Chapter 6
Understanding Emotional Intelligence and Its Role in Leadership

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6.1 Introduction

Irrespective of our life paths, the ability to initiate and sustain effective interactions with others is a key determinant of success and fulfillment. As physicians, we must lead both formally and informally in a variety of roles – in medical systems, clinics and operating theatres. We are often challenged by the stress of practice and the need to achieve balance with family and friends. Conflicts occur on a regular basis hence a level of personal insight is vital to a healthy and productive life.

The increased interest in emotional intelligence is supported by a growing compilation of data that demonstrate that enhanced social interactions improve personal performance in a wide range of settings. Boyatzis studied 2,000 supervisors and executives and found that 14 of 16 distinguishing traits for success were emotional not cognitive [1]. Spencer and Spencer defined job competencies in 286 organizations and noted that 18 of 21 competencies associated with high performance were emotionally based [2]. Comparing "star" performers to average performers in diverse industries, Goleman found that emotional advantages were noted twice as frequently in high performers and were a much better predictor of achievement than cognitive superiority [3].

In this chapter we will quantify the traits associated with emotional intelligence (EQ), examine the role of EQ in the medical environment, including the differences seen in surgeons, provide insights into the neurobiology of human emotion, address

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how experiences shape our ability to interact with others, describe how emotional intelligence can be measured and quantified, and finally assess what one can do to improve EQ. We will tie emotional intelligence into styles of conflict resolution, and describe forms of feedback that can increase insight and enhance both professional performance and personal satisfaction.

6.2 The Scope of Emotional Intelligence

The term "emotional intelligence" has been advanced to describe the set of personal attributes which enhance social and professional relationships. As developed by Goleman and others, the elements of emotional intelligence span the full range of interactions between individuals and society including self-awareness, self-regulation, social awareness, and relationship management [4, 5].

Self-awareness encompasses one's openness to their own emotional experience and their ability to realistically appraise their skills and abilities and to integrate feedback for self-improvement. It involves the higher levels of functioning to see our emotions from the perspective of distance – to recognize that we are feeling anger, frustration, unbridled joy, or sorrow. It then allows us not to immediately react to those emotions (Goleman uses the term "hijacking".) [4]. Rather, we recognize what we are feeling and how that can affect our perception of the situation and reality.

Surgeons feel that they must have control over their emotions to deal with high stakes situations. Yet often, we are unclear of what we are truly feeling, which distorts our abilities to be "in the moment." Those with insight into their emotions develop appropriate levels of confidence and self-esteem. They recognize anger triggers that lead to impulsive, negative reactions. With self-regulation, they remain above the fray.

Self-regulation is the ability to modulate and manage emotions within the context of any situation. Although it is possible to have strong abilities in self-regulation without self-awareness, it becomes analogous to addicts who "white knuckle" their way through temptation. Self-regulation is about balance. It is not appropriate to suppress all emotion any more than it is to be carried away into paralyzing dark depths or manic dizzying heights. As surgeons and leaders, we cycle through emotions frequently throughout the day. Those with strong self-management organize thoughts and actions, produce high quality work, and are adaptable. They exhibit high levels of integrity. They are able to remain optimistic in the face of failure and rejection, viewing the setback as additional data on which to set a future course. Self-regulation is perhaps the most important skill to master. Impulsivity in response to a situation, driven by anger or strong emotion, has derailed many. Pessimism paralyzes and inhibits forward motion. We will discuss shortly the neurobiology of impulsivity and pessimism and how maturation of pathways to the frontal lobe can be crafted throughout life. This includes scenario

based training, where one can recognize the physiologic changes induced by strong emotions and develop alternative mechanisms to cope with them.

