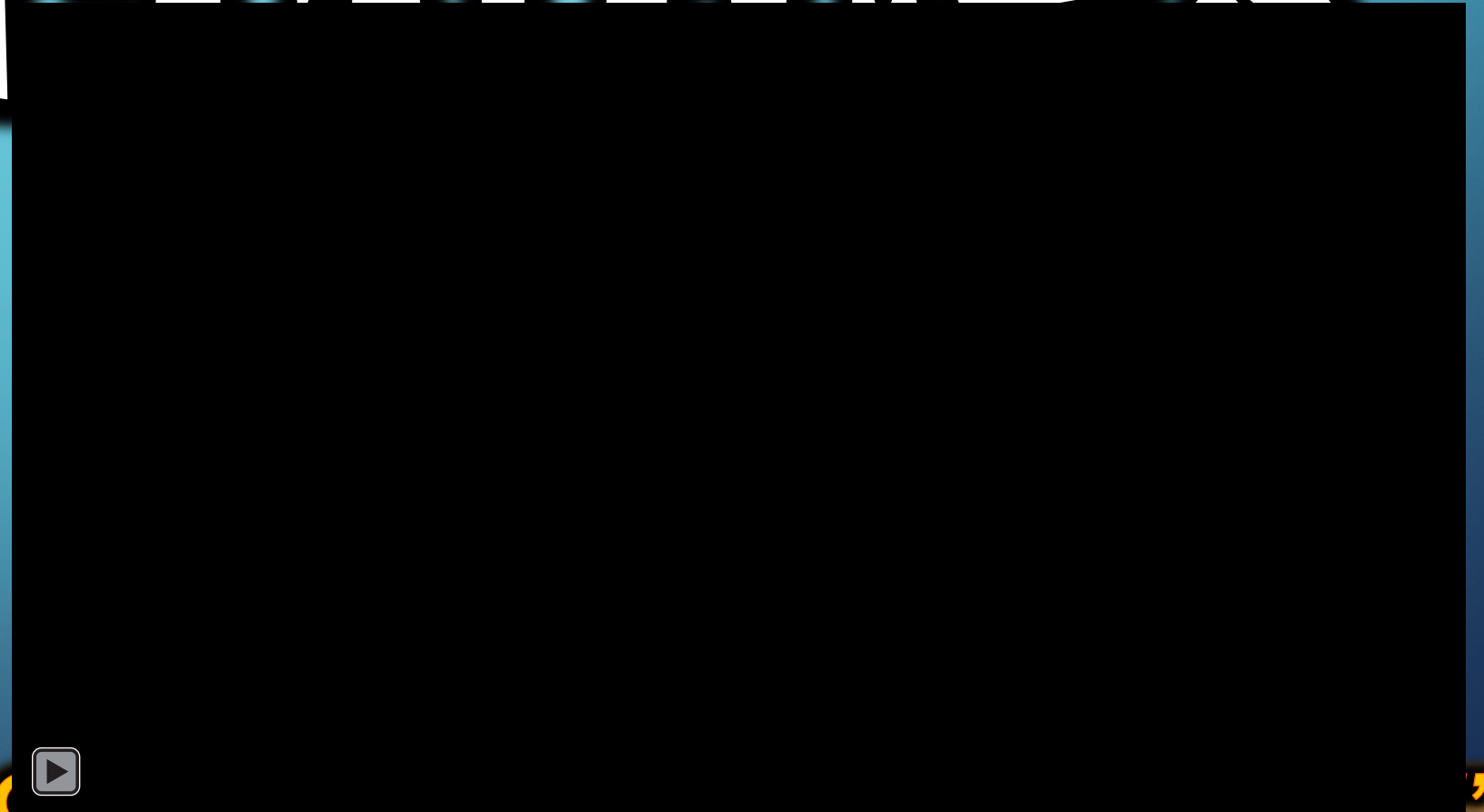


Unit 2 – Biology and Learning

Day 2 -

Horror movies



Or, 'Why some things are a scary/scary place'

