

Child Development and Stress Reactions

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What is Stress?

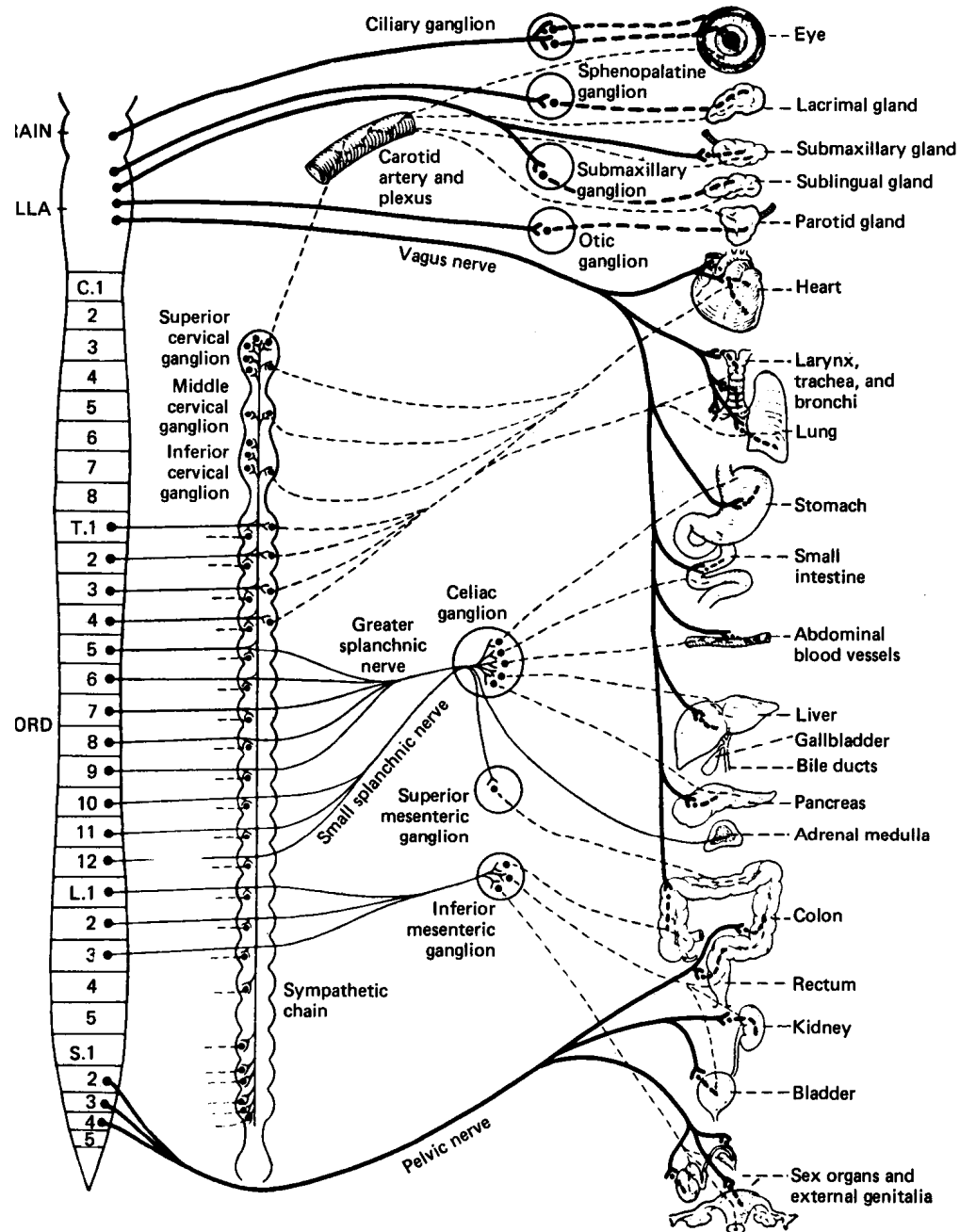
- A subjective emotional state.
- Aversive events or circumstances that demand adaptation or change.
- A physiological response to a noxious stimulus, with resulting changes in stress hormones.

