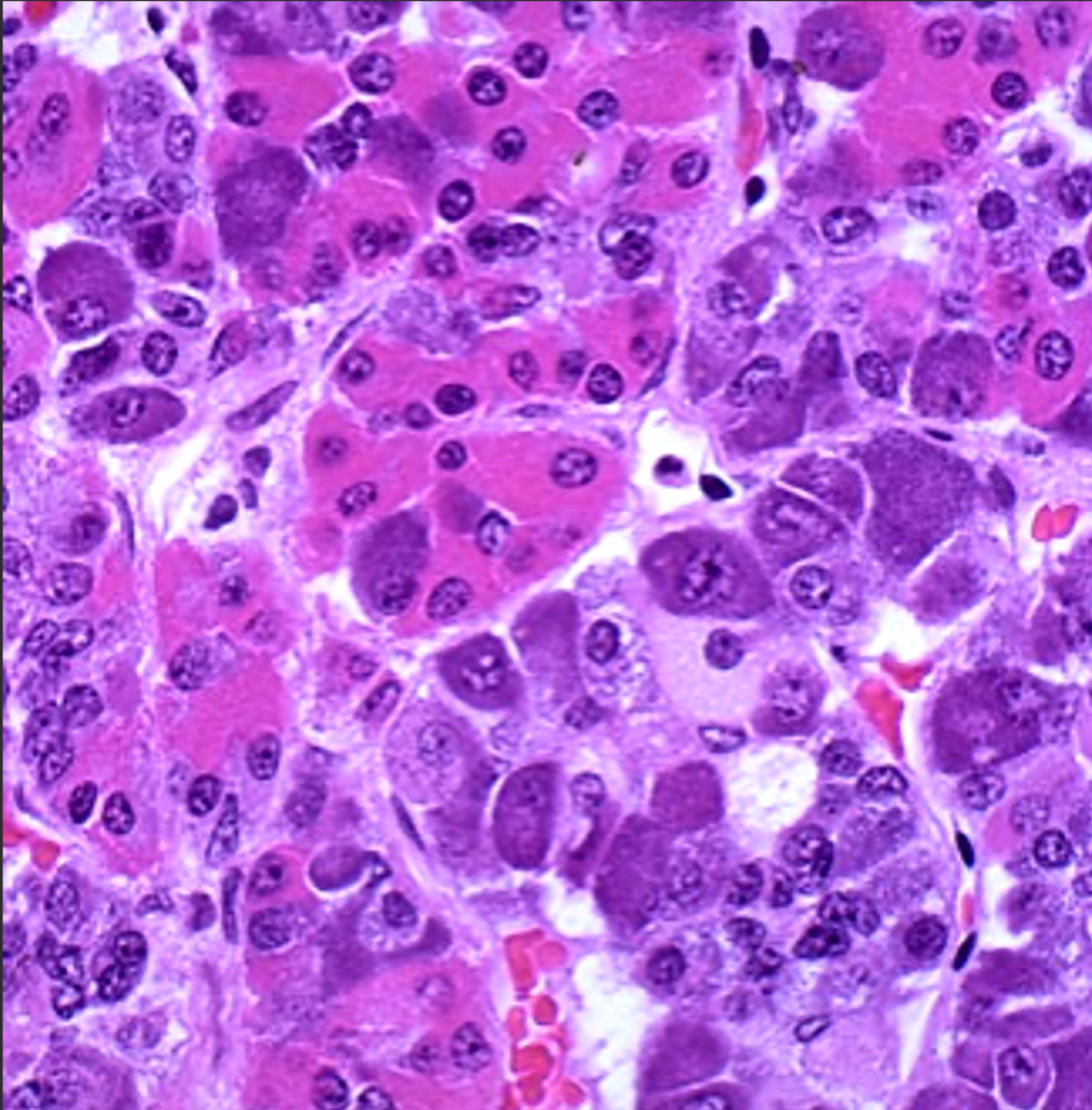
FSH

LH

ACTH

TSH





Acidophils

GH

PL

Basophils

FSH

LH

ACTH

TSH

# Posterior Pituitary

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- Oxytocin, ADH (vasopressin)
- Hypothalamus makes them
- Posterior pituitary stores them





