

Building Resilience In Neurosurgical Residents

Cover Page

Resilience has many definitions the most common of which refers to a phenomena characterized by good outcomes in spite of serious threats. Given the demanding environment of neurosurgical residency training including the sleep deprivation and physical fatigue, the critical and complex nature of the disease processes treated, and the separation it may create from family, neurosurgical residents certainly face threats to their emotional, physical and mental health. This is evidenced by the relatively high burn out levels identified within neurosurgical residents in addition to the fact that suicide consistently remains the second most common cause of death within the resident populations. Combine this with the relative lack of resiliency training during their formal educational process, neurosurgical residents are not necessarily innately equipped with the skills to succeed in the face of such adversity.

Equipping residents with the tools to promote resiliency and well-being does not only benefit the individual resident. Instilling resiliency and positive self-esteem has been consistently shown to be an important attribute for workers in coping with worksite adversity in healthcare. Studies have demonstrated that these individuals have increased job satisfaction, organizational commitment and involvement and lower levels of burnout. This ultimately positively influences the morale of the entire resident complement, the programs in which they train and the healthcare system for which they provide care.

The military has recognized these individual and organizational benefits and is an excellent parallel to the healthcare system in that they must also screen, recruit, train and maintain a workforce capable of succeeding. They have also realized the deficiencies in the reactive model of waiting for the identification of psychological stress and subsequent attempts to repair pathologies versus the proactive approach of building resilient soldiers with the skills to combat adversity as they face it. Just as we educate our patients on the proactive benefits of exercise and diet on the development of atherosclerotic disease, our neurosurgical resident workforce would benefit from education on wellness, leadership and resiliency to prevent the development of negative responses to their rigorous training process. People can be fearful that focusing on resiliency, burnout and wellness in a formal structured way during training will create a “weak” neurosurgical workforce. However, focusing on these areas will instead promote balance and success, promote professional behavior and communication and increase engagement in education and success. Coping patterns learned during training will likely persist throughout a provider’s entire career both personally and professionally. Building resilient residents now will lead to resilient Attendings later.

The curriculum guideline outlined within this website is designed to promote psychological strength and positive performance while reducing the likelihood of maladaptive responses to the adversity faced during neurosurgical residency training. Acknowledging that each individual program differs in their educational programs, number of residents and institutional resources these guidelines are meant to provide a framework and set of resources that each program can harness to implement these interventions to assist residents in their self-development. The content is a compilation of programs that have proven efficacy in building resilience and positive psychology in a variety of domains including the Comprehensive Soldier Fitness Program Utilized by the United States Armed Forces as well as the University at Pennsylvania's Penn Resiliency Program. Recommendations include acknowledging these efforts as a long term strategy within your programs educational model. Parallel to physical strength not being achieved following a single session of weight training, psychological and leadership development require continued attention and each institution should monitor progress with periodic reassessments and alterations in their approaches to supplement areas identified as required additional attention.

Program Elements

The program elements expanded below focus on three components including the assessment of individual psychological fitness, a formal resiliency training program and individually targeted supplementary resources.

1. Assessment of individual wellness - emotional, social, family, spiritual

A. Tools:

1. Resiliency Scales - <https://positivepsychology.com/3-resilience-scales/>

2. Global Assessment Tool (GAT) - <https://armyfit.army.mil/Default.aspx>

B. Timing: Selected assessments ideally should be administered:

1. At the time of matriculation
2. At least yearly to track psychological fitness and the impact of ongoing resiliency efforts
3. More frequently in individuals identified as being high risk

C. Additional Suggestions:

1. To increase the likelihood of accurate responses the information should be available only to the Program Director, Associate Program Directors and Program Coordinator
2. To enhance honesty performance on these tools should not be linked to promotional activities including placement on committees, selection for meeting attendance, selection for endowed fellowships, etc.

2. Formal Resiliency Training - Includes 4 total components:

A. Teaches the fundamentals of resilience and clarifies common misconceptions - Includes 6 core competencies:

1. Self-Awareness - identifying individual thoughts, biases, internal misconceptions and behaviors and how they may be counterproductive
2. Self- Regulation - impulse control
3. Optimism - seeing the good in things and people
4. Mental agility - flexible thinking, considering different perspectives and new strategies
5. Character - understanding one's inner workings and their contribution to communication, etc
6. Connection - building strong relationships, willingness to help and ask for help

B. Building mental toughness/problem solving skills

1. ABC - Education on how to identify thoughts that are triggered by activating events and identify reactions that are driven by those thoughts:

- A. Recognize activating event
- B. Beliefs about the event
- C. Consequences of those beliefs

Examples: A resident gets their fifth consult in 2 hours from the ER to rule out shunt failure. The prior four consults did not identify a concern with the shunt. As the resident is balancing a multitude of tasks they become angered at this additional consult believing it is likely similar to the prior consults and that the ER is just

2. Overcoming explanatory styles/Thinking traps -- eg)

C. Identifies character strengths and how to utilize them

D. Relationship building through effective communication

3. Individual learning modules and resources to improve wellness in these domains

On the basis of their individual assessments additional resources should be made available to trainees in

A. Emotional

1. As emotional wellness is often linked to physical wellness consider providing a space devoted to physical fitness that is easily accessible to the residents

B. Social

1. Arrange department social and team building events outside of the workplace on a regular basis.
2. Consider the implementation of a resident wellness day where daily responsibilities are managed by mid-levels and faculty members while the residents participate in structured social or team building activities.

C. Family

1. Partner with local university or community resources to provide options for residents experiencing marital discord that are easily accessible
2. Spouses can be assessed by the GAT
3. Promote the inclusion of families in departmental social events

D. Spiritual

1. Provide a list of local places of worship for each religious group represented within the resident compliment.
2. When possible promote scheduling to allow individual residents to participate in their valued religious holidays
3. Select nutritional options for conferences and departmental social events that support the nutritional values of all represented religious affiliations

Additional Thoughts

1. Include families when possible. The development of these resiliency skills will not only benefit the individual residents but will also have value to those families adjusting to the ongoing demands residency places on the family unit. Additionally, inclusion of families promotes department support of the importance of family.
2. Faculty should be included when possible. The psychological impact of practicing in the healthcare sector does not end at the completion of residency. As eluded to earlier the development of resiliency, wellness and leadership requires ongoing attention and faculty will benefit from these initiatives as well. Additionally, each of these formal resiliency programs emphasize a "train the trainer" model highlighting the importance of teachers being able to demonstrate these skillsets to their students.
3. Financial strain can have deleterious effects on wellness and resiliency. Formal neurosurgical training does not include education about financial wellness nor the transition to practice. Consider including educational sessions regarding financial wellness in your programs curriculum.

Resources

Add links to articles sent in email

Resiliency Building Programs:

Comprehensive Soldier Fitness - <https://www.usar.army.mil/CSF/>

Penn Resiliency Program - <https://ppc.sas.upenn.edu/services/penn-resilience-training>

Contact for the Penn Resiliency Program – Peter Shulman (shulman@psych.upenn.edu)

Financial Wellness Programs:

<https://www.peacehealth.org/sites/default/files/Documents/CME%20Richard%20Smith.pdf>