

An Overview of Medical Student Wellness

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Session Objectives

- To identify why wellness education is important for medical students.
- To describe the key elements of a comprehensive wellness toolkit.
- To create a personal wellness routine using practical suggestions from the session content.



I was accepted into Medical School!!



And now, the scary part!



I know what you are thinking...

- “I got lucky, getting into medical school.”
- “I tricked the admissions committee into thinking I am better than I really am.”
- “I got by in undergrad but all my weaknesses are going to show in medical school.”
- “I’m only here because the director of admissions likes me!



- “I can’t compare to the other people here. They are so smart and confident.”
- “Sometimes, I feel super competent. But other times I’m not.”
- “I’m going to harm my future patients unless I remember every detail of the material.”
- “Falling short of perfect is not an option.”

Imposter Phenomenon

- The condition in which highly successful individuals have intense feelings of self doubt/inadequacy and attribute their success to external factors rather than their own abilities (Clance: “intellectual phoniness”).
- Prevalence of imposter syndrome among medical students ~20-50%. ^(1,2,3,4)
- Women, Black and other URM students, have higher a prevalence of imposter phenomenon. ^(1,4,6,7,8)
- In addition, other studies show a correlation between IP and burnout which has implications for mental health. ^(3,7,8)



Why Focus on Wellness in Med School?

- You have chosen a challenging career! ^(1,2)
 - 27% rate of depression
 - 32.4% alcohol abuse among medical students
 - Low treatment rates for depression or mental illness
 - 2.47x higher suicide rate than general population
- Attributes of doctors predispose to burnout. Which ones?



1) Dyrbye LN, West CP, Satele D, Boone S, Tan L, Sloan J, et al. Burnout among US medical students, residents, and early career physicians relative to the general US population. Acad Med. 2014;89(3):443–5.
2) Rotenstein LS, Ramos MA, Torre M, et al. Prevalence of depression, depressive symptoms, and suicidal ideation among medical students-a systematic review and meta-analysis. JAMA. 2016;316(21):2214–36.

Developing the Practice of Wellness

- Well-being is an essential skill in medicine:
 - Personal experience can inform patient counseling
 - Your health and wellness affect patient outcomes
- Studies show that your training has potential implications for you at the cellular level.



Physician-Training Stress and Accelerated Cellular Aging

Kathryn K. Ridout, Samuel J. Ridout, Constance Guille, Douglas A. Mata, Huda Akil, and Srijan Sen

Dimensions of Wellness



Your overall holistic wellness is here

You cannot be successful if you are not well!

Universal Elements of Wellness

- Tools which help you to manage your mental health, emotional health, physical health, social, and spiritual health.
- It is important to generate a “wellness toolkit” with strategies to help you manage your wellbeing.
- There are several important key elements to addressing wellness in medical school:
 - Nutrition
 - Exercise
 - Sleep Hygiene
 - Stress Management Techniques
 - Social Connectedness



Nutrition

- In general, a more plant-based a diet (such as the Mediterranean diet, the Mayo Clinic diet etc) will provide your brain with the nutrients it needs to function at optimum capacity.
- Planning nutritious meals cannot be left to chance. Make a list, grocery shop and then prep meals for the week.
- Choose some meals that can be frozen and others that are easy to grab and fresh (ie Mason Jar Salad) with a good source of protein.



Anatomy of a Mason Jar Salad



Assembly from Bottom to Top

- 1) Salad Dressing and Wet Ingredients (Olive oil, vinegar, lemon)
- 2) Moisture Resistant Vegetables (i.e. carrots, cherry tomatoes, peppers)
- 3) Other Vegetables and/or Fruits (i.e. cucumber, sprouts, broccoli, peas)
- 4) Protein Source (i.e. chickpeas, beans, chicken)
- 5) Leafy Greens (lettuce, spinach etc), Grains (i.e. quinoa, couscous pasta), Nuts and/or Seeds

Exercise

- Benefits

- boosts mood
- decreases stress and depression
- increases metabolism
- reduces cardiovascular disease and cancer risk
- improves cognitive functions



- The US Department of Health recommends:

- at least 150 minutes per week of moderate aerobic exercise
- at least 2 days per week of muscle strengthening exercises



Sleep Hygiene and Routines

- Go to bed and waking at the same time each day helps your circadian time clock to be consistent.
- ~7-8 hours of sleep each night will help you to perform at your best.

Optimal Sleep Environment is:

- Dark, Cool, Comfortable, Quiet
- No blue screens in bedroom!

Tips for Protecting Sleep:

- Avoid caffeine, large meals and vigorous exercise before bed
- Develop a bedtime ritual/routine including 30 minutes of screen-free quiet time before sleep (reading, meditation or listening to music).
- If you can't fall asleep get up and out of bed and do something boring until you are tired then try again.



