



# Stress Management

**The Neurobiological Dimension**

Satya Chaitanya



# Stress Management

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**Stress**  
**vs.**  
**Challenge**



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## **The Neurobiological Dimension of Stress: The Brain Waves**



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**Beta [including gamma], alpha, theta and  
delta waves**



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## Beta waves

- ❑ **The most rapid brain waves. Range: 14 Hz to more than 100 Hz.**
- ❑ **Associated with alertness, arousal, concentration and at excessive levels, anxiety, neuroses.**



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## Alpha waves

- ❑ **As we become more relaxed, brain-wave activity slows down to alpha. Frequency 8 to 13 Hz.**
- ❑ **Pleasant. Healthy, non-stressed people produce a lot of alpha.**
- ❑ **Lack of significant alpha activity can be a sign of anxiety, stress, brain damage, or illness.**



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## Theta waves

- **As calmness and relaxation deepen, the brain shifts to slower, more powerfully rhythmic theta waves. Frequency range of about 4 to 8 Hz.**



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## Theta waves *contd.*

- ❑ **Often accompanied by unexpected, dreamlike mental images, vivid memories, particularly childhood memories.**
- ❑ **Offers access to unconscious material, reveries, free association, sudden insight, creative ideas.**
- ❑ **A mysterious, elusive state. Ordinarily hard to maintain for any period of time.**





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## Delta waves

- ❑ **Sleep. Unconscious. Coma. Deep trance. Below 4 Hz.**
- ❑ **Good meditators maintain consciousness while in a dominant delta state. Brain releases large quantities of healing and growth hormones.**



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**What stress means  
in neurobiological terms**



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**What stress management means  
in neurobiological terms**



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**How to get into and remain in the alpha-theta state**



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- **1. The stillness dimension: Meditation, deep relaxation**



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- **2. The movement dimension: Exercise, eastern and western**



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- **3. The breathing dimension: chest breathing and the brain; abdominal breathing**



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- **4. The being dimension: slowing down, the accidental man vs. the essential man**





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- **5. The work dimension: getting into the flow through work**



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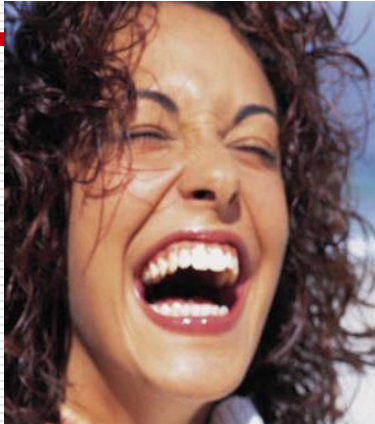
- Instant stress relief: breathing, humour, music, drifting, letting go . . .**



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- **Dimensions beyond SM: Alpha-theta, sem, rig**



***Thank You!***

Satya Chaitanya