Understanding ourselves is vital. We are social animals, characterized by the need to interact with others. While we can appreciate how we may be feeling at the moment, others rarely put their feelings into words. Up to 85 % of communication comes from nonverbal cues – facial expression, tone of voice, subtle body language [4, 6]. The ability to read these cues predicts success in human interaction. **Social awareness** behaviors include empathy, political acumen, organizational dynamics, and openness to opposing points of view. This level of attunement ideally begins in childhood by parents who are able to mirror their children's feelings, creating an understanding of empathy. Throughout life, however, relationships provide new opportunities to learn empathy, nonverbal communication, and how to read situations. Those with strong skills in social awareness are seen as good "listeners," demonstrating the ability to understand others thoughts feelings and motivations by picking up all the cues. Taken to an extreme, however, in an effort to be liked, they may rapidly change their reactions to the situation oftentimes losing their own sense of self and values.

The final competency is the ability to **manage relationships** by taking into account the normal differences of opinions and conflict that exists within groups. It is not only having the social awareness to read nonverbal cues, but also the ability to connect and relate. This can be on a personal level or as an organizer of groups. In *Tipping Point*, Malcolm Gladwell identifies *connectors* as "people with a particular and rare set of social gifts" [7]. They know large numbers of people and are in the habit of making introductions. They usually know people across an array of social, cultural, professional, and economic circles, and make a habit of introducing people who work or live in different circles. They are people who "link us up with the world . . . people with a special gift for bringing the world together".

Those skilled in relationship management are able to respond to others in a way that creates a connection, using both verbal and nonverbal modes of communication. In his book "Flourish," Seligman describes four ways to react to any situation: Active/Constructive, Passive/Constructive, Active/Destructive, and Passive/Destructive [8]. For example, on hearing of a raise and promotion, the active constructive response will show enthusiasm and interest, maintain eye contact, and ask questions to draw the teller in. A more passive response is to say, "Congratulations, you deserved it," with little or no emotion. Actively destructive responses will remind the teller of increased responsibility, time away from home and higher taxes. They will exhibit negative nonverbal communication in tone of voice or facial expression. The passively destructive person won't even acknowledge the news and may bring up an unrelated topic. How often in surgical training did we want to emulate the skilled clinician who could accurately and constructively help us improve? "After you set the needle at 45 degrees, the anastomosis went more smoothly," as opposed to "I don't know how you got through sewing that with your left hand, but it's open . . . for now."

6.3 Nature Versus Nurture: The Biology of Emotion

Early studies on the brain and emotion centered on observed changes in personality after stroke, trauma, or surgical resection. More primitive organisms required near instantaneous responses to threats in order to survive. Further basic regulation of physiologic function and movement was required. The brainstem and amygdala serve these functions, with the olfactory lobe as the main interaction with the surrounding environment. As our brains evolved, emotions developed before the recognition of emotions. Fight or flight was reflexive [9]. With the emergence of the limbic system came the ability to remember previous experiences and feel wider ranges of emotion. It remains our pleasure center. In psychopathology, the amygdala and limbic region have been implicated as a key neural region in emotional regulation.

With evolution and the specialized functions of the ever enlarging neocortex, humans could now experience wide ranges of nuanced emotion. Concommitantly, neural pathways developed to modulate the primitive forebrain and the passionate amygdala. This region is essential to learning the emotional significance of cues in the environment. It is not static. The white matter of the frontal lobe grows through the end of adolescences and into early adulthood [10]. Liston and colleagues have shown that white matter tracts between prefrontal–basal ganglia and posterior fiber tracts continue to develop across childhood into adulthood, but only tracts between the prefrontal cortex and basal ganglia are correlated with impulse control. This may also explain why childhood experiences in learning to deal with impulses are important while neural pathway development catches up [11]. In some individuals, these pathways that lead to higher levels of control do not develop, and taken to the extreme can lead to sociopathic behavior.

Functional magnetic resonance imaging (MRI) has given us even greater insight into the nuances of where emotional intelligence may lie. It is clear that the ability to recognize nonverbal cues (facial expression, tone of voice, word versus non word sound) requires integration of disparate stimuli. Kreifelts examined functional MRI in a series of healthy adults who presented with various words or non-word sounds, and human versus inanimate pictures [12]. In some cases, the words were presented in either a happy or angry tone. Degree of activation in multiple areas of the brain was correlated with results from prestudy EQ testing. Subjects with higher EQ showed more activity in right posterior middle temporal gyrus during periods where integration of voice and facial expression was required. Of interest, in all subjects, the amygdala responded strongly to images of human faces, but not to voice. What remains to be seen is how well brain plasticity through life enhances these pathways with training [13].

