

**The Impact of an Evidence-Based Emotional Intelligence Curriculum for Physicians  
on Physician EI and Well-being**

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## **Project Description**

The aim of this project is to 1) determine the relationship between emotional intelligence (EI) and burnout and depression among surgical faculty, and 2) develop and implement an evidence-based EI curriculum designed specifically for surgeons with the goal of increasing EI and improving burnout and depression rates among surgical residents and attendings.

## **Rationale**

There is increasing recognition that the wellness of physicians is of vital importance. It is critical not only for the sake of the individual, but also for those they work with and care for. On a personal level, unwell physicians may experience feelings of stress, burnout, or depression, relationship difficulties, substance abuse, and even suicidal ideation; unwell physicians may detrimentally impact more broadly the healthcare system and patient outcomes.<sup>1,2</sup> Consequences include decreased productivity and efficiency, suboptimal quality of patient care, reduced adherence and satisfaction, and increased risk of medical errors.<sup>3</sup>

Despite this, physicians suffer from a high rate of burnout and depression, reaching up to 75%.<sup>4-6</sup> In a recent national survey, 50% of residents and 40% of early career physicians screened positive for depression with 8.1% and 6.3% reporting suicidal ideation in the last 12 months, respectively.<sup>7</sup> A rash of resident suicides in 2014 has brought to the forefront the importance of physician mental health and wellness.<sup>8-10</sup>

The concept of emotional intelligence (EI) was introduced in the 1990's by Salovey and Mayer who described it as a type of social intelligence that captures an individual's ability to perceive, process, and regulate one's own emotions and the emotions of others. It informs how an individual internally manages emotional and environmental stressors as well as how one navigates relationships with other people. EI has been associated with less mood deterioration and emotional reactivity following natural and laboratory stressors. We hypothesize that individuals with higher EI can perceive, process, and regulate emotions more effectively, which may lead to enhanced well-being and less emotional disturbance.

Our previous work has demonstrated that EI is a strong independent predictor of resident burnout and depression. In this present project, we will assess the relationship between EI, burnout, and depression among surgical faculty and develop an EI curriculum specifically tailored to enhance EI in surgical residents and faculty.

## **Pilot Data**

In 2014-2105, we surveyed residents enrolled in the Stanford general surgery residency program and assessed emotional intelligence, burnout, and depression using well-validated instruments, namely the Trait Emotional Intelligence Questionnaire-Short Form (TEIQue-SF),<sup>11</sup> Maslach Burnout Inventory (MBI),<sup>12</sup> and Beck Depression Inventory-Short Form (BDI-SF).<sup>13</sup> Seventy-three residents participated in the study. EI scores were inversely correlated with depression ( $r=-0.69$ ,  $p<0.001$ ) as well as burnout parameters emotional exhaustion and depersonalization ( $r=-0.69$ ,  $p<0.001$ ;  $r=-0.59$ ,  $p<0.001$ ). In regression analysis controlling for demographic factors such as gender, age, relationship status, and PGY level, EI was a strong, and the only, independent predictor of emotional exhaustion, depersonalization, and depression. Based on these findings, we hypothesize that 1) these correlations are likely to be true among attending surgeons, and 2) interventions to increase EI may be effective at optimizing the mental health of surgical residents and faculty.

## **Methods of Design**

**Specific Aim 1:** The first phase of the project is to conduct a cross-sectional survey of clinical faculty within the Stanford Department of Surgery ( $n\approx 100$ ). The survey will be distributed via Stanford Medicine Qualtrics and consist of basic demographic information and psychometrically validated measures for EI, burnout, and depression (TEIQue-SF, MBI, BDI-SF). Participants will be incentivized with a \$25 Amazon gift card. Survey data will be analyzed for correlations between EI, burnout and depression. The survey will yield rich data regarding the emotional and social competence of our surgical faculty and help identify trends and deficits among the group that may be targeted for intervention. We will also learn the prevalence and extent of surgeon burnout and depression.