# Oxytocin

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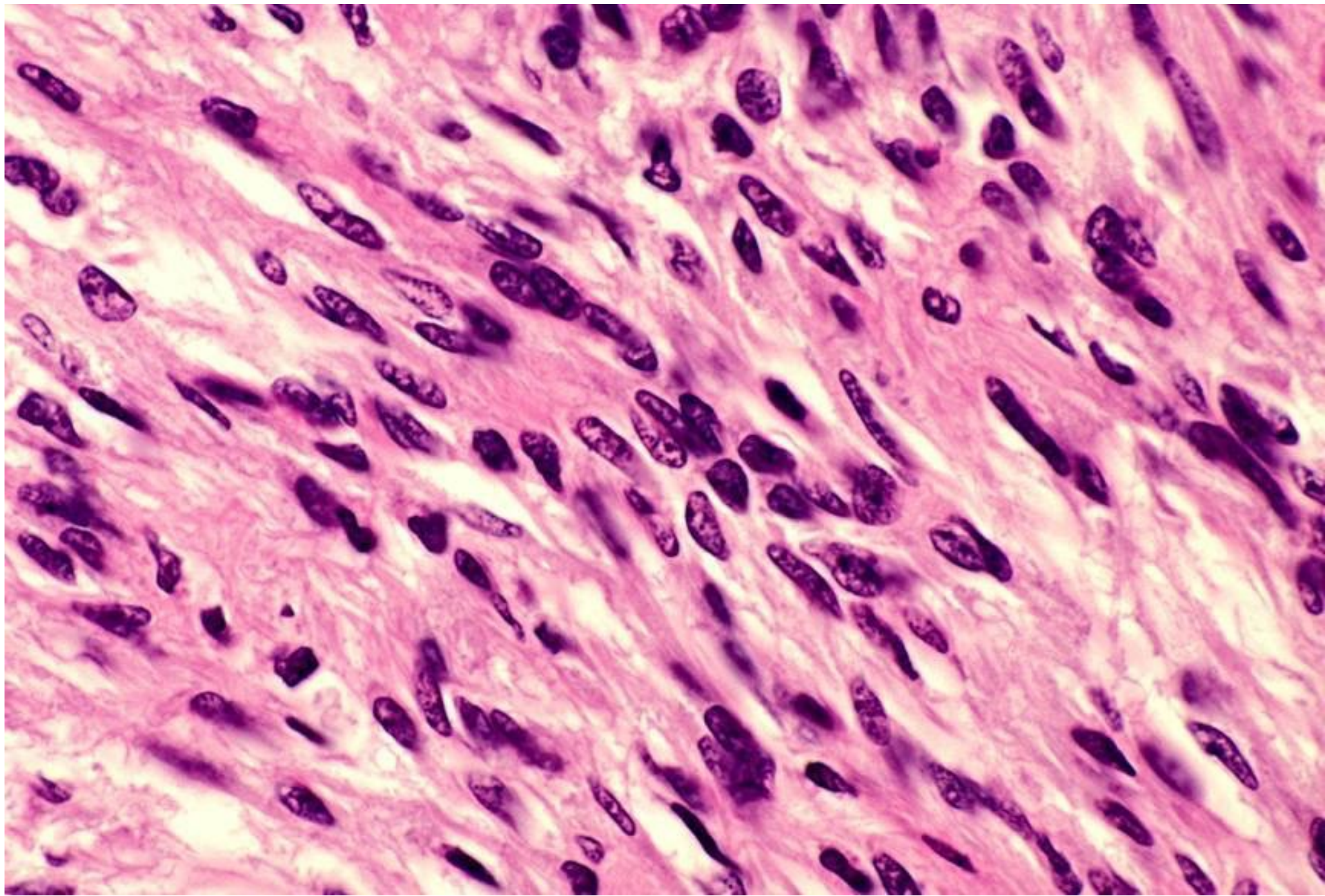
- labor
- milk let-down
- cuddling (after orgasm)
- monogamy (vole studies)
- trust (investment experiment)



[www.verolabs.com](http://www.verolabs.com)