Physiological Stress Systems

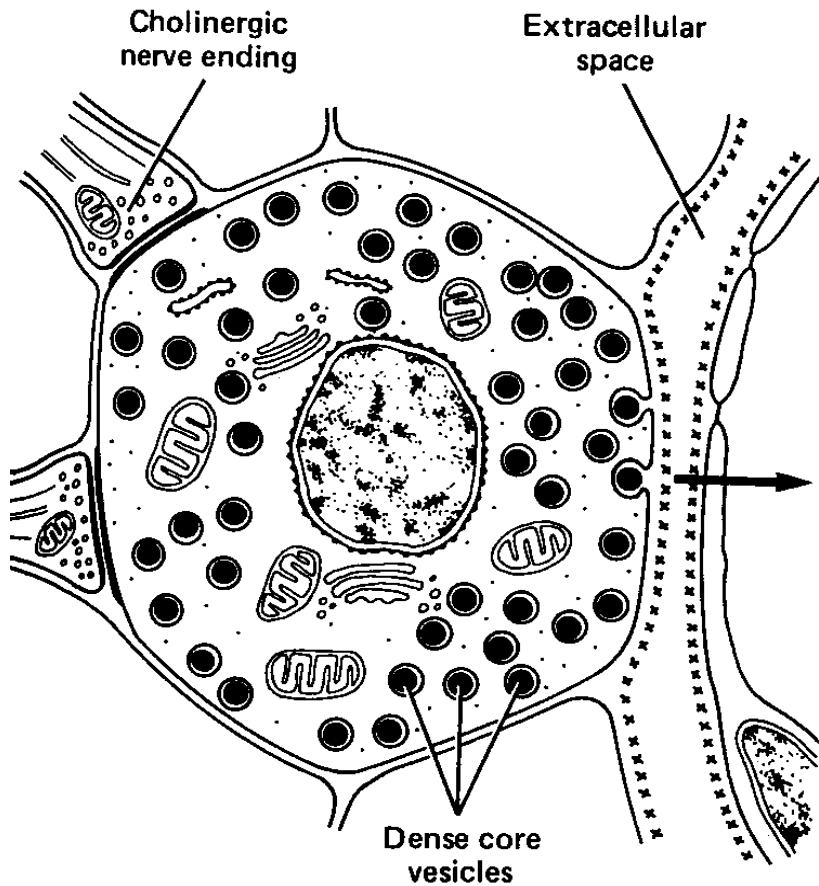
- SAM: Sympathetic-adrenal-medullary
 - Rapid-response, short-acting
 - “defense reaction”
- HPA: hypothalamic-pituitary-adrenocortical
 - Slower-response, longer-acting
 - “defeat reaction”

