

A large, leafy green tree stands on the left side of a grassy field. A wooden bench is positioned in the middle ground, facing right. The sun is setting behind the tree, creating a bright glow and casting long shadows. The sky is a mix of blue and orange, suggesting a sunset or sunrise. The overall scene is peaceful and serene.

# STRESS MANAGEMENT *and* BIOFEEDBACK SERVICES

Counseling and Psychological Services  
Brigham Young University

# What is Biofeedback?

## ● *Any Kind of Feedback From the Body*

- Biofeedback programs **MEASURE** stress indicators in the body
- Biofeedback teaches **AWARENESS** of stress and tension
- Biofeedback training can teach us to **RELEASE** tension and stress



# Stress Response and Relaxation Response

## ➔ *Stress Management is Like Learning to Drive*

Our **stress response**, the **fight/flight/freeze** response, is like a **gas pedal** that revs up our mind and body in reaction to **stress** as well as danger

Our **relaxation response** is like a **brake** that we can apply to **calm down** when we are speeding out of control from stress





# What Makes Stress Management So Difficult?

Our inner gas pedal is *Automatic*

- ➔ We go from **0 to 100** in an instant in response to stressors
- ➔ Our mind does not differentiate **danger** from **stress**



Our inner brake is *Not Automatic*

- ➔ It takes *awareness and practice* to
  - Catch ourselves "**speeding**"
  - Develop skills to **relax** "at will"
  - Maintain appropriate **cruising speed**
  - Make **braking more automatic**

# Stress and the Modern Student



PRIMITIVE STRESS RESPONSE



HIGHLY DEVELOPED BRAIN



**STRESS**



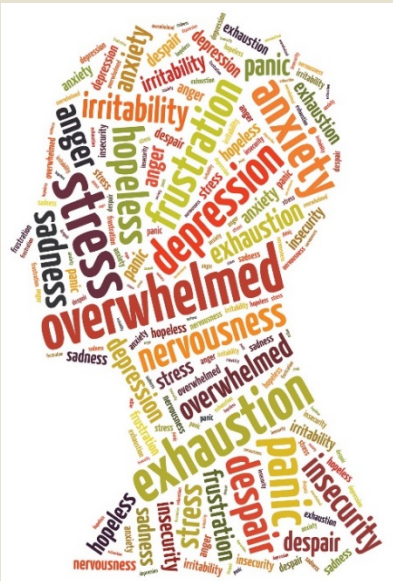
The **fight, flight, or freeze response** becomes over-active and maladaptive in our fast-paced modern world of constant stressors

The stress response impairs our **concentration, working memory, rational thinking and ability to function**

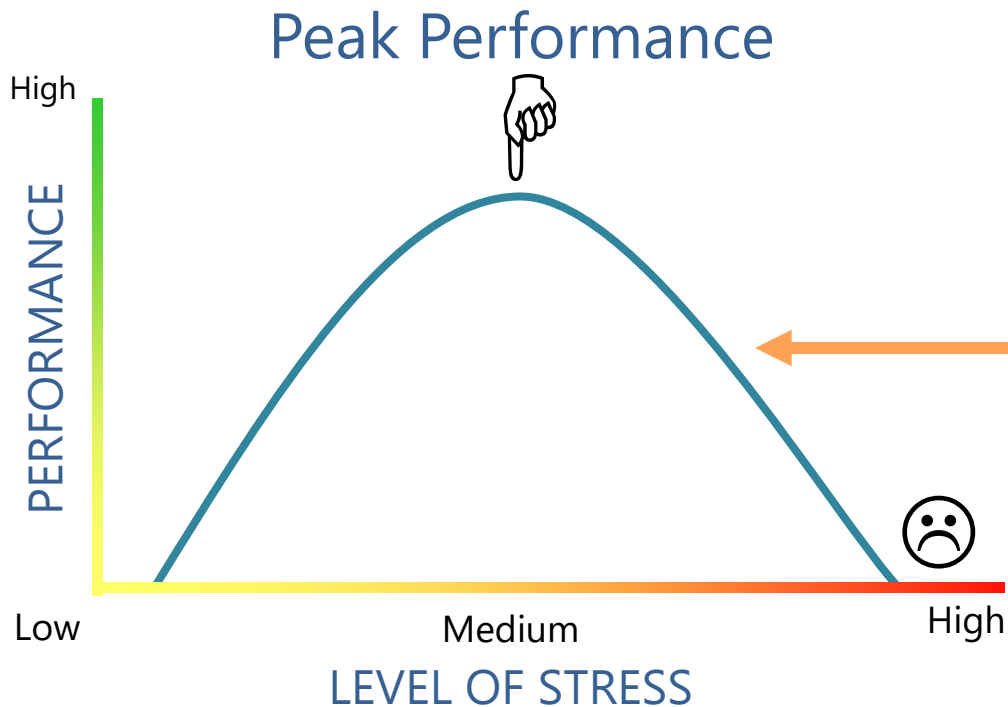
Only humans carry stress around:

- Stress comes from our **worries, fears, expectations, regrets, self-criticisms, and negative perceptions**
- Our stress level is determined more by our **perception of the stressor** than the stressor itself

What is supposed to be a **burst of energy for survival** results in **chronic stress** with many consequences for health and wellness



# Stress and Performance



## Fight/Flight/Freeze

### Psychological Responses to Stress Overload

- Anxiety, Nervousness, Worry
- Avoidance of Tasks (Flight)
- Decrease in Performance
- Emotions: Anger, Confusion, Depression, Hopelessness, Sadness, Tearfulness (Fight or Flight)
- Feeling Overwhelmed (Freeze)
- Perfectionism
- Poor Concentration/Memory

*Yerkes-Dodson Principle*

Robert M. Yerkes, M.D. and John D. Dodson, M.D, 1908

# Stress and the Mind/Body Connection



## Unstressed Mind and Body

- ✓ **Breathing:** Smooth, calm, slow
- ✓ **Blood Pressure:** Normal cardiac flow
- ✓ **Emotions:** Manageable, calm moods
- ✓ **Heart Rate:** Steady circulation, oxygen
- ✓ **Hormones:** Regulating normally
- ✓ **Immune System:** Protecting the body
- ✓ **Mind:** Focused, clear thinking, memory
- ✓ **Muscles:** Contract as needed, then relax
- ✓ **Stomach:** Digesting normally
- ✓ **Sweat Glands:** As needed to cool off

## Stressed Mind and Body

- ✓ **Breathing:** Shallow and quick
- ✓ **Blood Pressure:** Increased cardiac output
- ✓ **Emotions:** Fear, anger, panic, nervousness
- ✓ **Heart Rate:** Speeds up to pump more blood
- ✓ **Hormones:** Adrenalin, cortisol, norepinephrine
- ✓ **Immune System:** Shuts down to save energy
- ✓ **Mind:** Instinctive, higher thinking shuts down
- ✓ **Muscles:** Tense up, ready for action
- ✓ **Stomach:** Digestion shuts down; "butterflies"
- ✓ **Sweat Glands:** More active to cool the body



# Why Zebras Don't Get Ulcers, Anxiety, Insomnia. . .

After they outrun the lion. . .



. . .they go back to grazing and playing.

**We need to stop running when  
we are not being chased!**

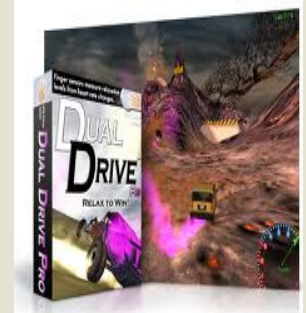




# Two Ways to Access Biofeedback Services

## One-on-One Biofeedback Appointment

- Feedback from **Stress Profile** and recovery rates
- Determine personalized **optimal breaths per minute**
- Learn mindfulness strategies and **deep relaxation**
- Custom-made relaxation **recordings**
- Measurement, assessment, **training of mind and body stress factors**



## Walk-In Biofeedback Hours

- Learn **diaphragmatic breathing** (emWave)
- **Class assignments**
- Listen to **relaxation recordings**
- Fun interactive **biofeedback games** on individual computer stations
- Intensive **relaxation training**
- **Mindfulness**
- **Brief and deep relaxation**



\*The first 3 individuals are admitted each hour



# Start With Awareness

## Notice the Signs of Stress

### Mental and Emotional

- Angry, Upset, Irritable
- Anxious
- Avoid or Run From Tasks
- Depressed
- Mind Racing, Concentration
- Overwhelmed, Helpless
- Poor Concentration or Focus

### Physical

- Chest Pain or Tightness
- Cold and/or Sweaty Hands
- Muscle Tension
- Pounding Heart
- Sleep Problems
- Stomach Discomfort
- Trembling or Shaking

# Heart Rate Variability (HRV) Training

## EmWave Computer Program

- Uses a **simple breathing technique** to quickly calm your mind and relax your body
- Encourages **autonomic balance** or **coherence** between stress and relaxation
- Learn to change your **heart rhythm** and **heart pattern**
- Also teaches **diaphragmatic breathing** for:
  - immediate calming
  - improved concentration, memory and mental clarity
  - peak performance
  - positive mental and emotional focus

## Other Fun Interactive Biofeedback Programs

- Dual Drive: Calm breathing wins the race
- Relaxing Rhythms: Games improve calmness, emotional balance, and mindful meditation



# Additional Biofeedback Measurements



## Muscle Tension (EMG or Electromyography)

- We tend to **brace** against stress which can decrease blood flow to our tissues
- Constant muscle tension can cause **tightness, stiffness, tiredness, pain, headaches**