In the Tool Kit

- Nutrition
- Exercise
- Sleep Hygiene

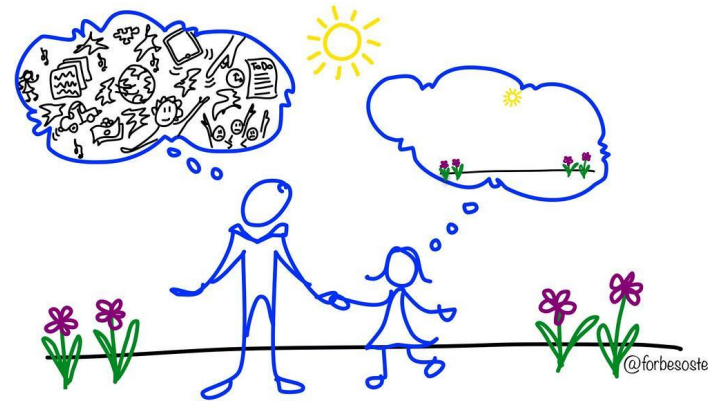


Thought Management

- Recent research study estimates that the average person has ~6200 thoughts per day ⁽¹⁾.
- Many of our thoughts are not new (repetitive thoughts)
- If the majority of our thoughts are negative ones, what could that do to our frame of mind?
- Our thoughts can create toxic stress if we let them!
- The greatest weapon against stress is to choose 1 thought over another..

William James

Mind Full, or Mindful?

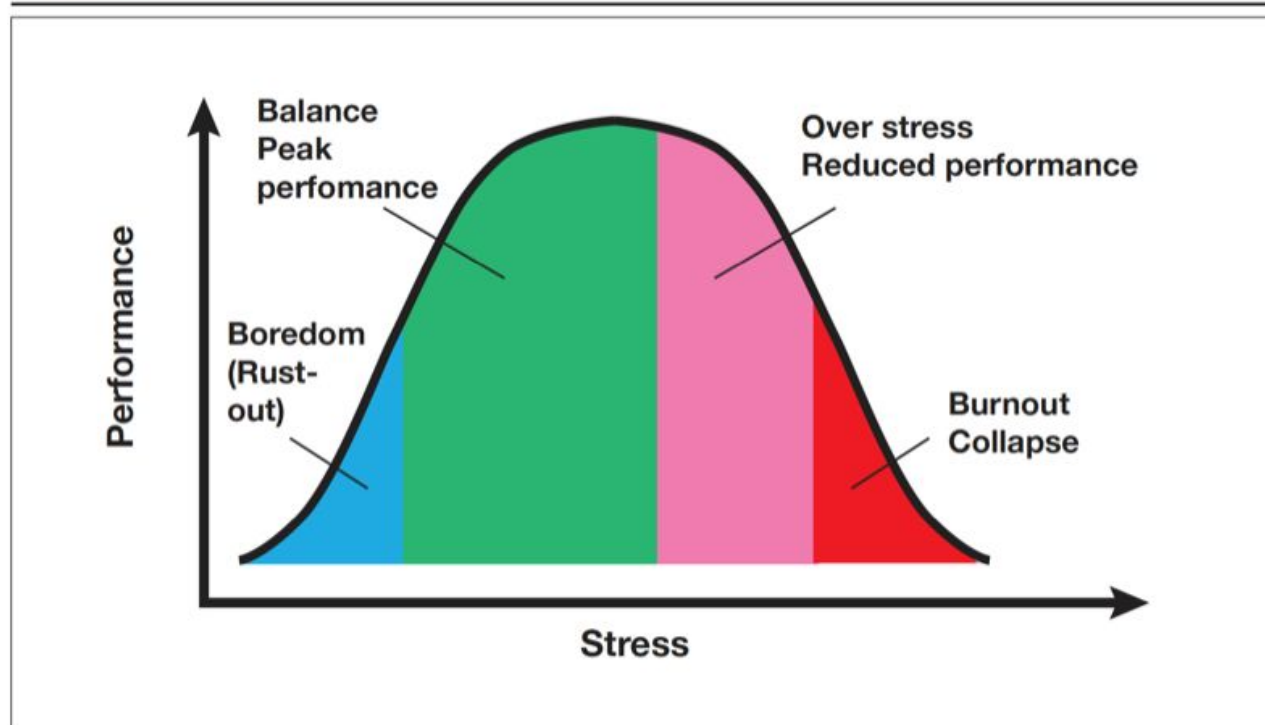


FAU
CHARLES E. SCHMIDT
COLLEGE OF MEDICINE
Florida Atlantic University

1) Tseng, J., Poppenk, J. Brain meta-state transitions demarcate thoughts across task contexts exposing the mental noise of trait neuroticism. *Nat Commun* 11, 3480 (2020). <https://doi.org/10.1038/s41467-020-17255-9>.

