MANAGE REST. MANAGE STRESS.

ASHISH MATHUR
CO-FOUNDER & EXECUTIVE DIRECTOR

AIM TO PREVENT™

ASSESS
Advanced Screening

INTERVENE
Lifestyle Counseling

MANAGE
Heart Health Coaching

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The Importance of a Daily Routine

The Alameda Seven Habits for Successful Aging

- Adequate sleep, 7-8 hours/night
- Regular vigorous activity (>3kcal/kg/day)
- Maintaining recommended weight
- Not smoking
- None/moderate alcohol
- Eating breakfast daily
- Eating meals regularly, not snacking

At age 45 a man with
- ≤ 3 habits: will reach age 67
- 4-5 habits: will reach age 73
- 6-7 habits: will reach age 78

SOURCE
7,000 people in Alameda County, CA were studied for 25 years
### STRESS

<table>
<thead>
<tr>
<th>PHYSIOLOGICAL STRESS</th>
<th>Stress results from the inability of the physiology to maintain balance, a steady state and/or HOMEOSTASIS</th>
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<tbody>
<tr>
<td>PSYCHOLOGICAL STRESS</td>
<td>Stress results from the absence of CREATIVITY when the individual or organization is challenged</td>
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</table>

“Stress is that which obstruct the flow of intelligence.”

**Hans Selye**

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### Sources, Factors, and Result of Stress

**SOURCES**
- Work, Family, Financial

**FACTORS**
- Depression, Locus of control, Perceived stress, Life events

**HEART ATTACKS**
- Psychological factors explain 32.5% of population attributable risk

**CORONARY ARTERY DISEASE**
- 2-3x increased risk with job strain (high demand, low control)

**DYSLIPIDEMIA, INFLAMMATION**
- Work stress associated with atherogenic lipids/elevated fibrinogen

**OBESITY**
- Stress exaggerates diet-induced obesity (abdominal adiposity)

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The Lancet 2004 364:943-953-962
Nature Med. 2007 13, 803-811

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Emotional Triggers & Cardiac Mortality

**War: 1991 Gulf War**
- Acute MI, Sudden death in Tel Aviv by 58%

**Sporting Events**
- Relative risk of death from MI/Stroke 51%

**Disasters: Earthquake (Northridge LA 1994)**
- Acute MI: 149 (prior week) → 201 (week after)
- Sudden cardiac deaths 4.6 → 24 (day of)

**Managing Rest to Reduce Stress**

**Resting While Asleep**
- **Sleep Wellness**
  - What is restful? How long? When? How?
- **Sleep Disorders**
  - Increased CVD, Hypertension, and Diabetes

**Resting While Awake**
- **Meditation Routine**
  - How long? How often? When?
- **Meditation Techniques**
  - Concentration, Contemplation, Transcendental

SOURCE

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Routine of restful sleep

7-8 hours/night essential for:
- Good health
- High energy
- Motivation
- Happiness
- Longer life

**UN-CONSCIOUS STATE**
A natural & periodic state of rest during which consciousness of the world is suspended

**RESTORATIVE STATE**
A state during which the body and mind are allowed to rest & restore.

Sleep Duration and the Obesity Epidemic

Sleep duration in US adults

BMI in US adults

Sleep duration in US adults

BMI in US adults
Sleep Architecture/Stages

**NREM**

- **NREM: N1 (5-10%)**
  - Transitional stage of sleep with both sleep and awake characteristics
  - Detect & even respond to external stimuli; Unaware of being asleep

- **NREM: N2 (40-50%)**
  - Senses begin to block external stimuli

- **NREM: N3 (20-30%)**
  - Very deep sleep; very difficult to wake up; grogginess, disorientation
  - Human Growth Hormone (HGH) released, making this restorative

**REM**

- **REM: R (20-25%)**
  - High brain activity; Lowest muscle tone
  - Core body temperature drops; Altered respiratory patterns
  - Restorative for the mind; associated with long term memory
  - Restoring wakefulness and alertness

Sleep Stages Through the Night

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Developing A Sleep Hygiene

1. Stick to a sleep schedule
2. Pay attention to what you eat and drink
3. Create a bedtime ritual
4. Get comfortable
5. Limit daytime naps
6. Include physical activity in your daily routine
7. Manage stress

SOURCE
http://www.mayoclinic.org/healthy-lifestyle/adult-health/in-depth/sleep/art-20048379
http://www.helpguide.org/articles/sleep/how-to-sleep-well-as-you-age.html#quality
Signs of Sleep Disorders

1. Struggling to sleep most nights
2. Wake up tired most times
3. Snoring or stop breathing in bed
4. Excessive daytime sleepiness
5. Have trouble falling asleep (or staying asleep) for at least a month

SOURCE
http://www.mayoclinic.org/healthy-lifestyle/adult-health/in-depth/sleep/art-20048379

Sleep Duration: A novel risk factor for Diabetes

The Massachusetts Male Aging Study (n=1,139)
The Nurses' Health Study (n=70,026)
Coronary Heart Disease by Hours of Sleep

The MONICA Study

- **Women, n=3,388**
  - <=5: 2.98 (1.48-6.03)
  - 6: 1.05
  - 7: 1.34
  - 8: 1.0
  - >=9: 1.40

- **Men, n=3,508**
  - <=5: 1.13
  - 6: 1.05
  - 7: 1.22
  - 8: 1.0
  - >=9: 1.07

Meisinger C et al. Sleep 2007; 30:1121-27

Coronary Heart Disease by Hours of Sleep

The Nurses’ Health Study

- **Women, n=71,617**
  - <=5: 1.45 (1.10-1.92)
  - 6: 1.18
  - 7: 1.09
  - 8: 1.0
  - >=9: 1.38 (1.03-1.86)


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Summary: Rest while Asleep

- Either a decrease in sleep duration from a regular 6, 7 or 8h per night or an increase from a regular 7 or 8h per night predict all-cause mortality
- Decrease in sleep duration increases cardiovascular deaths
- Increase in sleep duration increases non-cardiovascular deaths

Resting while Awake: Meditation

- Hypo-metabolic state accompanied by non-focused alertness or pure consciousness
- Achieved through the process/technique of meditation
- Opportunities to choose rest over stress while awake
  - Feeling stressed, rushed, pressured, tense, tired or upset?
Meditation Techniques

• Concentrative: Focus on an Object
  – Focused Attention
  – Spiritual, Prayer, Rhythmic Breathing, Repetitive Chanting

• Contemplative: Observe an Object
  – Open Monitoring
  – Mindfulness, Zen, Breath, Movement

• Transcendental: Lose the Object
  – Automatic Self-transcending: Pure consciousness or alertness
  – Uses meaningless sound or mantra

Cognitive Control & Meditation Techniques

![Cognitive Control Diagram]
TM and Survival

Next Steps

• Scheduling your TM orientation
• Sleep Disorders:
  – Visit your Primary Care Physician
  – Scheduling Sleep Study either with PCP, or
  – Send email to admin@southasianheartcenter.org
• Webinar Survey
• Copy of Presentation
Scheduling your TM orientation

• Send email to schedule your TM Orientation admin@southasianheartcenter.org
• Orientations are Thursday, 7:30 pm
• 305 South Dr #3, Mountain View, CA 94040
• Phone: (650) 424-8800
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