## Hand Temperature

- The stress response pumps blood to the **large muscles, heart, lungs** to power us up to run away or fight
- This **decreases circulation to the hands and feet** (makes extremities colder) and **brain** (poor concentration)
- Hand temperature can range from **68° to 98°**

## Sweat Gland Activity (SR or Skin Response)

- Sweat glands are the **most reactive indicator** of stress in our body; stress causes our **heart rate to increase and hormones to flood our body**
- Known as the **Galvanic (electric) Skin Response**
- Measured as **Skin Conductance or Skin Resistance**



# Brief Relaxation

**Tap the brake** throughout the day as needed to calm yourself when stressed

↳ Brings you back to **peak performance**



↳ Use techniques **proactively** to prevent stress overload

- **Slow, low breathing** every hour for a few minutes
- Quick **body scan** to prevent tension build-up
- **Stretch out your neck, arms and legs**
- **Close your eyes** and take a **mini mind vacation** to a relaxing place or peaceful memory
- Use an app for a **2-minute meditation**

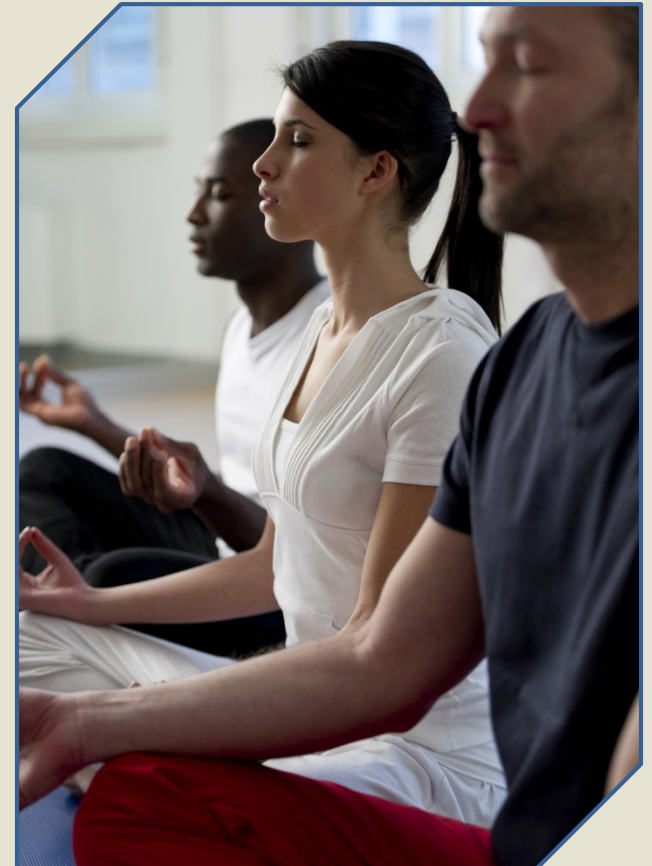


★ *Once learned, any relaxation technique can be used as a brief technique*

# Deep Relaxation

**Bring the car to a complete stop**  
for a needed break from stress  
*10 Minutes or More Once a Day...*

- ➔ Conditions our mind and body to effortlessly let go of tension
- ➔ Teaches skills to more easily use brief techniques throughout the day
- ➔ Protects the immune system
- ➔ Helps prevent or improve stress related health problems such as cardiac, blood pressure, IBS, etc.
- ➔ Improves mental health issues



# Relaxation Skills Practice

They are called skills because they take **practice** like any other skill



It takes only **10 Minutes a Day** to learn these skills

Choose a time that fits into your routine:

Morning

Afternoon

Bedtime

Break From Studying





# Effective Stress Management = Effective Braking

Whenever we notice signs of stress, especially stress overload, that is the time to

*Put on the Brake*



- **Ask** for and allow help
- **Balance** work and play
- **Breathe**
- **Create** boundaries
- **Change** stress *inducing* thoughts to stress *reducing* thoughts
- **Eat** nutritiously
- **Exercise**
- **Meditate** and/or be mindful
- **Relax**
- **Seek** spiritual support
- **Socialize** and enjoy relationships with family and friends



# Resources and Practice

*[caps.byu.edu/biofeedback](https://caps.byu.edu/biofeedback)*

- ✓ Make an Appointment
- ✓ Walk-In Hours
- ✓ Relaxation Recordings
- ✓ Importance of Breathing
- ✓ Paced Breathing
- ✓ Handouts
- ✓ Apps and Websites
- ✓ Additional Resources
- ✓ YouTube Channel
- ✓ Meet the Team
- ✓ What is Biofeedback



# Awareness + Practice = Effective Stress Management

How we can support you in using the **KNOWLEDGE** and **SKILLS** you learn here in your daily life



We can help you choose *awareness and practice goals*



We can ask you about your *goals, progress, and stress* when you return



We can refer you to appropriate *resources*



We can support you in *customizing biofeedback and relaxation training* for your stress issues