
Seven Practices of Highly Resonant Teams

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Abstract

This chapter evaluates how substantial improvement in quality and outcomes can be achieved by attention to intra- and interpersonal factors that create teamwork. Together, these factors influence learning, growth, and innovation, as well as safety for team members and the patients they care for. It is difficult to quantify the improvement in outcome in terms of lives saved, errors prevented, and morbidity reduced, but the literature on this topic as well as the experience of numerous providers suggest that it will be real and substantial. Medical knowledge, skills, and judgment are not enough to reach high standards of quality and safety, and high performance requires much more than clinical skill. This chapter provides a framed construction for how good teams work and incorporate those important principles into *Seven Practices of Highly Resonant Teams*.

Keywords

Communication • Multidisciplinary • Outcomes • Quality • Safety • Teamwork

*The way a team plays as a whole determines its success.
You may have the greatest bunch of individual stars in the
world, but if they don't play together, the club won't be
worth a dime.*
Babe Ruth

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Introduction

This chapter evaluates how substantial improvement in quality and outcomes can be achieved by attention to intra- and interpersonal factors that create teamwork. Together, these factors influence learning, growth, and innovation, as well as safety for team members and the patients they care for. It is difficult to quantify the improvement in outcome in terms of lives saved, errors prevented, and morbidity reduced, but the literature on this topic as well as the experience of numerous providers suggest that it will be real and substantial.

When providing talks and workshops to groups of cardiac surgeons, cardiologists, intensivists, nurses, and perfusionists, experts in the field invariably encounter an individual who comments: "The only thing that matters is the patient and the outcome. That is our job – to provide good outcomes." Some have even said: "We don't really care about teamwork or how people take care of themselves. We don't even care if they get along. Our job is to get good results." The literature and experience are consistent on this fact (and these authors can reiterate; this *FACT*): Good outcomes *require* teamwork, leadership (the kind that will be discussed below), and *engagement* by team members who are committed to supporting and working with each other. Good outcomes *require* excellence in medical knowledge, skills, and judgment. That is indisputable. It is the obligation of all providers of children's heart care that they continually develop their knowledge, skill, and judgment. But medical knowledge, skills, and judgment are not enough. As this chapter will document, high performance requires much more than clinical skill.

In 2003, the IOM published their report on Health Professionals Education [51] and emphasized the importance of teamwork and communication in achieving *patient safety*. (In fact, patient safety is the title of their next report published in 2004 [52].) This concept had resounding implications in the field of healthcare. The Accreditation Council for Graduate medical Education

(ACGME) introduced the "outcomes project" in which they emphasized the importance of competence in six areas which included, besides patient care and medical knowledge, interpersonal and communication skills, professionalism, practice-based learning (the importance of information and experience), and systems-based practice (appreciation for the interconnected relationships across the entire field of healthcare). The "outcomes project" forced education systems to begin teaching skills that many of the faculty had never (formally) received training to perform. For the first time, physicians were being held accountable for teaching (and learning) new ways of thinking, interacting, and leading.

Fortunately, emerging research into the neurobiology of relationships has provided a guide for how to create a culture that enhances the ability of people to work together. The astounding results achieved by the FAA (Federal Aviation Association) in reducing commercial airline crashes by introducing a protocolled form of team communication (crew resource management) provide testimony to the extraordinary power of creating highly functioning teams [107]. This chapter provides a framed construction for how good teams work and incorporate those important principles into *Seven Practices of Highly Resonant Teams*.

Foundations and Domains of Teamwork

Figure 184.1 depicts the foundations and domains of teams. Many of the books and articles on teamwork focus primarily on the three components (domains) of the wheel on the top – *who* (the people on the team), *what* (the reason the team is assembled – their identity), and *how* (the ways the team members go about working together). While each of these is important and will be addressed by the seven practices, the foundational blocks cannot be ignored, for without them, no recipe for teamwork will be effective. At the very base of good teamwork is *safety*. Without safety (within between and among), no teamwork is possible. No technique, tool, or process can create a sense