When Stressful Thoughts Get out of Control

FIGURE 1 Optimizing stress



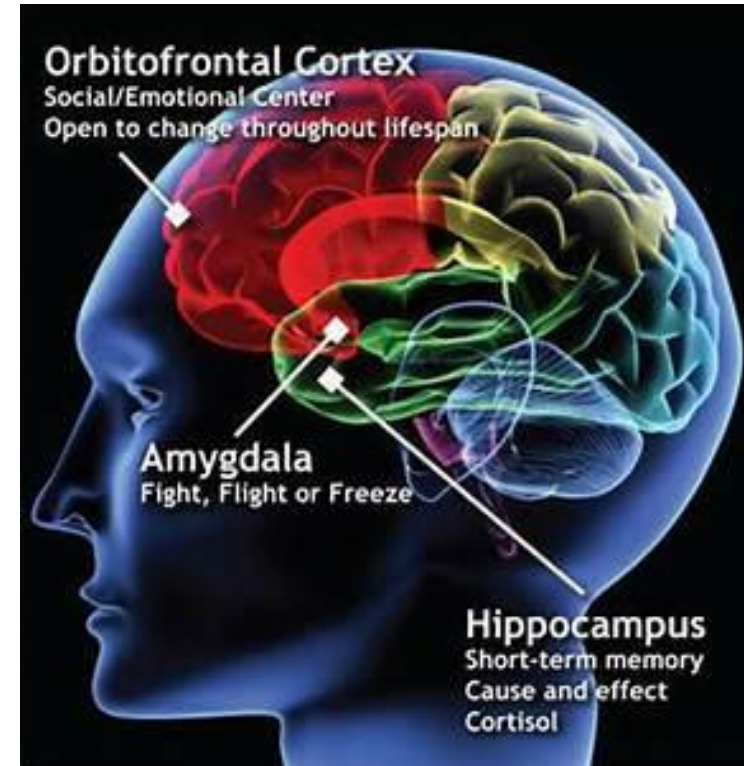
Stress is not always bad. When optimal, it can drive us to even greater performance.

Crash Course: Your Brain on Overwhelm

Prefrontal Cortex –Executive/high order functioning. The **more stress the smaller the volume of the PFC.**

Amygdala- Controls emotional responses – fight or flight. **The more stress the larger/more reactive it gets.**

Hippocampus- Controls memory. **The more stress the smaller it gets.**



- 1) Amy F.T. Arnsten, Murray A. Raskind, Fletcher B. Taylor, Daniel F. Connor (2015). The effects of stress exposure on prefrontal cortex: Translating basic research into successful treatments for post-traumatic stress disorder, *Neurobiology of Stress*, Volume 1, 2015, Pages 89-99,
- 2) Kim, E. J., Pellman, B., & Kim, J. J. (2015). Stress effects on the hippocampus: a critical review. *Learning & memory* (Cold Spring Harbor, N.Y.), 22(9), 411–416. <https://doi.org/10.1101/lm.037291.114>

The Physiological Effect of Toxic Stress

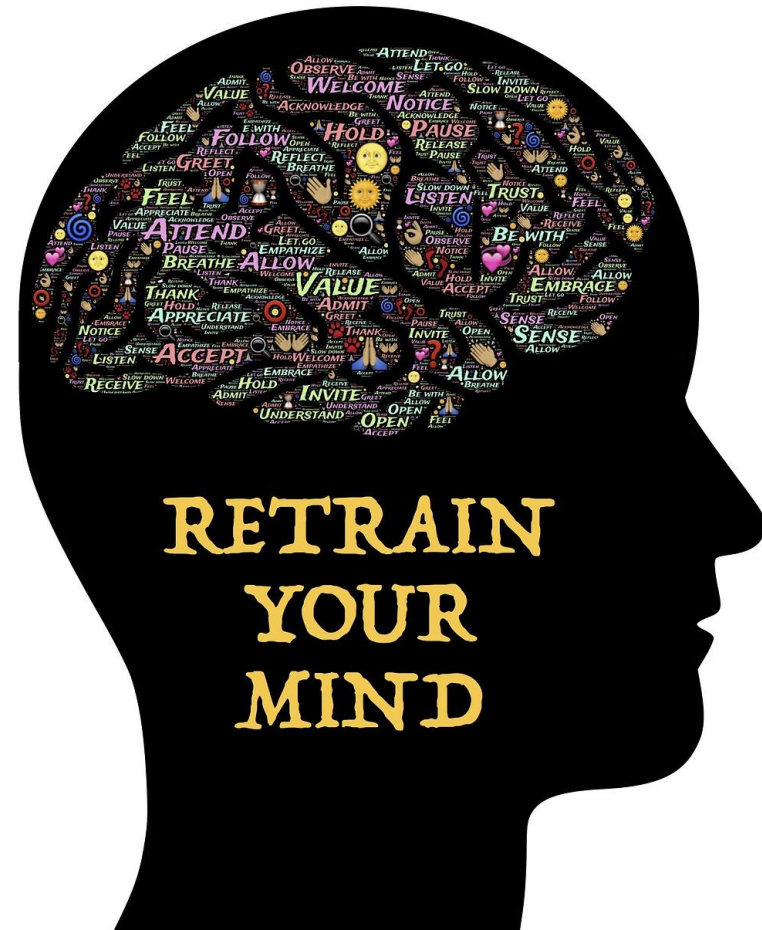
- Allostatic Overload – when the normal stress response becomes prolonged and leads to pathogenesis.
- Some studies have suggested that 60-80% of illness may have a stress-related component.
- Stress is a factor several of the most common causes of death (i.e. cardiovascular disease, stroke, cancer).