**Specific Aim 2:** The second phase of the project is to develop and deploy a curriculum designed increase EI that is specifically tailored for surgical trainees and faculty based on the needs and deficits revealed from the resident and faculty surveys. The content will incorporate aspects of the four main domains that comprise EI, namely emotionality (emotion perception, empathy), sociability (emotion management, social awareness), self-control (emotion regulation, stress management), and well being (happiness, optimism, and self-esteem). In order to create a robust, high-impact curriculum, the PI will first undergo training to become a certified EI trainer. The PI will also seek consultation and collaboration with experts in the field of EI and wellness, internally within Stanford University, as well as externally from the corporate and healthcare arenas. The goal would be to create a curriculum that is compact (less than 6 total hours) but with high impact, to suit the demanding schedules of

surgical residents and faculty. It will feature a variety of learning formats: personal one-on-one feedback regarding individual EI score (as well as strengths and growth opportunities), large group guest speaker / facilitator featuring a leading EI expert, dynamic and interactive live role-play or video-based scenarios involving real-life situations common and relatable to surgeons, small group debrief sessions, and individual self-reflection.

After its creation, the curriculum will be deployed among the surgical residents and faculty at Stanford. It will utilize weekly educational protected time built in to the schedule of the residents and faculty (Grand Rounds, faculty division meetings, resident didactics and skills course). At the close of the curriculum, participants will be surveyed with regard to their EI, level of burnout and depression, and satisfaction ratings regarding the program. The residents and faculty will be surveyed again six months later to measure the long-term effects of curriculum on EI, burnout, and depression. \$25 gift cards will be given for completion of the first post-intervention survey. Also, focus groups of the learners will be conducted to obtain qualitative feedback about the course.

### Timeline and Implementation Plan

| Activity Name                                 | Mar | Apr | May | Jun | Jul | Aug |
|---|-----|-----|-----|-----|-----|-----|
| <b>AIM 1: Assess Emotional Intelligence</b>   |     |     |     |     |     |     |
| Baseline survey distribution and analysis     |     |     |     |     |     |     |
| Post survey distribution and analysis         |     |     |     |     |     |     |
| <b>AIM 2: Design and Deploy EI Curriculum</b> |     |     |     |     |     |     |
| EI curriculum development & trigger videos    |     |     |     |     |     |     |
| EI curriculum implementation                  |     |     |     |     |     |     |
| Evaluation and focus groups                   |     |     |     |     |     |     |
| <b>Dissemination Activities</b>               |     |     |     |     |     |     |
| Present at national meetings                  |     |     |     |     |     |     |
| Prepare manuscripts                           |     |     |     |     |     |     |
| Prepare EI curriculum for MedEdPORTAL         |     |     |     |     |     |     |

### Anticipated Work Product

Ultimately, the goal is to create a proven EI curriculum tailored for surgeons that can be packaged and exported to other programs and institutions for widespread use. Speakers will be videotaped, and the recordings will be professionally edited. Trigger videos will likewise be professionally filmed and edited. Role-play scenarios will be compiled in a manual complete with facilitator instructions and debriefing guide. Such a curriculum could also in subsequent phases be adapted to apply to physicians of other medical specialties as well.

### Evaluation Plan

Participant EI, burnout, and depression, as well as learner satisfaction and feedback regarding the program will be assessed at two time points: immediately after completion of the curriculum and six months thereafter. The second survey will evaluate the long-term effects of curriculum on EI, burnout, and depression. Focus groups involving the learners will additionally be conducted to obtain qualitative feedback about the course.

### Dissemination of Results

We aim to present the findings that emerge from this study at one or more national surgical conferences, such as the annual meetings of the American College of Surgeons or American Surgical Association. Following presentation, a manuscript will be submitted to a surgical or medical educational journal such as the Journal of the American College of Surgeons, JAMA Surgery, Medical Education, or Academic Medicine. The EI curriculum itself will be packaged and submitted to the peer-reviewed Association of American Medical Colleges MedEdPORTAL for exportation and wide dissemination of the program.

### Anticipated impact of project on education and/or mentoring

This work may create precedence for and establish the value of an educational intervention and individualized mentoring/coaching aimed at optimizing a non-cognitive, non-technical trait such as EI in physicians and trainees. Traditional medical educational models focus on imparting knowledge and clinical skills. However, it takes much more to be successful and thrive in today’s healthcare environment. This calls for a paradigm shift in what we teach and how we train physicians; initiatives that address the emotional and social competency of physicians may pay dividends, not only in terms of individual wellness but also quality measures and patient outcomes.

### Specific Educational Aims

To develop, deploy, and evaluate a multi-modality, evidence-based EI curriculum designed to increase EI in physicians.

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