Objectives

- **Compare the Endocrine System to the Nervous System**

- **Identify the Eight Endocrine Glands**

- **Understand the importance of hormones in Psychology**

- **Terms: ->**

- **Endocrine System**

- **Hormones**

- **Pituitary Gland**

- **Thyroid Gland**

- **Thymus Gland**

- **Pancreas**

- **Pineal Gland**

- **Insulin**

- **Ovaries / Testes**

- **Adrenal Gland**

- **Adrenaline**

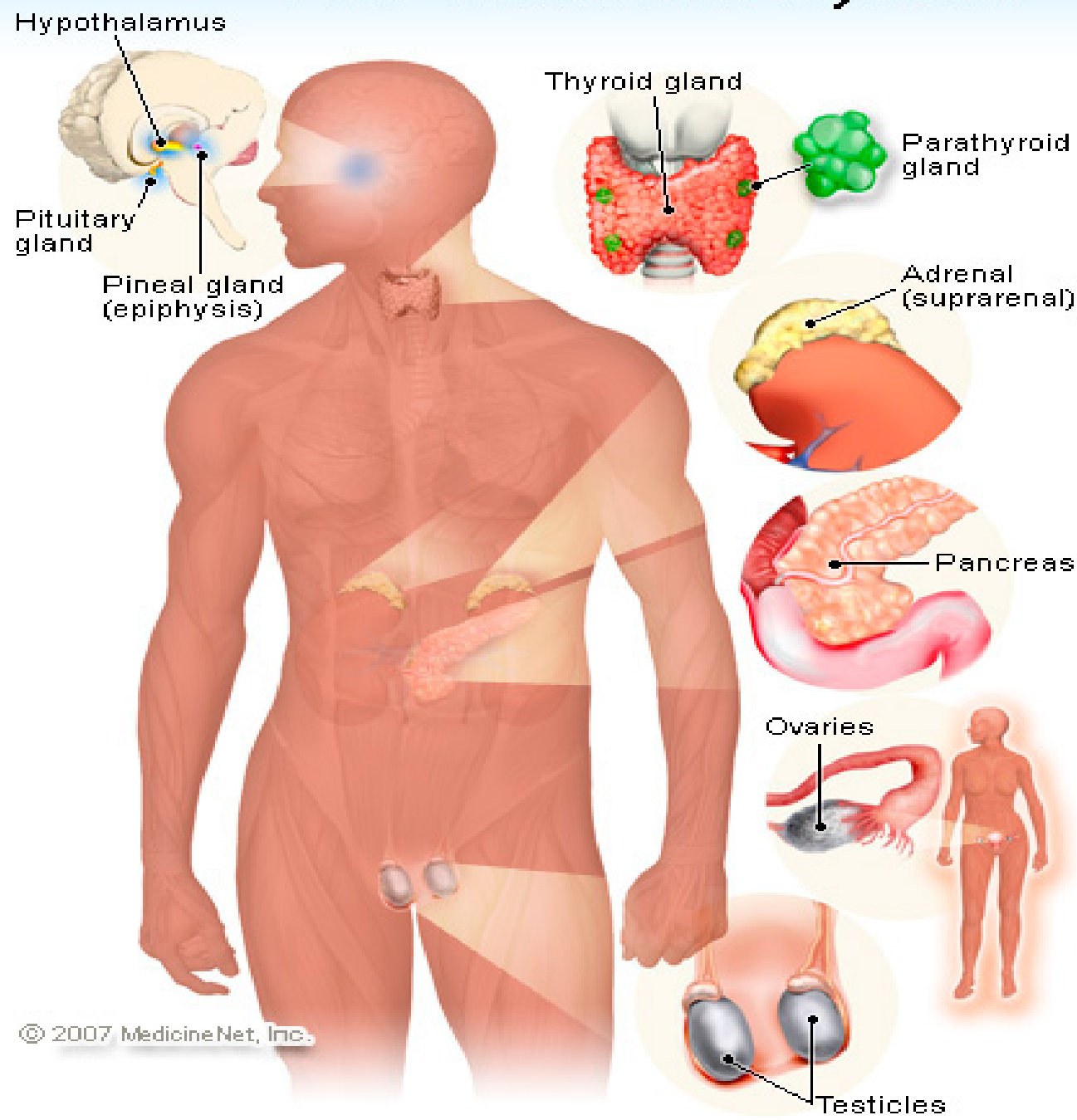
Remind Me...