SAM

sympathetic-
adrenal-
medullary:
direct neural
connections

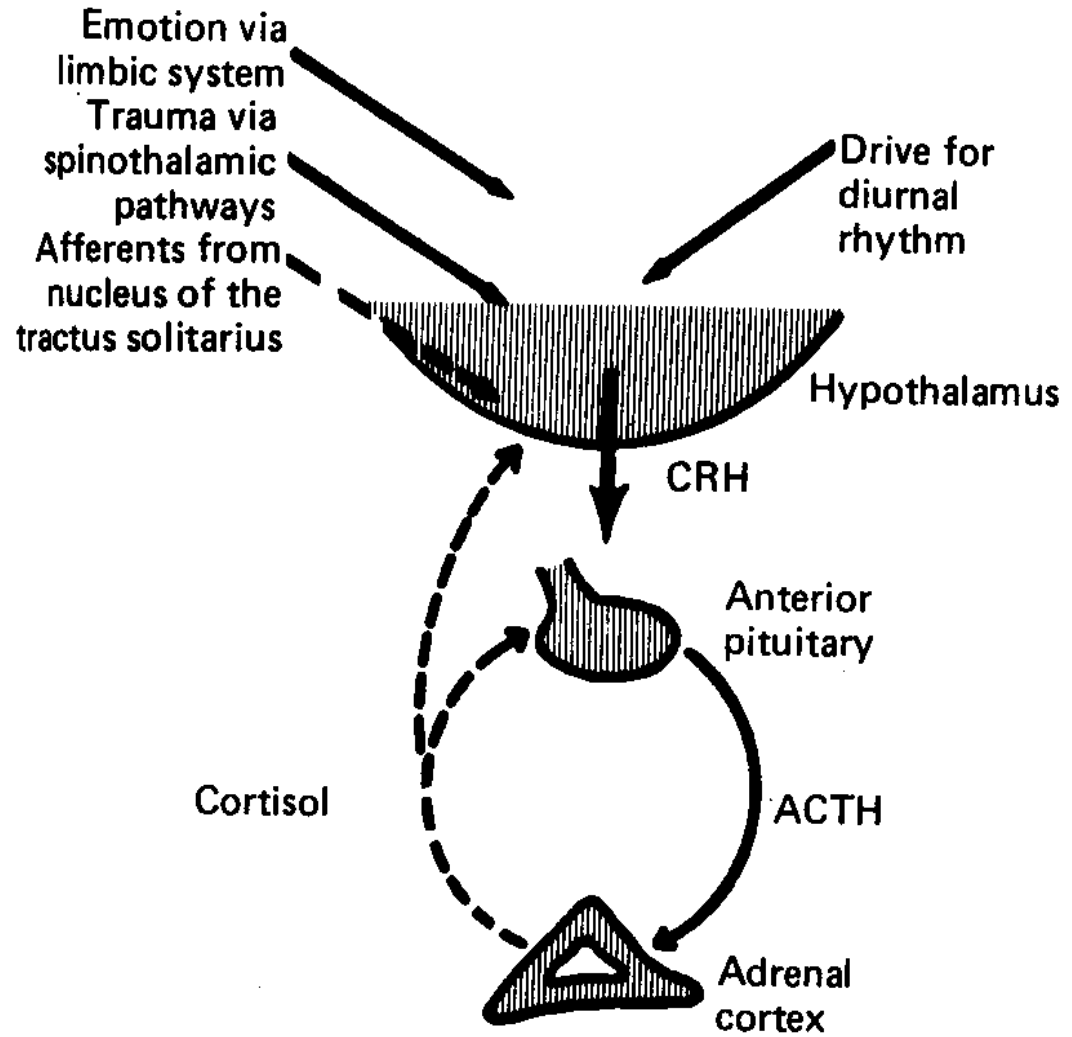


Adrenaline Release from Adrenal Medullary Cells: “Fight or Flight”



- Increased blood pressure and pulse
- Flushed face
- Increased alertness
- Increased muscle tension
- Anger

HPA: Hypothalamic- Pituitary- Adrenocortical system



Hypothalamic-Pituitary-Adrenal Cortex (HPA) System

- Cortisol release in 10-30 minutes
- Protein breakdown, increased glucose
- Changes in immune function
- Emotional distress, behavioral avoidance, “loss of control”

Immunology of Stress

- Decrease in CD4+ (helper) and increase in CD8+ (suppressor) T cells
- Decreased lymphocyte proliferation (response to mitogen stimulation)
- Increase lymphocyte numbers
- Changes in cytokines (e.g. interferon)
- Depressed antibody responses to antigen challenge

Health Effects Associated with Chronic Stress

- Immunological
 - Infections
 - Allergies
- Injuries
- Psychological
 - Internalizing (depression, anxiety)
 - Externalizing (aggression)
 - Cognitive/ attention deficits

Acute Stress and Developmental Stage

- Different psycho-social issues are salient at different ages/stages.
- Key issues predict characteristic or “signature” stress responses.
- Stress responses from any *earlier* stage are also always possible.

Infancy (0 to ~1)

Key Issues

- Attachment (>6 mo)
 - Physical proximity
 - Emotional “secure base”
 - Attachment becomes internalized
- Central role of parents

Common Symptoms

- Eating, sleeping
- Irritability, "cranky"
- Exaggerated startle response

Toddlerhood (~1 to 3)

Key Issues

- Autonomy and exploration
- Testing limits: physical and relationship

Signature Symptoms

- Tantrums
- Clinging, separation distress
- Regression
 - Talking
 - Bowel/bladder
 - Self-help

Preschool (3 to 6 years)

Key Issues

- Imagination
 - Magical thinking
 - Animism
- Egocentric thinking

Signature Symptoms

- Disrupted play
 - Not playing
 - Repetitive playing
- Nightmares, night terrors
- Acting out
 - Aggressive
 - Oppositional
 - “Bad”

School Age (6 to 12 years)

Key Issues

- Focus on *competence*
- Peer group
 - Peer acceptance, conformity
 - Peer hierarchy
- Non-parental adults

Signature Symptoms

- Poor grades/ school failure
- Withdrawal from normal activities
- Internalizing (depression, anxiety)
- Externalizing (hyperactivity, aggression)

Adolescence (12 to 18 years)

Key Issues

- Cognitive shift: concrete to abstract
- Idealism
- Real-life responsibilities
- Awareness of self in society
- Future orientation

Signature Symptoms

- Disillusionment/ crisis of faith (e.g. in God)
- Clinging to new ideal (e.g. radicalism)
- Parentification
- Identity crisis
 - Loss of direction
 - Hopelessness/despair
 - Acting out, risk taking

Psychiatric Diagnoses

- Adjustment Disorders
 - Depression/ anxiety
 - Aggression/ antisocial
- Acute Stress Disorder
- Post Traumatic Stress Disorder (PTSD)

Stress Exposure Intensity

- Physical proximity
- Personal danger/ loss
 - Self
 - Family
 - Friends, neighbors
- Chronicity
 - Repeated or ongoing losses
 - Repeated depictions (e.g. TV broadcasts)

Risk and Resilience Factors

Risk

- Pre-existing mental health problems
- “Reactive” or “slow to warm up” temperament
- Male gender
- Parental maladaptation
- Social isolation

Resilience

- Intelligence
- Physical health
- Beliefs (e.g. religion)
- Supportive social networks (families, friends, institutions)

Stress Response Stages

1. Initial response: Fear, shock, denial, grief
2. Short-term (days to weeks):
 - Exaggerated autonomic reactions (startle)
 - Disrupted daily living (eating, sleeping, etc.)
 - Internalizing or externalizing
 - Regressions
3. Long-term (> 1 month): resolution or chronicity

Summary

- Stress: emotional and physiological
- Developmental Stages: Key issues and signature symptoms
- Risk and resilience factors
- Stress disorders
- Stages of the stress response