Fitter Neurosurgeons Make Happier Neurosurgeons! Incorporating an Exercise Regimen Into the Academic Schedule

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Background

Of growing interest and concern is the psychosocial health of neurosurgical providers. Burnout levels are high and are affected by a myriad of stressors. Building resilience to these stressors has become a focus amongst many medical bodies. We have studied contributors to stress and burnout for the past several years. One of the key stressors identified was lack of exercise and related decrement in self-esteem.

Problematic for all neurosurgeons, and particularly resident neurosurgeons, is the time compression felt by all in the field. Exercise simply cannot be conducted during “regular hours.” If exercise is to be enacted, it is going to be at “off-hours”; either very early in the morning or later in the evening. Early in the morning can mean 0400 or so for many who wish to exercise in full, wash up, eat, and prepare for the day. Evening exercise clashes with another major challenge to neurosurgeon resilience: sleep deficit.

There is no easy solution. With this dilemma, many neurosurgeons drift further and further away from any form of routine exercise. What is more, when they do partake, it is often in the form of a “weekend-warrior” attempt to relive their glory days of youth in a competitive and contact-laden sport with the predictable resultant injuries. Once injury occurs, the drive to routinely exercise decrements further.

This is truly problematic. Across the resilience literature, routine exercise is a key feature in the maintenance of good self-esteem, energy, sociability, and a general sense of wellbeing – not to mention its importance in overall health and disease prevention.

If anyone should be routinely exercising, it should be neurosurgeons. The stressors of the field are legendary, burnout rates are astronomical, and general health is lagging. We sought to fight back and institute a modicum of routine exercise within our busy academic schedule, and then to evaluate its impact.

Methods

Our residency training program features weekly academic sessions every Tuesday from 1:00 to 17:00. Traditionally, these have featured an array of educational exercises and of course, prolonged sedentary activity.

We have incorporated a 45 minute exercise block into the weekly academic sessions. These sessions involve all in attendance. They are led by various members. They are conducted in our regular academic classroom.

Participants have been queried about their responses to the sessions via paper and pencil survey (Likert Scale Questions), individual sampling and discussion groups.

We have been most interested in changes in mood, self-esteem, exercise frequency “off-campus”, weight, energy level, attitude, and more.

Results

Exercises to date have included: medicine ball (passing, static resistance, hand-offs, related calisthenics), jump-rope, jumping jacks, push-ups, sit-ups, running in place, modified crunches, planks, yoga, stretches, hand-weights, assorted calisthenics, and more. Exercises are conducted in series for 30-45 minutes with no prolonged period or rest. Music is piped into the sessions. Any participant can direct the next exercise.

Average attendance is 50% of our providers (out of 27), with 100% resident attendance. We have dedicated time for exercise to every academic session starting approximately at 16:30. We have been unable to go forward with the session for various clinical/educational reasons about 20 percent of the time.

Results ctd.

6 residents, 8 faculty, and 10 Advanced Care Practitioners were surveyed and interviewed about the exercise program.

On a 1-10 Likert Scale, 1 representing strongly disagree and 10, strongly agree, the exercise program:

- Increased my overall exercise schedule: 8 (moderately agree)
- Resulted in weight loss: 7 (mildly agree)
- Improved my mood in sessions: 10 (strongly agree)
- Improved my overall mood: 9 (strongly agree)
- Made me want to exercise more: 10 (strongly agree)
- Made me feel better at work: 9 (strongly agree)
- Improved my sleep: 7 (weakly agree)
- Reduced my alcohol intake: 4 (weakly disagree)
- Encouraged me to eat better: 8 (moderately agree)
- Made me feel better about myself: 9 (moderately agree)
- Should be held every week: 10 (strongly agree)
- Should have a greater diversity of exercise: 7 (weakly agree)
- Other off-campus exercise team efforts should be made: 7 (weakly agree)
- I would like some exercise instruction: 5 (neutral)
- There needs to be an exercise facility in the hospital: 10 (strongly agree)
- Time for exercise should be a part of a residency curriculum: 9 (strongly agree)

Comments:

“Should have tried this years ago.”

“I am getting back to three exercise sessions a week.”

“This makes me think more about what I am doing to my body.”

“My happiest time of the week at work is the exercise session.”

“It shows the program gives a damn about my health.”

Conclusions

Incorporation of an exercise regimen into our weekly academic sessions has produced markedly favorable results that appear far-reaching - well beyond the individual sessions.

This is such an easy measure. Presumably most academic programs gather their members regularly for educational purposes. 30 – 45 minutes re-directed to self-care is a small price to pay, particularly if members generalize the activities to their outside worlds and personal culture.