- What is “Psychology”?
- How does “Biology” relate to that?
- What are the TWO major systems that affect Psychology biologically?
- Don't forget the parts to the Nervous System...
 - What were the parts to a Neuron again?
- Today we focus on the Endocrine System
 - NOT the place in Star Wars where Ewoks come from...

Endor System



The Endocrine System



The Endocrine System

- The RESULT of stimulus (*things happening*)
 - *i.e. you get shot with a tootsie roll and feel angry.*
 - *NOT the pain you feel ... that would Nervous System*
- SLOWER than Nervous
 - Instead of “instant” it can take seconds and even minutes
 - *The rush you feel playing a sport doesn't happen the second you step on the field*
- LONGER LASTING than Nervous
 - Can stay in your system for a longer time
 - *Think of when you get scared... it takes a while to “calm down” again*
- Relies on **HORMONES** (*not Neurons*)

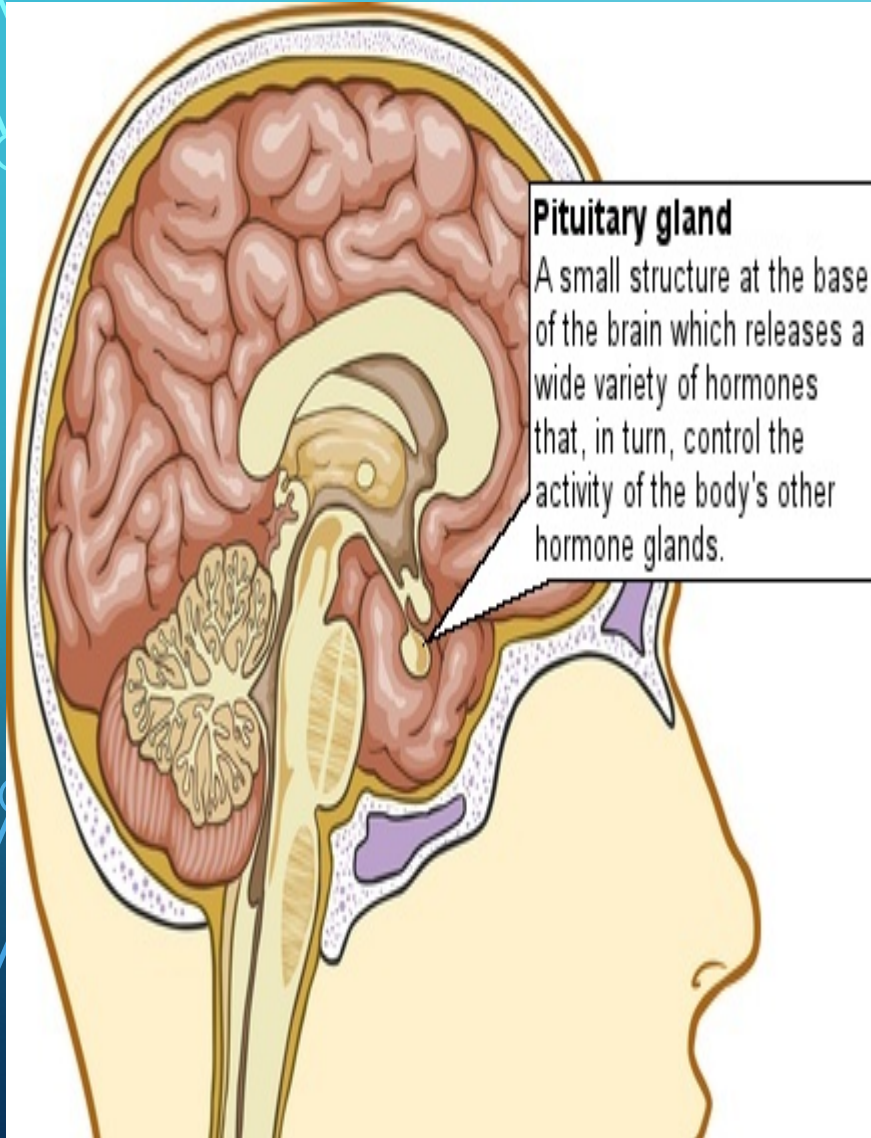
HORMONES

- **Chemicals released by the Endocrine System**
- **Sent from one tissue to another**
 - *Kinda like Neurons, but not the same*
- **There are different types, each with its own unique purpose**
 - *Like a key in a lock*
 - *amino acid derived, polypeptides and proteins, steroids, and eicosanoids.*
 - **Good News: You will NOT have to learn them all**