The traits of optimism and resilience are key to joy in life and success in surgery. Traumatic events of childhood clearly are correlated with later depression, yet not everyone with Early Life Stress (ELS) develops depression. Cisler mapped the emotion regulation network in a group of woman who had ELS, some that subsequently became clinical depressed, others with no history [14]. Higher activity

in the prefrontal cortex was seen in the resilient group, and more activation in the primitive amygdala in those with depression. There was no control group with depression but no ELS. Surgeons deal with traumatic events daily. How they process these stimuli may be colored by early experiences and biology. Although one may feel doomed by biology, it is also clear that brain plasticity allows new neural pathways to form and mature throughout life.

6.4 Emotional Intelligence in Medical Practice and Leadership Roles

While having greater insight into one's feelings could be expected to correlate with success in leading others, supportive data in the medical field is not robust. Traditionally leaders in medicine have been selected on clinical or research accomplishments, not on their ability to manage themselves and mentor others. That said, one could easily argue that the need for such informed and consistent leadership has never been greater.

There is recent information that would argue that physicians are experiencing considerable emotional stress due to a host of financial and other pressures that are dramatically changing both the practice of medicine and how doctors perceive their role in society. A survey of 1,951 full-time physicians and scientists from four geographically separated medical schools noted that 20 % had significant depressive symptoms [15]. Depression and anxiety scores were higher in young physicians (<35 years of age) than in their more senior colleagues. Relevant to this discussion, the very highest depression and anxiety levels were noted in surgeons; the lowest scores were recorded in emergency medicine physicians who had high acuity challenges but "controllable lifestyles." This suggests that the context in which the stress occurs (e.g. the degree of personalization, total work hours) has more to do with adverse emotional effects then the level of stress itself.

These differences are apparent in medical students and residents. Indeed, deficiencies may be exacerbated during training. Chew et al. administered the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) to 163 first and final year medical students at the University Putra in Malaysia [16]. They correlated EQ with performance on standardized exams as well as clinical performance during rotations. There was a stronger correlation of higher EQ and performance in final year students than first year, perhaps reflecting the importance of resilience and humanism in successfully completing medical school. First year students were more focused on standardized knowledge testing, and many came into medical school with a degree of ambivalence toward a career in medicine, as they entered at age 18. Their own insight into emotional regulation was still developing. In a related study of American medical students, optimism which is measured in the self-awareness realm, was correlated with higher satisfaction in course work and eventual National Board of Medical Examiners shelf examinations [17]. In a classic longitudinal

study from UCSF, students with behavioral or emotional issues during medical school were much more likely to have subsequent malpractice cases or censure from medical boards [18].

In a study of nursing students, Beauvis correlated several realms of EQ, spirituality and resilience to academic success [19]. A similar pattern emerged to that of the Chew study. For younger undergraduate students, the only component of EQ that correlated to success was perceiving emotions, and that effect was moderate. In contrast, high performing graduate nursing students had overall higher total EQ with significant strength in facilitating thoughts and managing emotions. Finally an overall strong association with academic success was seen with spirituality, however there may be selection bias as the nursing school studied was supported by a religious order.

Although surgeons have been accused of having poor social skills, in fact they are strong in many realms. In a study by Stanton, 148 British psychiatrists and surgeons were assessed for EQ [20]. Overall scores were similar. Psychiatrists scored strongly in the subsets of empathy, self-awareness and impulse control. Surgeons had higher subscores in areas of self-regard, stress tolerance, and optimism. These traits inspire patient confidence, as no one wants to hear their surgeon say, "I hope I can help you . . . "

While it is obvious that developing an improved understanding of one's emotions is the ideal first step in this process, achieving personal insight is often difficult. In designing a recent study of 43 highly successful business leaders, Bennis and Thomas postulated that the "more modern" leader would have fundamentally different skills and tactics then CEO's of a more traditional era [21]. In fact, their subsequent research demonstrated that the views of both sets of leaders were remarkably similar. One common experience was particularly revealing. A majority of those interviewed described an unplanned and usually traumatic incident in mid-life which caused them to reformat their personal views of achievement and develop a higher level of empathy for others. In nearly every instance, they credited this specific response for their improved leadership performance.