Posterior pituitary

Introduction

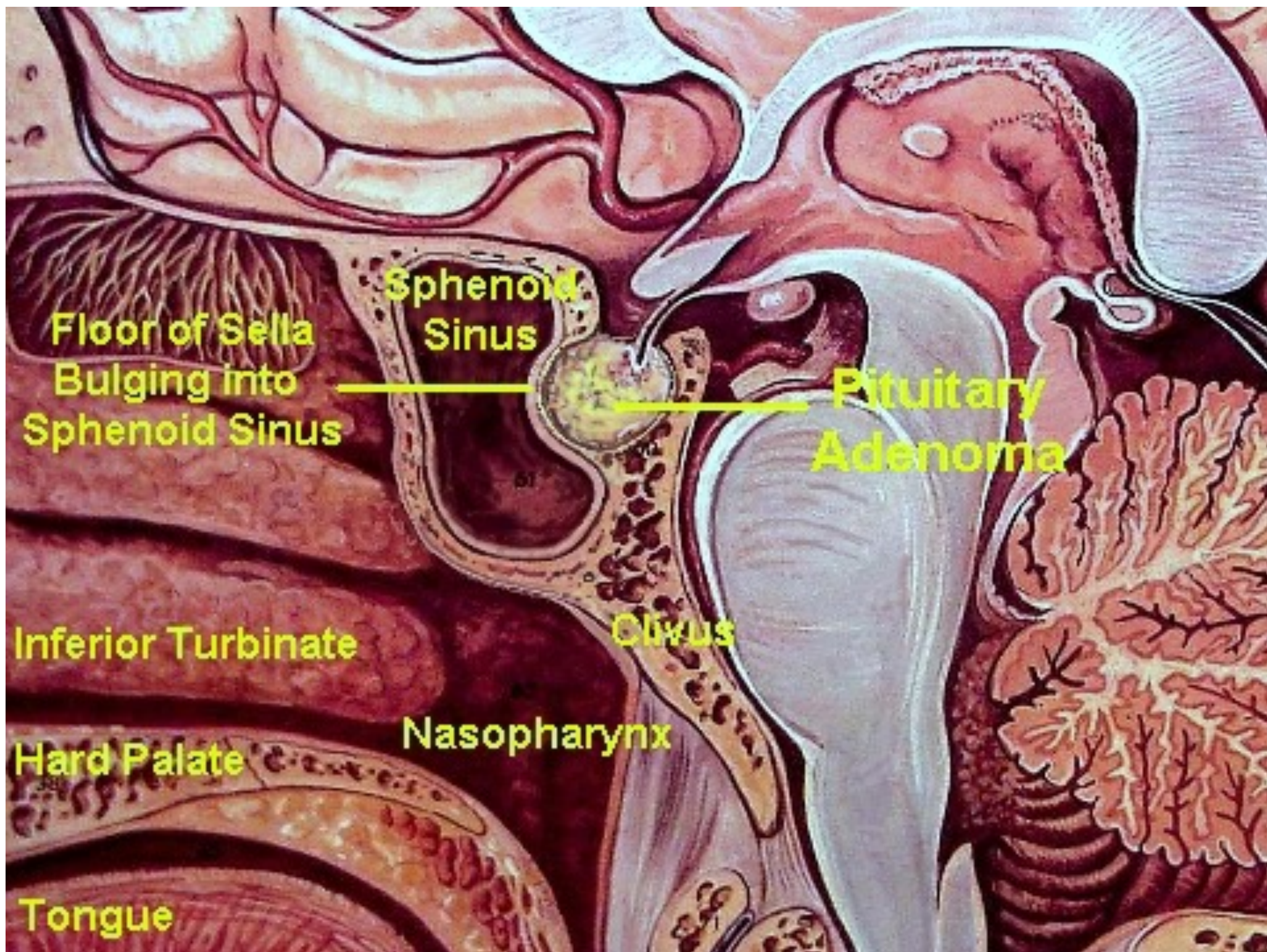
Hyperpituitarism

# Hyperpituitarism

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- Too much *anterior* pituitary hormone(s)
- Most common cause: pituitary adenoma
- Symptoms:
  - Endocrine abnormalities
  - Visual deficits: bilateral hemianopsia