Eight Endocrine Glands

- 1) Pituitary
- 2) Thyroid
- 3) Thymus
- 4&5) Ovaries / Testes
- 6) Pancreas
- 7) Pineal
- 8) Adrenal

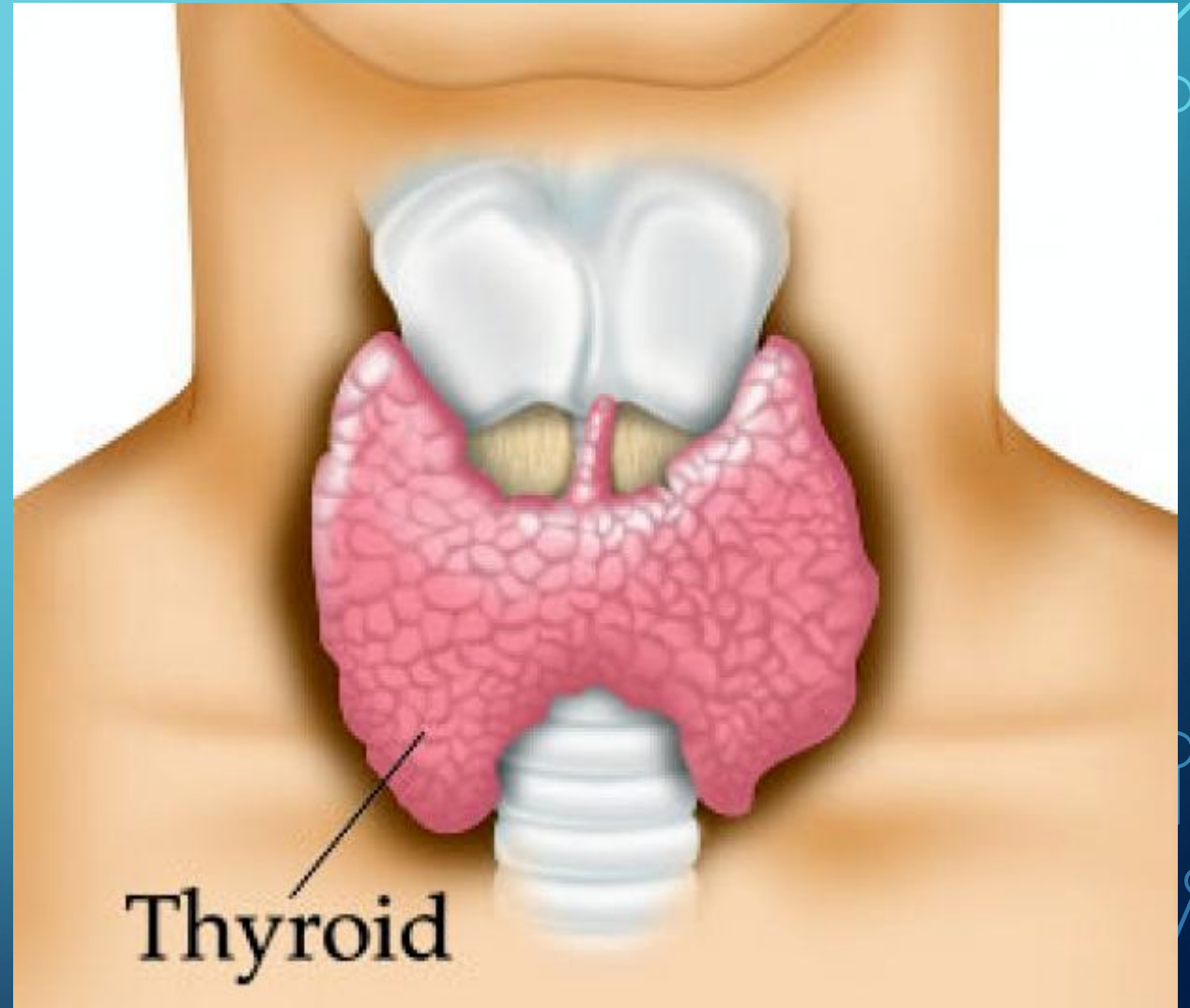
1 - Pituitary Gland



- **The “brain” of the Endocrine System**
 - **And located there 😊**
 - **Size of a pea**
- **Controls the other 7 glands**
- **Excretes growth hormones**

