Mindfulness Medicine: Basics for Pediatricians

Mindful Strategies to Deal with Stress, Anxiety and Conflict:
Self and patient care

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Overview

• Definitions of anxiety, stress and conflict
• Stressors: patients, families, caregivers and providers.
• Mindfulness intervention strategies and resources
What are Stress, Anxiety and Conflict?

**Stress** results from interactions with the environment in which there is perceived or actual threat.

**Anxiety** is a psychophysiological phenomena originating in the body and/or brain and affects our behavior, thoughts and interactions with the environment.

**Conflict** is transient or chronic interactions, with outside forces (e.g., people, institutions) that are obstacles or threats, or a failure to have our needs met.
What are Stress, Anxiety and Conflict?

Brain-body pathways in stress

- Stress
  - Pituitary gland
    - Adrenocorticotropic hormone (ACTH)
      - Hypothalamus
        - Autonomic nervous system (sympathetic division)
          - Adrenal medulla
            - Adrenal cortex
              - Secretion of catecholamines
                - Increased cardiovascular response
                - Increased respiration
                - Increased perspiration
                - Increased blood flow to active muscles
                - Increased muscle strength
                - Increased mental activity

- Secretion of corticosteroids
  - Increased protein and fat mobilization
  - Increased access to energy storage
  - Decreased inflammation
What are Stress, Anxiety and Conflict?
Meditation experience is associated with differences in default mode network activity and connectivity

Judson A. Brewer, Patrick D. Worhunsky, Jeremy R. Gray, Yi-Yuan Tang, Jochen Weber, and Hedy Kober

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Are Stress, Anxiety and Conflict Bad?

YES

- Change body and brain chemistry
- Increase morbidity – Illness
- Interference with goals and pursuit and realization of happiness

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NO

- Essential part of human experience
- Coping changes body and brain chemistry
- Improves cognition, awareness and self efficacy
Central Tenet of Mindfulness Practices

“Between stimulus and response there is a space. In that space is our power to choose our response. In our response lies our growth and our freedom”

Attributed to: Viktor E. Frankl, Author - Man’s Search for Meaning, 1946
Mindfulness Based Coping Strategies

MIND BODY INTERACTION

COMPASSION

“It’s not how much we give but how much LOVE we put into giving.”
— Mother Teresa

ACCEPTANCE

MINDFUL COMMUNICATION
Mom: Welcome home darling, how was school
A: Eh. Ok. I turned in my home work
Mom: Eh? What is up.
A: We had health today....I think I failed our mindfulness exercise. I am terrible at clearing my mind....I don’t understand it....!
• The whole class **mediated** at second meeting today.

ACCEPTANCE

CHRONIC CONTROLLABLE

ACUTE CONTROLLABLE

CHRONIC UNCONTROLABLE

ACUTE UNCONTROLABLE

STRESSORS
Fig. 2. Bodily topography of basic (Upper) and nonbasic (Lower) emotions associated with words. The body maps show regions whose activation increased (warm colors) or decreased (cool colors) when feeling each emotion. (P < 0.05 FDR corrected; r > 1.94). The colorbar indicates the t-statistic range.

Nummenmaa et al, 2014, PNAS
Mindfulness Based Stress Reduction

http://www.umassmed.edu/cfm/

• **Focus Mindfulness**: emphasis on internal thought/emotional/sensation
• **Awareness Mindfulness**: Observing your sensory, cognitive and emotional filters
• **Breath**
• **Body Scan**
• **Object Meditation**
• **Compassion Meditation**
• **Walking Meditation**

Communication

- Listen – look – Feel
- Repeat what you heard
- Check-in – “was I right”
Mindfulness Practice

Differential pattern of functional brain plasticity after compassion and empathy training

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Although empathy is crucial for successful social interactions, excessive sharing of others’ negative emotions may be maladaptive and constitute a source of burnout. To investigate functional neural plasticity underlying the augmentation of empathy and to test the counteracting potential of compassion, one group of participants was first trained in empathic resonance and subsequently in compassion. In response to videos depicting human suffering, empathy training, but not memory training (control group), increased negative affect and brain activations in anterior insula and anterior midcingulate cortex—brain regions previously associated with empathy for pain. In contrast, subsequent compassion training could reverse the increase in negative effect and, in contrast, augment self-reports of positive affect. In addition, compassion training increased activations in a non-overlapping brain network spanning ventral striatum, pregenual anterior cingulate cortex and medial orbitofrontal cortex. We conclude that training compassion may reflect a new coping strategy to overcome empathic distress and strengthen resilience.

Keywords: fmRI; social; emotion; insula; medial orbitofrontal cortex
Empathy Vs Compassion

**Empathy:** feeling the distress or pain that others feel

**Compassion:** ...”a feeling of concern for the suffering of others that is associated with the motivation to help”  (Keltner and Goetz, 2007)
Wheel of Awareness

Aware: The Science and Practice of Presence--The Groundbreaking Meditation Practice Hardcover by Dr. Daniel Siegel M.D.
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— Mother Teresa

COMPASSION
THANK YOU

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• Calm (App for adults and children)