6.5 Can I Improve My EQ?

Those identified as true leaders tend to have developed these skills well, including conflict management, open communication, persuasiveness and change management. The ability to inspire through public speaking is coupled with drawing out others opinions and building consensus. Of these, the key constituents of emotional intelligence are self-assessment and empathy. Most workers in the field believe EQ is not static, but is a set of skills that can be learned with commitment and behavioral modeling [6, 22].

Many of the skills seen in high EQ individuals are an inherent part of their personalities or learned during childhood and adolescence. Social norms are reinforced and the ability to read a group becomes increasingly important. Surgeons self-select

personality traits that are rewarded throughout training and practice, many of which involve divorcing oneself from emotion. Yet personal performance is also measured, and areas of opportunity for growth can be identified through comparison of one's own results with benchmarks and best practices. Honest self-examination makes one open to learning from others. Yet, it is often difficult to pinpoint our own strengths and weaknesses. Deming, the father of process improvement, made it clear that you can't improve something that you don't measure.

With that in mind, we have employed three processes with our medical staff leaders in assessing EQ and identifying specific areas of strength and weakness, supporting plans to optimize performance. These are the Meyer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) [5]; the Thomas-Kilmann Conflict mode analysis [23]; and the 360 evaluation. Taken together, and with appropriate interpretation and coaching, we have observed growth on our leaders performance.

The MSCEIT analyzes specific tasks in each of the four areas of EQ: self-awareness; self-management; social awareness; and relationship management. Test takers are assessed on their ability to identify emotions expressed by faces or pictures, appreciate the effects of mood on problem solving, and define how emotions are generated. Finally, the interaction of emotions in analyzing situations in ourselves and others is quantified by presentation of various scenarios. As in any test of this type, validation questions will reveal if the subject is attempting to present themselves in a favorable light. The eight specific sections are outlined below (adapted from Mayer Caruso and Salovey).

Ability	Test sections	Question types
Identifying	Faces	Identify subtle emotions in faces
	Pictures	Identify emotions in complex landscapes and designs
Using	Facilitation	Knowledge of how moods impact thinking
	Sensations	Relate various feeling sensations to emotions
Understanding	Changes	Multiple choice questions about how emotions change over time
	Blends	Multiple choice emotion vocabulary definitions
Managing	Emotion management	Indicate effectiveness of various solutions to internal problems
	Emotional relations	Indicate effectiveness of various solutions to problems involving other people

In our own assessment of emerging physician leaders at Cedars Sinai, we found strong self-management skills, with a wider variation in social awareness and relationship management. This is not surprising given the selection bias that those who go into medicine are trained to be self-reliant, and are taught to become objective in the face of pain and suffering. This baseline helped us focus training in the important aspects of social skills in influencing group behaviors.

Although there are four realms to emotional intelligence, for leaders, success many times rests on their ability to resolve conflict. Conflict is not necessarily negative; opposing viewpoints may bring clarity to a situation. The Thomas

Kilmann Conflict Mode Instrument (TKI) was an outgrowth of work in the 1960s on managerial styles [23]. It recognizes that there are gradations of assertiveness and cooperativeness in any conflict negotiation. Assertiveness is the degree to which you try to satisfy your own needs, cooperativeness in the degree to which you try to satisfy others needs and be receptive to their ideas. These are not mutually exclusive. Depending on the situation, each style may be appropriate.