Nerurkar A, Bitton A, Davis RB, Phillips RS, Yeh G. When Physicians Counsel About Stress: Results of a National Study. *JAMA Intern Med.* 2013;173(1):76-77.

Why Meditate?

- Unless we train our minds with mental exercise in the way that we train our bodies with physical exercise, there can be unhealthy outcomes that impact the quality of our lives.
- The inability to manage stress can lead to negative mental and/or physical consequences such as headaches, GI distress, high blood pressure, obesity and diabetes.
- An ever-growing number of CEOs of Fortune 500 Companies Meditate Daily!



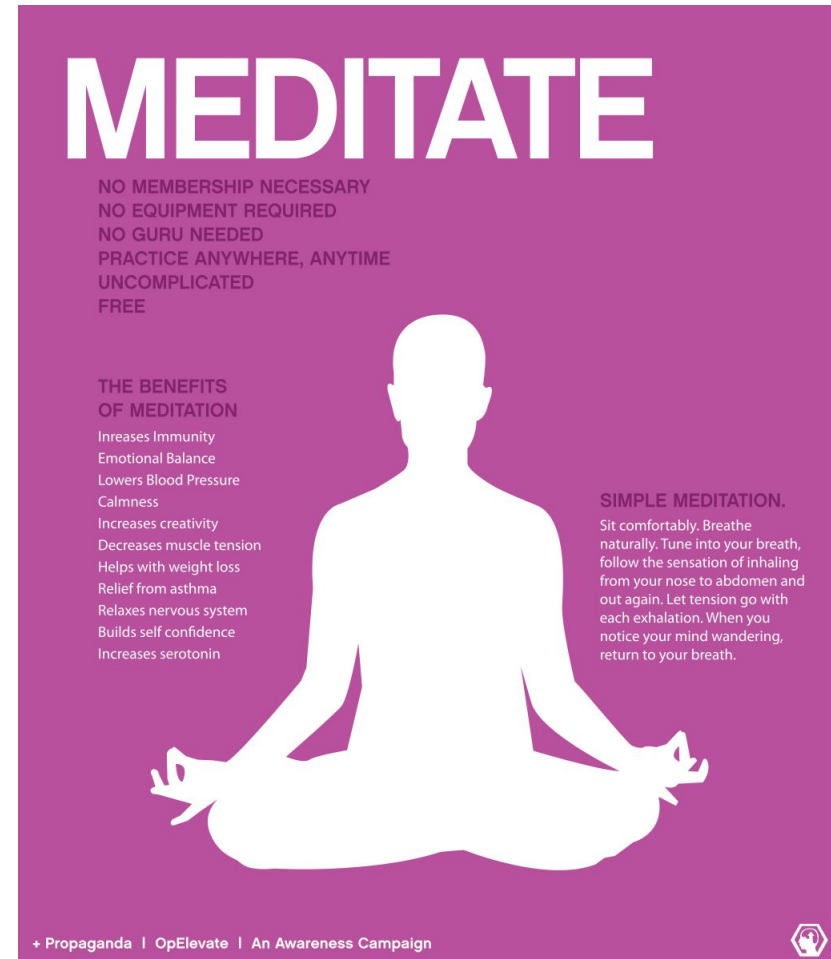
Benefits of Meditation

Physical Health Benefits

- Decreases levels of cortisol
- Lowers blood pressure
- Reduces cardiovascular disease
- Improves immune functioning

Mental Health Benefits

- Improves working memory capacity
- Increases empathy
- Increases ability to focus attention
- Induces higher levels of satisfaction
- Improves sleep quality
- Increases brain plasticity
- Induces greater productivity/efficiency



Meditation Can Take Many Forms

- Mindfulness (focus attention on breath, body scan, candle)
- Guided (Visualization/Virtual Reality)
- Mantra Meditation (including Transcendental)
- Walking (focus on movements of walking)
- Journaling/gratitude
- Prayer (Contemplative or Meditative)