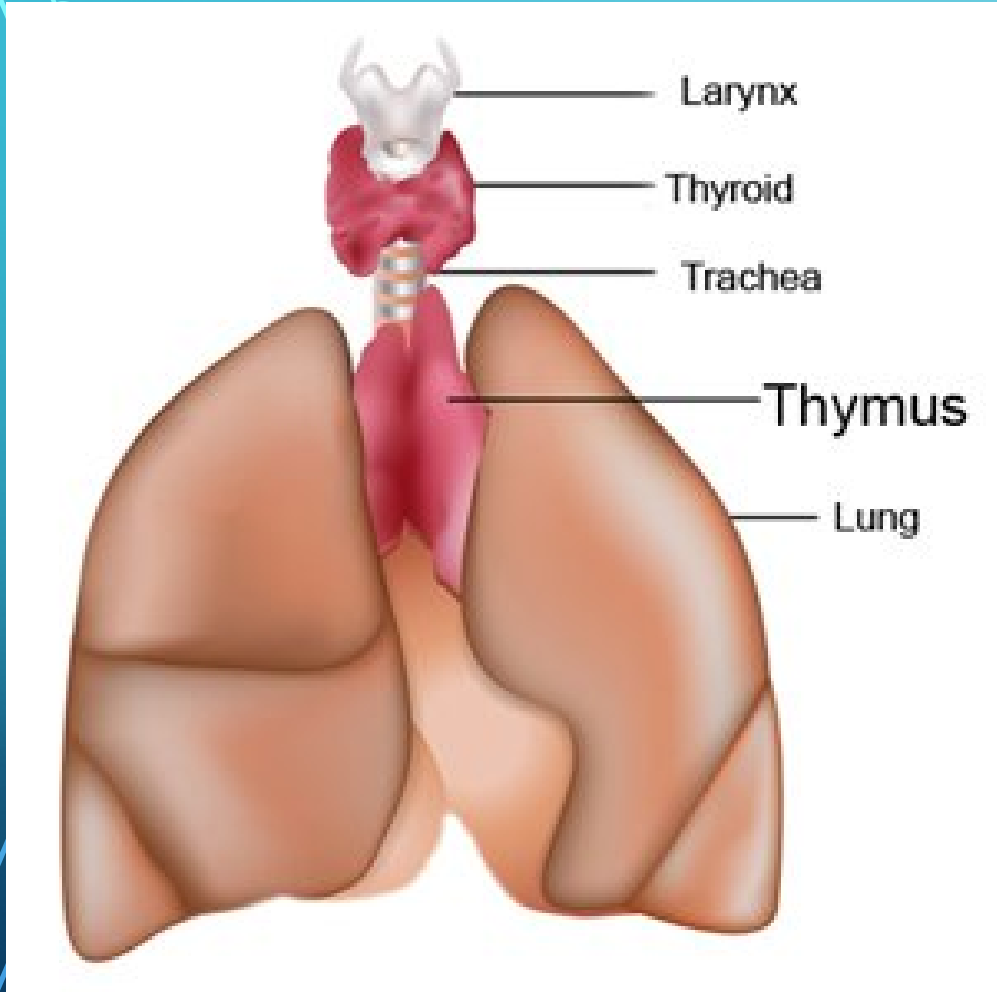
2 - Thyroid Gland

- **In your neck**
- **Controls metabolism**
 - *How fast you burn energy*





3 - Thymus Gland



- **In your chest**

- (behind the sternum)*

- **Controls Immune System**

- *Resistance to disease, infection, and illness*

4 & 5 - Ovaries / Testes

- *I think you know where these are located 😊*
- Collectively called “Gonads”
- **Control sexual reproduction, as well as characteristics**
- **They go into overdrive during puberty**