If one places assertiveness on the Y axis and cooperativeness on the X axis, five styles become apparent:

- Being both unassertive and uncooperative is consistent with an **avoiding** style. This may be appropriate in conflicts with low impact that are in the process of resolving themselves, or for which you may need to buy time to become more prepared. The risks include declining workplace relationships as people become uncomfortable working through differences.
- Those who **accommodate** are high in cooperativeness, but low in assertiveness. You are willing to concede your own needs for the good of others. This can support others and smooth ruffled feathers, but if done excessively, causes loss of self-respect and motivation.
- Being highly assertive and uncooperative can lead to rapid victories and protection of self-interest. This **competitive** style forces active debate of one's own position and the need to justify it. Appropriate in highly time-constrained negotiations, it can also lead to escalation and deadlock as well as poor decisions and resentment by the loser.
- **Compromising** styles try to find middle ground. Both parties give up something as well as retain key components that are of value to them. Compromise maintains relationships and fairness, but the solution is often suboptimal. Expediency is the tradeoff for highest quality.
- The most time consuming negation style is **collaboration**. Parties strive for a "win win." Through a structure of understanding that both likely share many common values and goals, early agreement is sought. With openness and trust, the areas of disagreement are dissected and both parties challenged to create innovative solutions that are better than each's initial proposal. Done well, collaborative negotiations increase team cohesiveness and mutual respect. If not facilitated tactfully, exposed vulnerabilities may lead to exploitation and hurt feelings around sensitive issues.

We were somewhat surprised to find that our leadership group primarily dealt with conflict by accommodation then avoidance and compromise. Only one physician scored strongly in collaboration; this was a member of the voluntary medical staff who has been successful in organizing community based practitioners. We were encouraged that when the group as a whole was retested, after a year of service in various roles, we saw a shift in avoidance behavior with increases in compromise and collaboration. Many organizations offer negotiation training for leaders. The key aspect is that conflict is not only unavoidable, but channeled properly can lead to innovation and increased performance.

Perhaps one of the greatest innovative disruptions in organization performance management is 360° feedback. Gone are the days when subordinates were evaluated only by their supervisors, who themselves were responsible to a level higher in the organizational chart. Personal success was narrowly defined and corporate cultures focused on shareholder value or for academic medical centers on grants, patient care dollars, and charitable giving. A true understanding of mission, vision and core values was lacking. Personal growth and the ability to manage and supervise the mission required a far greater understanding of one's own style, strengths, and areas of opportunity. The 360 also requires high levels of trust and self-awareness to yield meaningful behavioral change. Selection of the feedback tool, the raters, the method of feedback and the integration into the culture are key decision points to be considered. In general, the more feedback from multiple sources, the better [24]. The ability to lead teams that are multigenerational and multidisciplinary is an increasingly important skill, different from the leadership learned in the operating room.

At Cedars Sinai, 360 evaluations are available on an individual basis, and chairs receive pooled feedback from their faculty, including trends and comparison to other departments. Other organizations incorporate 360° evaluations into the culture beginning with onboarding. There is an explicit expectation to receive and give feedback at all levels. Done well, 360° evaluations not only enhance personal performance, but also can guide an organization to develop programs in areas consistently identified as high impact. The risks of the 360 is to focus on deficiencies and then not have the resources in place to optimize individuals' performance. It is also vital to tie the evaluations of the individual to clear understanding of the organization's goals. If the mission is the service of the local urban community, cultural awareness should be included; if it is to compete in a highly specialized technology transfer environment, the ability to understand big data and communicate that clearly is paramount.

As with any form of evaluation, standardized testing is but one component of an overall program of personal and professional development. You can be coached, read self-help books, and do exercises to better read facial expressions. But the journey as a leader, and in finding joy in one's life, comes from within. Souba describes the "Inward Journey of Leadership" as a continuous process of self-reflection, discovery and growth [25]. It focuses on accurate self-awareness, not defined by the size of one's CV. It is expanded by seeking feedback and constantly comparing your interactions with others to your inner values. Genuine human connections, forged through both adversity and success, are the greatest tools in understanding our own emotions and how we are perceived.

