The Endocrine System, Ridiculously Oversimplified

Hypothalamus → Pituitary → End organ
The Endocrine System, Ridiculously Oversimplified

- Negative feedback pathway
- Stimulatory pathway
Endocrine Diseases, Ridiculously Oversimplified

Two clinical problems:
- too much hormone
- too little hormone

Two pathologic problems:
- Problem up here
- Problem down here
Introduction

Hyperpituitarism

Hypopituitarism
Introduction
Pituitary gland
Anterior pituitary
Posterior pituitary
Introduction

Hyperpituitarism
Hyperpituitarism

- Too much *anterior* pituitary hormone(s)
- Most common cause: pituitary adenoma
- Pituitary symptoms:
  - Asymptomatic at first
  - Endocrine abnormalities
  - Mass effects
- Many types
Pituitary adenoma
Types of Pituitary Adenoma

- TSH-producing
- PL-producing
Growth Hormone Adenoma

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

Acromegaly
- Post-pubertal adenoma
- Very tall
- Enlarged bones of face, hands
Tallest man in the world for 2011 Guinness Book
Fezzik, Inigo Montoya, and Vizzini
Andre the Giant
Acromegalic facial features
Acromegaly: development over time
Introduction

Hyperpituitarism

Hypopituitarism
Hypopituitarism

- 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.