

STRESS PHYSIOLOGY | Exam 1 Study Guide

Know the ACSM guidelines for counting the number of risk factors (e.g., blood pressure, cholesterol, fasted blood sugar, etc.)

What is fitness?

Specificity of adaptation. What is it?

Angular specificity? Contact adaptation?

Hans Selye: What did he get wrong? What did he get right?

Henry Davis, Julius Wolff, Thomas DeLorme, Edward Adolph: What were their contributions?

Orca fin: What did we learn from “folded fin syndrome”?

Habituation vs. sensitization: definitions and examples

Accommodation vs. adaptation: definitions and examples

Acclimation vs. acclimatization: definitions and examples

What is evolution or genetic adaptation?

What part of the brain is a major regulator of peripheral physiology?

Hypothalamic axes. Know all of them basically, but know the *details* about the HPA axis.

SAM axis. What gets released?

How is body heat generated?

How is heat sensed?

How is heat dissipated?

What is the heat storage equation?

How does the body accommodate heat stress?

How does the body adapt to heat stress?

98.6°: What do we know about that? How was that number studied? Diurnal variability?

Methods of temperature assessment: know things.

Sweating: What neurotransmitters innervate the different sweat gland types? How much do people sweat? How is that typically measured? Can you drink fluids to replace it?

Sodium loss in sweat?

What are the different forms of heat illness? Risk factors for heat illness?

Relationship between heat illness and metabolism. Enzyme activity? Glycolysis? Catecholamines? Hemoglobin behavior?

Methods of staying cool during heat stress: Pre-cooling and catastrophic heat illness interventions.

What are bodies more adaptable to: hot or cold environments?

Vena comitans: What is it and how does it work?

Hunter's reaction or hunter's effect: What is it and how does it work?

Alcohol and thermoregulation: What's the relationship?

Baltimore shipyard worker study in the 1980's: What did we learn?

Ancel Keys did the Minnesota starvation study. What were the findings?

James Levine did the "magic underwear study". What were the findings?

Sedentary stress, LPP1, and exercise as a remedy: What do we know?

MET values. What are these?

Broccoli: What's the toxic thing? What's the big picture here?

Cortisol. Where does it come from? How is it secreted? What does it do?

Emotional stress and adiposity. What is the relationship?

Mechanosensors and mechanotransduction. What are the three proteins we've discussed that perform mechanotransduction. Where do they live? Which are "transmembrane" proteins?

Iliacus and psoas muscles. What do you know about them? (What do you know about the lumbar plexus?)