These insights have been useful in assisting the "difficult" physician who disparages and turns over associates repeatedly. These poor working relationships were rarely the result of the skill level of the new colleague. Far more often they reflected some other issue entirely, such as the senior surgeon's discontent over perceived status in the organization. While it was rarely easy to initiate, a frank discussion which identified the key driver and addressed it has been a far more efficient tact then recycling yet another young physician into an adverse

environment. In addition to exploring the obvious (i. e. what the senior physician could do to improve the comfort and performance level of his juniors), on a number of occasions deeper personal insight was gained. Quite often, this self-knowledge translated to more collegial behavior in other areas.

Such successful "teaching" of emotional intelligence requires an immediate and real life context to both stimulate and reward skill acquisition. Personal insight is an important element, but it is useful to remember that efforts are most effective when directed toward modification of *behavior* not *personality*. The goal is a practical one – minimization of poor personal interactions by recognition and self-correction of non-productive behavior. While motivated learners can occasionally gain these skills by self-study, the presence of role models and mentors can greatly facilitate the process. As a consequence, surgical leaders must always be aware that their personal conduct and equanimity sends a strong signal to the entire group.

6.6 How Do I Improve My Own EQ?

Although old patterns of behavior and interactions may be hard to break, with insight and some specific exercises, EQ skills and new neural pathways can be developed [22]. Becoming **self-aware** requires the ability to recognize one's emotional state and how perceptions are altered. Journaling creates a dedicated time to review the day and forcibly reflect on emotions felt and triggers that were recognized. In addition to looking within, asking for feedback from trusted friends and colleagues can help frame your actions and feelings within a broader and more objective context. As you become more aware of your physiologic response to stress, you will be able to slow down, before your primitive brainstem takes over. **Self-management** feeds on the recognition of impulsivity and the ability to put a temporary hard stop on a proposed action.

There is a revealing story of a superb senior airline pilot who was in the simulator. Multiple emergencies were being created for him. As things began to accelerate, he took off his watch and spent a few seconds winding it (this was years ago) then sorted things out. During the debriefing he was asked about the watch. "I never grabbed the wrong lever or crashed the plane while I was winding my watch," he replied. Further, there are individuals who exhibit extreme equanimity in the face of chaos ("Zen Masters"). We all recognize them – seek their counsel. Consider yoga or meditation to become more aware of your body and mind. Take responsibility when thing do go wrong, and look objectively at the decisions made, and different paths that could be taken.

Social awareness cannot occur if you are in your own head, fail to truly appreciate body language, or anticipate what the other person is saying, leading to premature and often inaccurate conclusions. The key is to listen and assess, sometimes a difficult feat for a surgeon who daily moves forward proactively with limited information. Perhaps the greatest skill is to put yourself in the other person's position. We have found this useful when counseling other physicians while in our

leadership roles. Sometimes a simple, "what would you do, if you were sitting in my chair?" brings clarity. **Relationship management** coalesces the other three skills. Being available to those you lead and setting a strong example of drawing in diverse opinions sets a tone of collaboration and respect. It is important to acknowledge and praise those who have contributed to a goal and take personal responsibility when there are missteps of those you lead. It involves humor and strength . . . and sometimes luck and good timing.

6.7 Conclusion

Experiencing and honing emotional intelligence takes place every day if we let ourselves be aware and be present. We can see it in the body language of surgeons who were residents together, when they are recounting their internship days over a beer at a national meeting; we experience the sense of flow during a presentation when we are connecting with our audience, or we relish it in a spontaneous sharing of advice with our teenage daughter over a coffee at Starbucks. And perhaps we feel it most poignantly, when we watch a friend, colleague, or mentor self-destruct a long and brilliant career, because of their lack of emotional intelligence, self-awareness, and self-control. In the highly demanding environment of modern medical practice, positive interpersonal interactions are necessary to optimize clinical and academic productivity. Searching for a better understanding of others has the additional value of enhancing insights into our own actions and reactions, and improving personal satisfaction [26, 27]. As the value of emotional intelligence becomes even more evident, it is quite likely that more formal assessments of these skills will be used in selecting and training the surgical leaders of tomorrow.

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