Experience Breath Meditation (Activity)

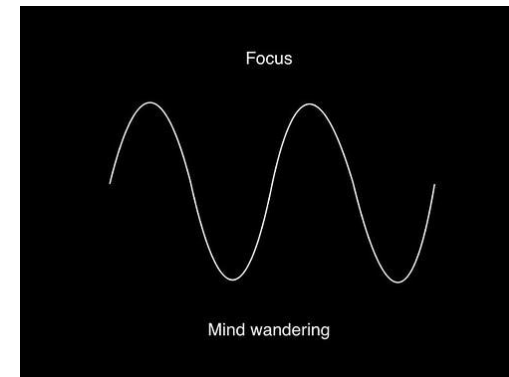


Meditation Checklist

1. Find quiet place where you will not be disturbed for 10 minutes free of distractions and set a timer for the length of your meditation (2-10 minutes to start).
2. Sit comfortably on a chair or on the floor. You can close your eyes or lower your gaze to the floor to minimize distractions.
3. Make sure your back is straight but not rigid and rest your hands in your lap or on a table.
4. Focus your attention on your breath. Breathe normally, but notice when the breath starts, and feeling the expansion of your lungs as you inhale.
5. Pause briefly after the inhale and then as you slowly exhale notice the sensation of your belly and chest falling.
6. Thoughts will come and go from your mind. Just notice that you are having a thought (label it “thinking” and gently return your attention to your breath. You won’t be able to prevent the mind from thinking, just be aware when thoughts arise and choose not to engage with them, returning focus to the breath.
7. Repeat steps 4-6 for the full duration of your meditation time.
8. At the last exhale name 1 thing for which you are grateful.

The Myth of Multitasking

- A 2010 Harvard study shows that subjects were not paying attention/fully engaged with what they were doing in front of them 47% of the time!¹
- When the mind wanders, where does it go? What is the result?
- What about multitasking? Experts in cognition indicate frequent multitasking can cost up to 30-40% of lost productivity during brain switching (switching cost) and lead to more errors.



1) Killingsworth, M. A., & Gilbert, D. T. (2010). A wandering mind is an unhappy mind. *Science*, 330 (6006), 932-932.

<https://www.apa.org/research/action/multitask>

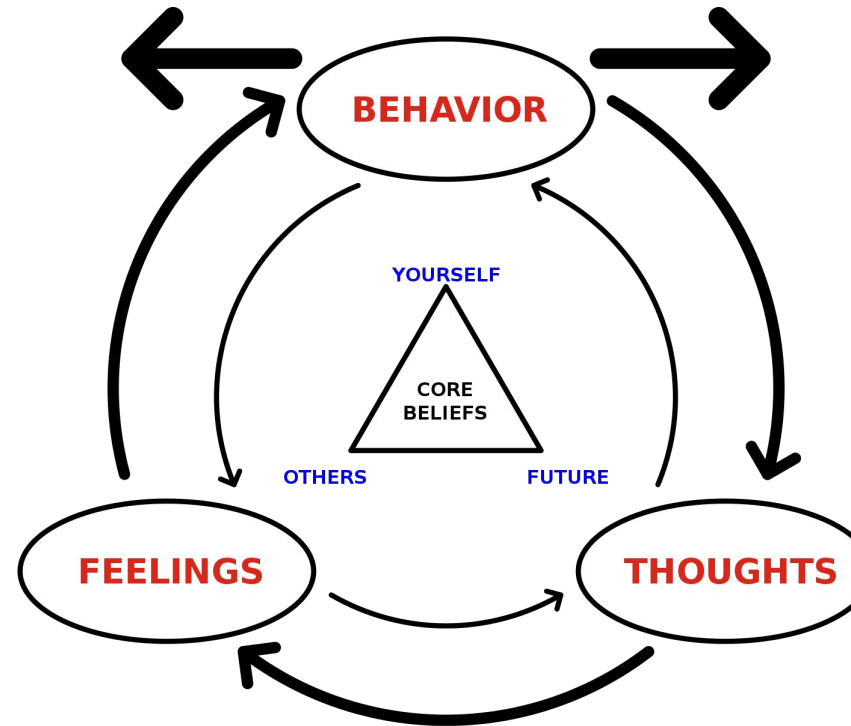
So Far in Your Tool Kit...