DSag R2.6

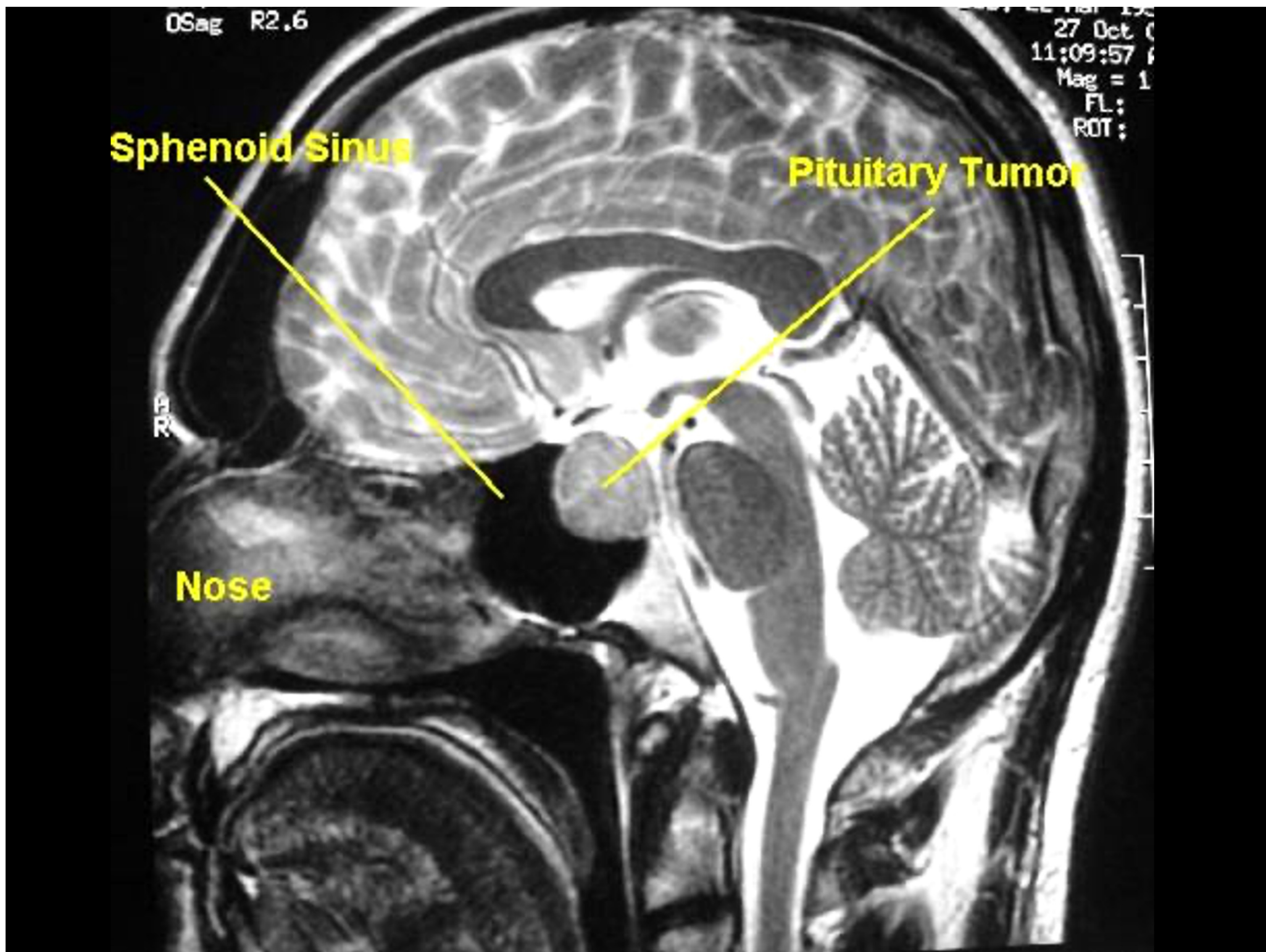
27 Oct 0  
11:09:57  
Mag = 1  
FL:  
ROT:

**Sphenoid Sinus**

**Pituitary Tumor**

**Nose**

R



Signa 1.5T

PUH MRI CENTE

Ex:17219

A100

82 M

Se:7/7

Im:9/16

07/15

Ac: 342.0+C

14

R  
1  
0  
0

SE

TR:466

TE:15/Fr

EC:1/1 16kHz

HEAD

FOV:20x20

3.0thk/1.0sp

16/04:35

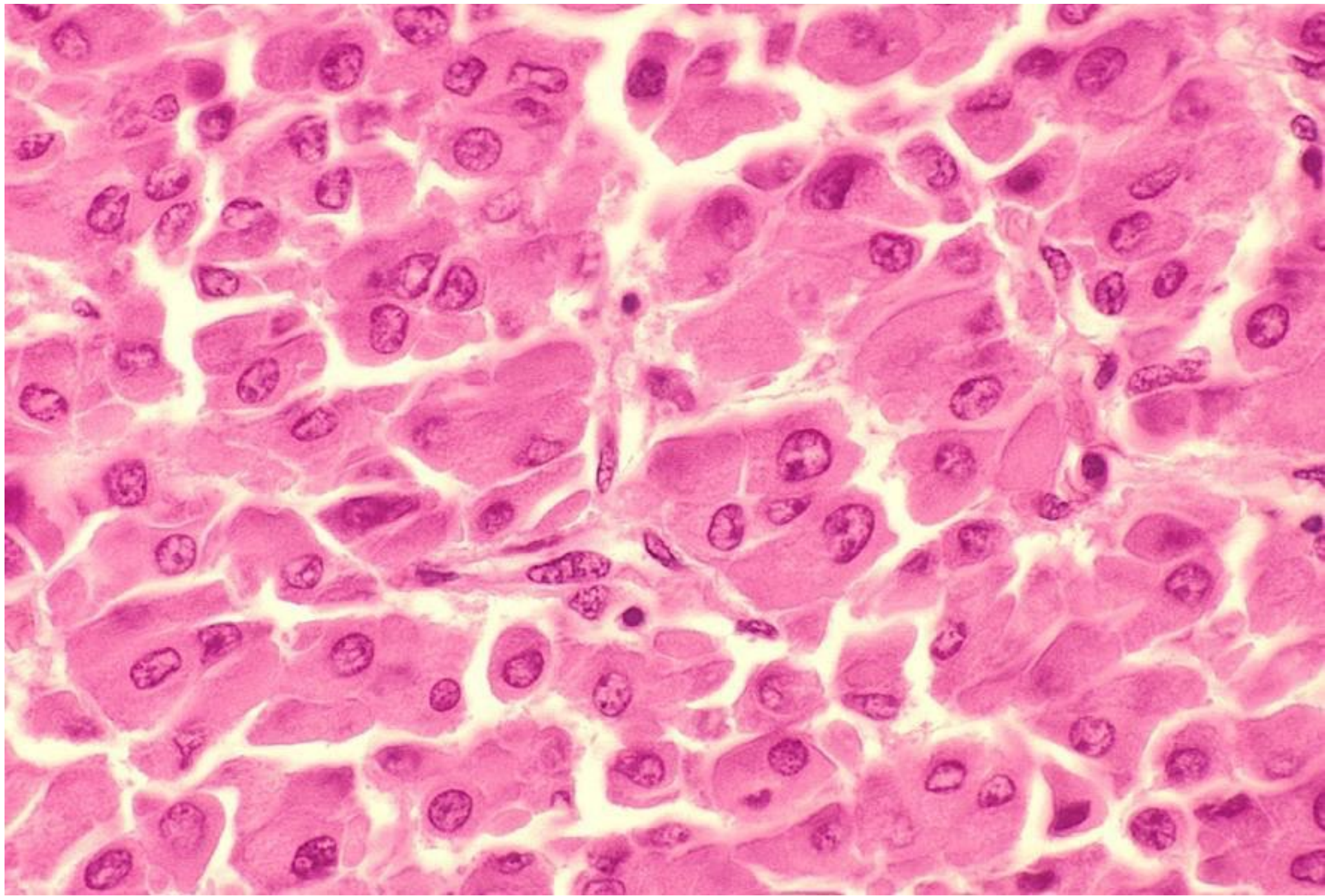
256x192/3 NEX

cSt:SIF/ED/PM

P100

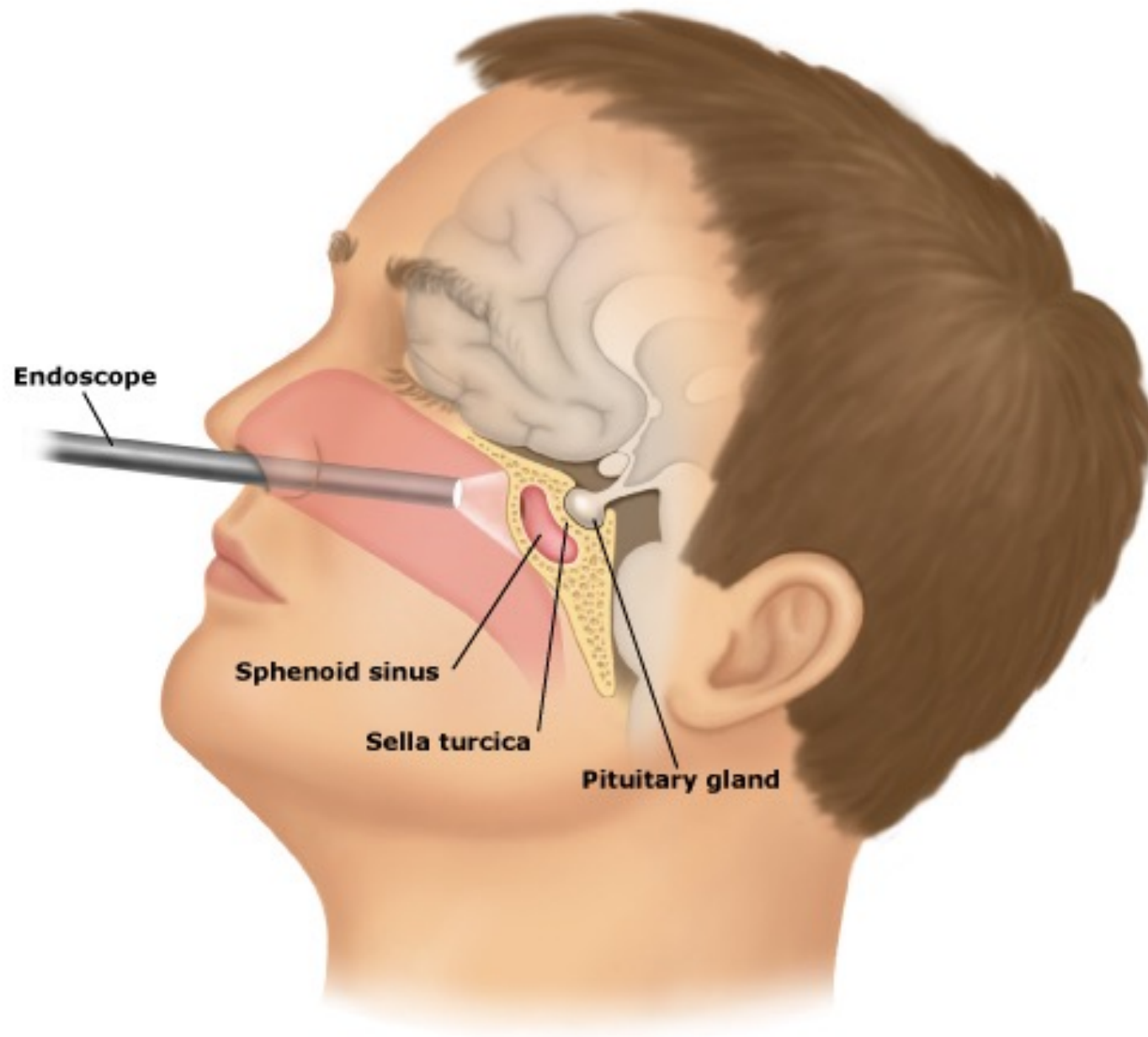
V





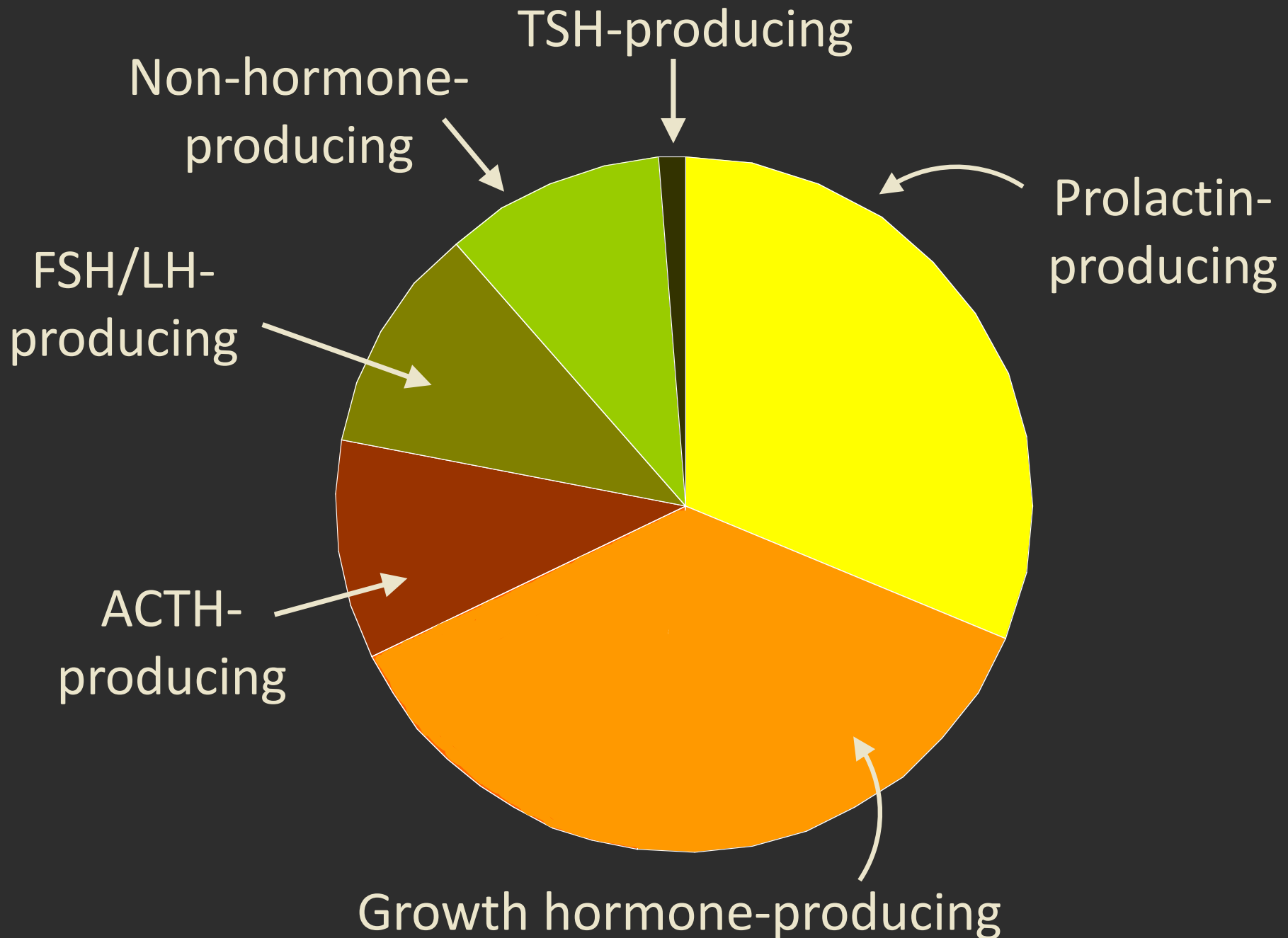
Pituitary adenoma





Surgical removal of pituitary adenoma

# Types of Pituitary Adenoma



# Growth Hormone Adenoma

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## Gigantism

- Pre-pubertal adenoma
- Very tall
- Very very long arms, legs

## Acromegaly

- Post-pubertal adenoma
- Very tall
- Enlarged bones of face, hands



Tallest man ever: Robert Wadlow (8' 11")



Tallest man alive: Sultan Kösen (8' 2")



Sultan Kösen on his 40<sup>th</sup> birthday,  
posing next to a statue of Robert Wadlow





Fezzik, Inigo Montoya, and Vizzini





Andre the Giant



Andre the Giant



Acromegalic facial features





Acromegaly: development over time

Introduction

Hyperpituitarism

Hypopituitarism

# Hypopituitarism

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- Too little *anterior* pituitary hormone(s)
- Causes
  - Pituitary destruction
  - Ischemic necrosis
  - Pituitary apoplexy
- Symptoms usually insidious  
(hypothyroidism, adrenal insufficiency...)

What's **apoplexy**?





**apoplexy** (greek *apoplexia*, to strike down, disable by a stroke):  
sudden paralysis with loss of consciousness and sensation,  
caused by the damaging of blood vessels in the brain.





Pituitary adenoma with massive bleeding