SOME DEFINITIONS....

- Stress is the non-specific response of the body to any demand made upon it.
  Dr. Hans Selye, 1936

- Any situation that demands behavior adjustment.
  Herbert Benson, M.D. 1975
  *The Relaxation Response*

- There is no definition of stress that everyone agrees on, what is stressful for one person may be pleasurable or have little effect on others, and we all react to stress differently.
  The American Institute of Stress

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**Yerkes-Dobson Law**

<table>
<thead>
<tr>
<th>Performance efficiency</th>
<th>Stress level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

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**Knowledge, Ideas, and Tools for a Demanding, Opportune Time**

Presented by Tim Burns
www.TimBurnsEduCare.com
The Four Kinds of Stress
Hans Selye, M.D.

Autonomic Nervous System

<table>
<thead>
<tr>
<th>Sympathetic Nervous System (SNS)</th>
<th>Parasympathetic Nervous System (PNS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increases:</td>
<td>Increases:</td>
</tr>
<tr>
<td>Blood pressure</td>
<td>Digestion</td>
</tr>
<tr>
<td>Fuel availability</td>
<td>Fuel shortage</td>
</tr>
<tr>
<td>Activity</td>
<td>Rest and recovery</td>
</tr>
<tr>
<td>Blood clotting</td>
<td>Resistance to infection</td>
</tr>
<tr>
<td>Adrenal hormones</td>
<td>Endorphins</td>
</tr>
</tbody>
</table>
GENERAL ADAPTATION SYNDROME

Three Phases:

Alarm

↓

↓

Alarm Phase: “Fight, Flight, or Freeze”

SNS – HPA Axis

- Increased body metabolism
- Decreased PSN activity
- Increased heart rate/breathing
- Decreased salivation
- Increased blood flow to muscles
- Decreased digestion
- Increased immune function
- Decreased inflammation

Homeostasis

The ability or tendency of an organism or cell to maintain internal equilibrium by adjusting its physiological processes.

Allostasis

The ongoing adaptive efforts of the body to maintain stability (homeostasis) in response to stress.
**GENERAL ADAPTATION SYNDROME**

**HOMEOSTASIS**

- Sympathetic NS
- Normal
- Parasympathetic NS

**ALLOSTASIS**

- New Normal
- Allostasis is a new, stable baseline generated by high levels of stress
- Parasympathetic NS

**ALLOSTATIC LOAD**

- The physiological costs of chronic exposure to the stress response.
- Used to explain how frequent activation of the body's stress response can in fact damage the body in the long run.
- When the new state is chronic and pervasive the new stable base-line is difficult to withdraw from.

**GENERAL ADAPTATION SYNDROME**

**Exhaustion Phase**

*High and sustained stress can:*

- impair the immune system
- increase weight gain
- decrease bone and muscle mass
- damage and kill neurons
- lead to premature aging
- increase blood pressure
- decrease motivation
- foster depression

Chronic, high release of adreno-cortisols can lead to poor food selection and poor health

*Insulin release*  \(\downarrow\)  *Lactic acid buildup*  \(\downarrow\)

\(\downarrow\)  \(\downarrow\)

**GENERAL ADAPTATION SYNDROME**

*High, sustained stress in students fosters:*

- impaired cognition
- impaired creativity
- increased pressure on attention
- diminished social skills
- discipline problems
- motivation problems
Male and Female Stress Response

Males:

“________________________”

Females:

“________________________”

Male & Female Stress Response

Testosterone vs. Oxytocin

WOMEN

Estrogen increases the effectiveness of oxytocin.

Testosterone reduces the calming effects of oxytocin.

MEN

Testosterone decreases stress levels.

Oxytocin can reduce testosterone, resulting in increased stress levels.
Male & Female Stress Response
THE BOTTOM LINE:

Oxytocin ____________ stress levels in women.

Too much testosterone ________________ stress levels in women.

Testosterone _____________ stress levels in men.

Too much oxytocin __________ stress levels in men.

Mainly PNS arousal

Use Breath
Use Trigger Release
Use Imagery
Use the Relaxation Response
Use Progressive Relaxation
Use Movement

Five Suggestions For Balanced Well-Being

1. Recognize symptoms and source
2. Attend to the basics
3. Live your purpose
4. Maintain balance
5. Develop a daily practice