- Exercise
- Diet
- Sleep
- Mindfulness

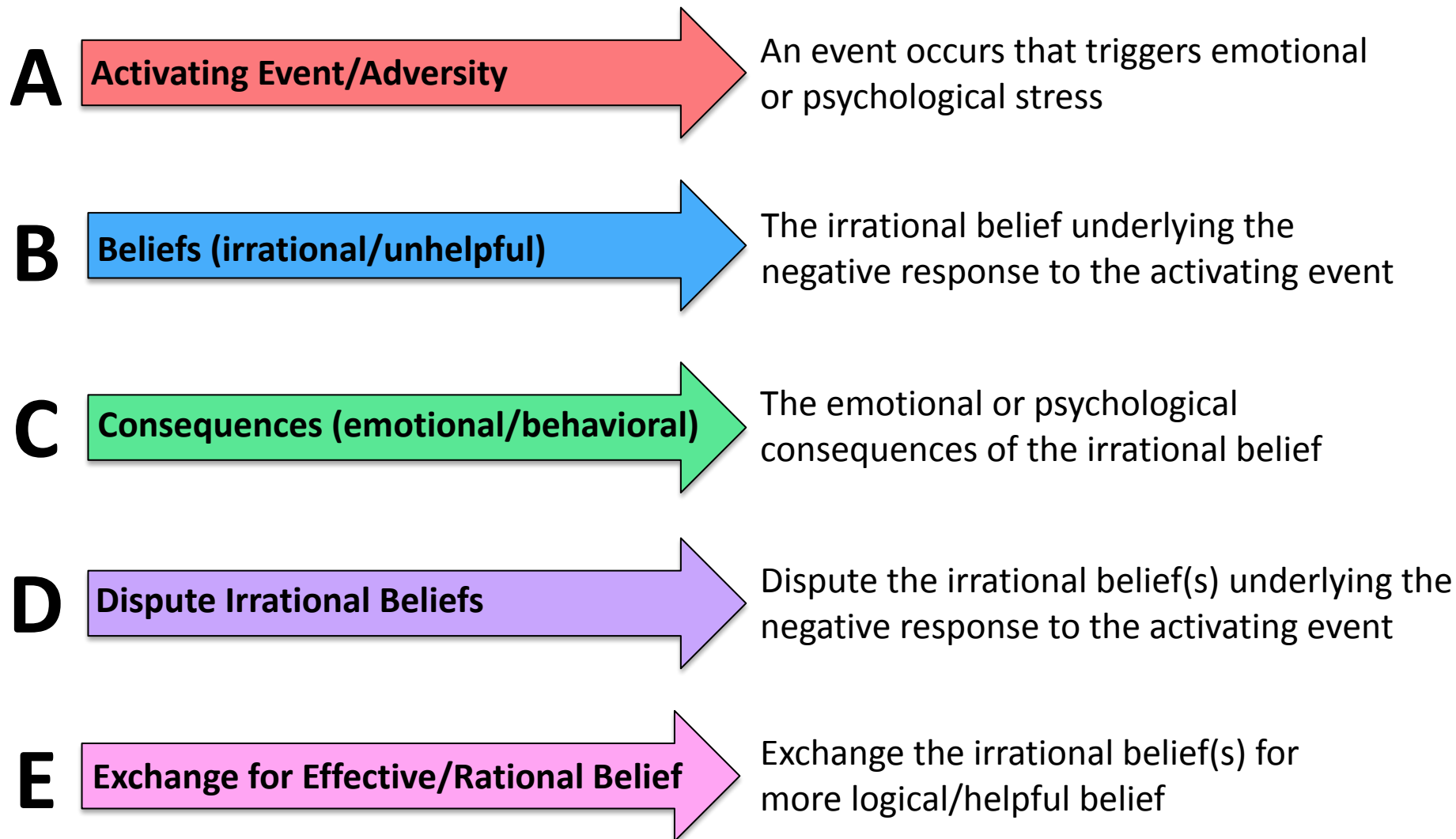


Rational Emotive Behavioral Therapy

- Practical mechanism to neutralize unhelpful thoughts and patterns, by recognizing your response to a trigger, identifying the underlying irrational beliefs and disputing the beliefs to replace them with more reality-based rational beliefs.
- Helps to promote a growth mindset.
- Simple and practical model for replacing self-defeating thoughts with those that are empowering.