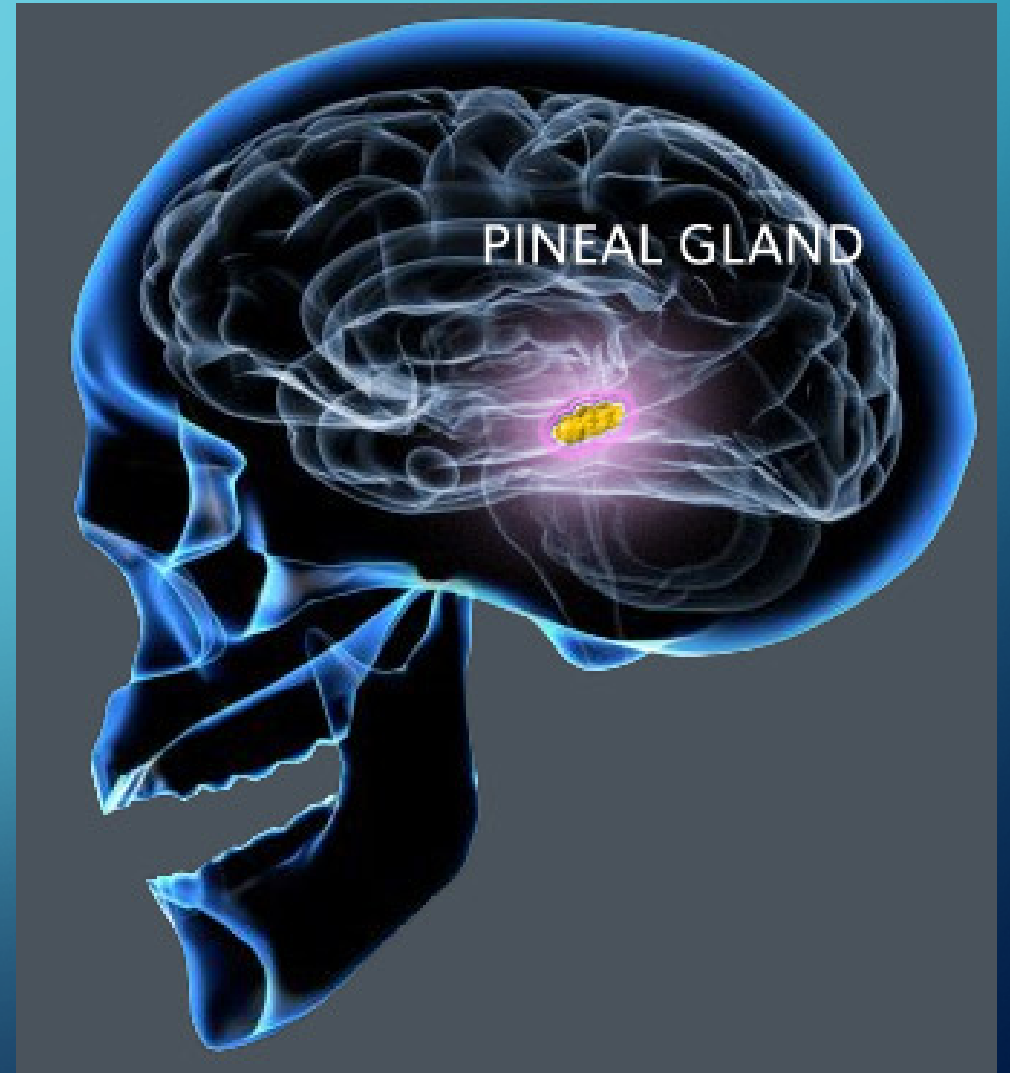
6 - Pancreas



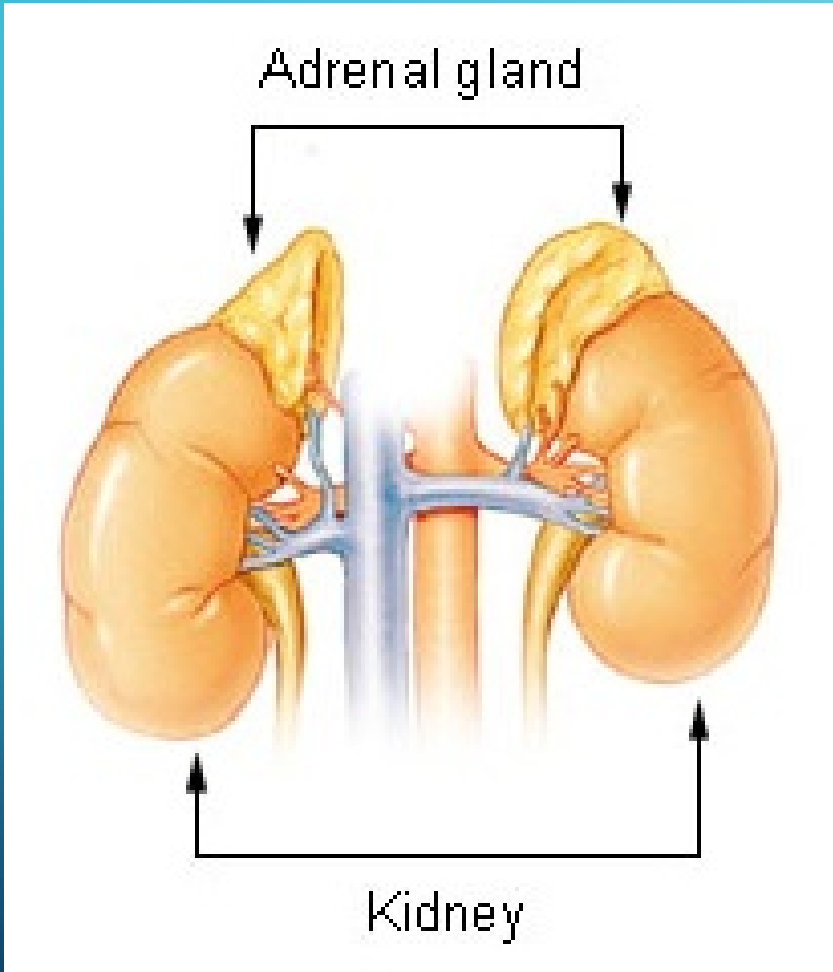
- ***In the belly***
- **Controls how much energy your body gets**
- **Produces insulin**
 - **Chemical that breaks down suaar into enerav**
- **When you have an imbalance, you are diabetic**

7 - Pineal Gland

- **Also found in the brain**
- **Biorhythm and mood**
- ***Including Sleep***



8 - Adrenal Gland



- **Also in the “belly”,
above kidneys**
- **Secrete a LOT of
different hormones**
- **Considered most
important (*other than
pituitary*)**

8 - Adrenal Gland

- Adrenaline

- Affect blood circulation, breathing, muscles, and metabolism

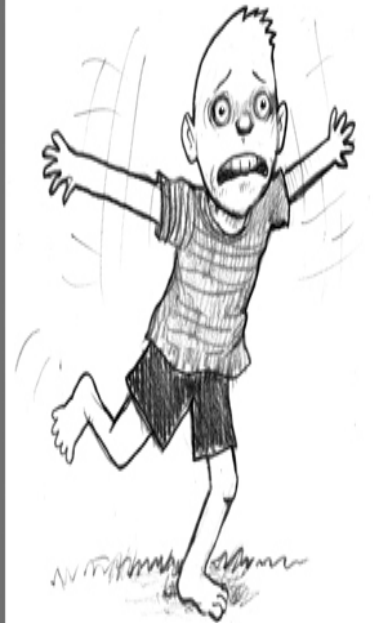
- The “rush” you feel under stress

- Called the “Fight or Flight” response

- Your body is biologically conditioned to either fight off stress, or flee from it



fight



flight

The Endocrine System

Hypothalamus

Pituitary gland

Pineal gland (epiphysis)

Thyroid gland

Adrenal (suprarenal)

Pancreas

Ovaries

Testicles



So What?

- Why do hormones matter?
- Sometimes we think we “feel” something emotionally, but it is a chemical reaction
- We can adjust these!
 - *But should do so with caution*
- *Also, despite how fast our neurons work, it is the hormones that are lasting... plus that we remember more*
- *And now, a video 😊*



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