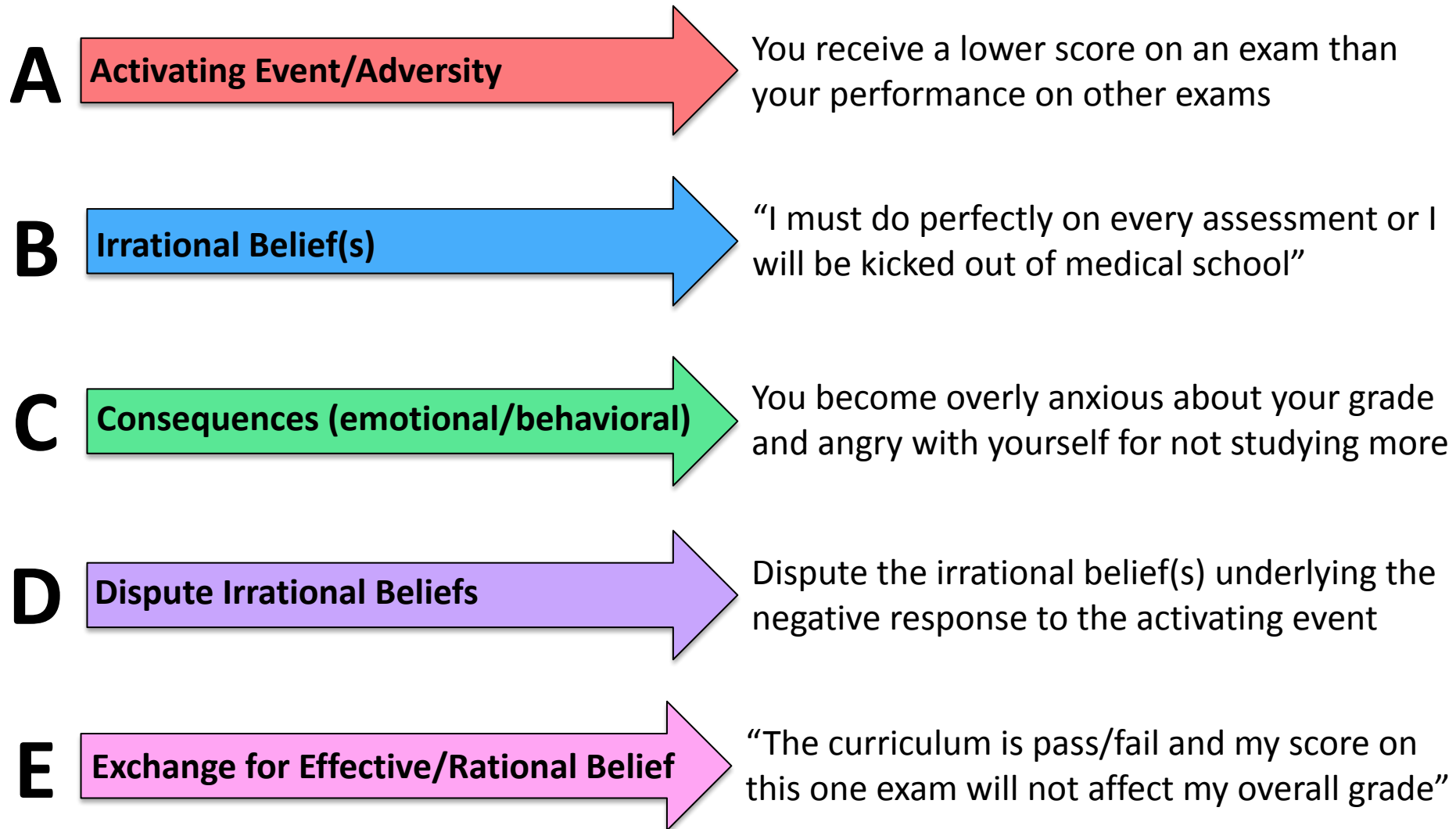
The ABCDEs of REBT



Ellis: Four Types of Irrational Beliefs

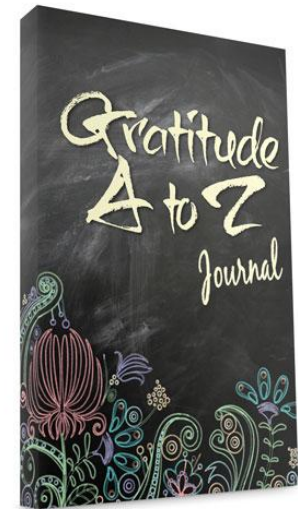
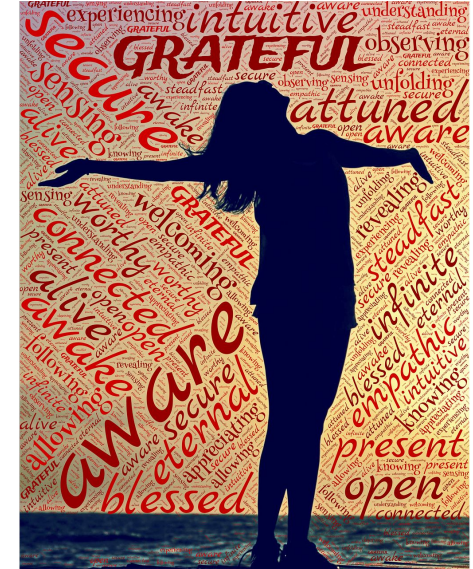
1. Demanding Beliefs – often utilize words such as “must”, “should” (absolute), “have to”
2. Catastrophizing/Awfulizing – involves viewing the current situation as the worst possible thing that could happen.
3. Low Frustration Tolerance (LFT) – often utilizes phrases such as “I can’t stand it if..”, “it is unbearable/untenable)
4. Conditional Self/Other/Life/World Acceptance – negative self or other talk, defining a person based upon 1 event (i.e. “If I fail at anything then I am a failure”)

The ABCDEs of REBT in Action



Promoting a Mental Stance of Gratitude

- Centers on remembering the positive things that happen to us daily, rather than the negative.
- After a short time, we begin to NOTICE the moments in our day that we are grateful for as they happen.
- This leads to a mental stance of gratitude throughout the day.
- Journaling can also help us to “mind dump” negative feelings or traumatic events.



Suggestions for Gratitude Journal Prompts

- What are 3 things in my life that I am most grateful for and why?
- What special gift or talent am I grateful to have?
- What people in my life love me the most?
- What 3 things happened today for which I am grateful.
- What are 3 things that I have in my life that many others in the world do not have?
- What 3 songs make me happy every time I hear them?
- What made me smile today?
- What accomplishment am I most proud of in my life?



Now in Your Tool Kit...

- Exercise
- Nutrition
- Mindfulness
- REBT
- Gratitude



Social Connectedness in Medical School

- A meta-analysis of 19 research studies has shown that social support provides a buffering effect which allows individuals to be more resilient to stressors ⁽²⁾.
- Correlations have also be shown that group membership is beneficial to the wellbeing of individuals ^(1,2,3)
- Because medical training is a unique experience, it can be helpful to discuss challenging experiences in learning groups or academic societies.
- Social activities such as movies, game nights, etc



- 1) McNeill KG, Kerr A, Mavor KI. Identity and norms: The role of group membership in medical student wellbeing. *Perspect Med Educ.* 2014;3:101–112.
- 2) Kim B, Jee S, Lee J, An S, Lee SM. Relationships between social support and student burnout: A meta-analytic approach [published online ahead of print June 22, 2017]. *Stress Health.* doi: 10.1002/smi.2771.
- 3) Haslam SA, O'Brien A, Jetten J, Vormedal K, Penna S. Taking the strain: Social identity, social support, and the experience of stress. *dsBr J Soc Psychol.* 2005;44(pt 3):355–370.

Overview of Wellbeing Toolkit

- Exercise both cardiovascular and strength Training
- Nutrition: Plan meals and snacks in advance – meal prep on the weekends
- Good Sleep Hygiene
- Thought Management:
 - Mindfulness
 - REBT/CBT
 - Gratitude
- Social Connectedness - De-stressing activities (movies, virtual game night, pets etc)



When the Tool Kit Isn't Working

- Seek help support from qualified professional practitioners
- Help-seeking behavior is a **STRENGTH!**



Create your Wellness Routine: Suggestions

- What is 1 thing that was presented that you can commit to doing over the next week that will help decrease your stress/anxiety? – [Connect with an accountability partner](#)
- Write down 3 things that are gifts/talents that you think you have been given and how you will work to develop them or share them with others?
- Journal of gratitude – what 3 things happened to you today for which you are grateful?
<https://ggia.berkeley.edu/practice/three-good-things>
- Write someone else a note letting them know how grateful you are for something that they did – can be something small. Not only will you make their day, but some studies suggest it will boost your morale also.

Additional Resources for Wellness: Activity Log

HEALTH AND WELLNESS ACTIVITY CHALLENGE			
Day	Time Spent (minutes)	Activity	How did you feel post-activity?
1			
2			
3			
4			
5			
6			
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8			
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Other Resources

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- Holliday AM, Gheihman, G, Cooper, C, Sullivan, A, Ohyama, H. Leaf, DE and Karp-Leaf, R (2-19) High Prevalence of Imposterism Among Female Harvard Medical and Dental Students. J Int Med2020, 35: 2499-500
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<https://doi.org/10.1007/s40596-021-01503-1>
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- Dyrbye L. et al (2006). "Systematic Review of Depression, Anxiety, and Other Indicators of Psychological Distress Among US and Canadian Medical Students". Academic Medicine, 81(4): 354-373.
- Rotenstein L.S. et al (2016). "Prevalence of Depression, Depressive Symptoms, and Suicidal Ideation Among Medical Students: A Systematic Review and Meta-Analysis". JAMA, 316(21): 2215-2236.
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- Montoya, A. L., & Summers, L. L. (2021). 8 dimensions of wellness for educators. The Learning Professional, 42(1), 49-53,62.
- Zeidan, F. (2014). "The Neurobiology of Mindfulness Meditation", in The handbook of Mindfulness. Ed, Brown.
- Ridout, KK, Ridout, SJ, Guille, C, Mata, DA, Akil, H and Sen, S (2019). Physician-Training Stress and Accelerated Cellular Aging. *Biological Psychiatry, in preprint*
- Mindfulness apps: 10% happier, Calm, Headspace, Insight, Dharma Seed