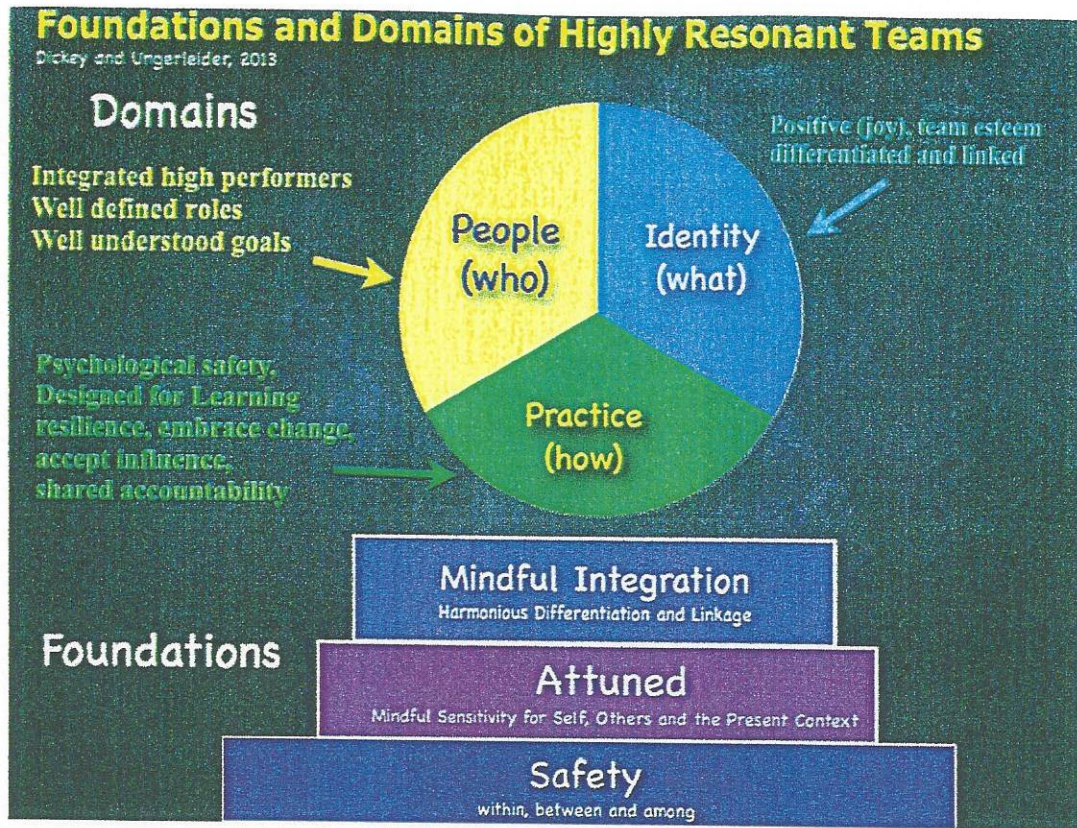


Fig. 184.1 Foundations and domains of highly resonant teams (Dickey and Ungerleider in press)

of team if members don't feel safe. In medicine, this is usually not *physical* safety as much as it is *psychological* safety – freedom from harassment, intimidation, ridicule, or contempt (all of which will be discussed in some of the practices outlined below). Safety stems from the ability of the team leaders to encourage the members to embrace and practice five freedoms:

1. *To see and hear what is here as opposed to what ought to be*
2. *To say what they feel and think and not just what is expected*
3. *To feel what they feel*
4. *To ask for what they want*
5. *To take risks on their own behalf to express themselves for the betterment of the team*

Great team leaders find ways to constantly encourage and reinforce these practices.

Creation of an environment in which it is safe for members to contribute and to engage is

essential and invites the next foundational building block: *attunement*. Attunement manifests as mindful sensitivity for the individual's self, for the others on the team, and for the context of the present situation. Attunement is a reflective quality, although it may function at an unconscious level. Dan Siegel, the eminent neurobiologist who has studied how people create secure attachments, has termed this *mindsight* [88] and it is a critical component for healthy relationships. When attunement is used to describe medical teams, it should be emphasized that it can be reflected with words that demonstrate an empathic connection to another (or a compassionate connection to one's self) or it can be reflected nonverbally, by actions or behaviors that demonstrate awareness of and responsiveness to another or to a situation. In his book, *The Empathic Civilization*, Jeremy Rifkin [78] indicates that the desire to connect is

basic and inherent in most humans. The ability to attune is in itself not sufficient to create good team function. In fact, attunement without conscience and compassion for how a person's thoughts or behaviors affect others can present as manipulation – a destructive interpersonal style that is characteristic of sociopaths – and can have devastating impact on how a team performs [4, 14, 16, 17, 41, 77, 95]. Without attunement, safety can be destroyed or eroded. Attunement carries empathic and compassionate understanding for others or for situations and what they require from people, and is essential to creating team resonance. It creates an essential foundation for teamwork and, as will be described later, in the *seven practices*, it manifests in the way team members work together.

Once members of a team are invited to and become able to attune, then it is necessary that they communicate. A lot has been written on communication styles and used by groups teaching teamwork to physicians [45, 58, 72, 79], and they are all useful tools. However, without intra- and interpersonal integration [81], these tools are simply tools and, like any tool, are only as valuable as the skills of the person using them. For this reason, *mindful integration* is also at the foundational level of how resonant team members interact and work together. The ability to communicate with integration (emanating from genuine *attunement*) is so important that it is the *first practice* of highly resonant teams.

The Seven Practices of Highly Resonant Teams

Practice One: Mindful Integration

Integration has been described in previous articles [20, 21] and chapters [22]. The nature of integration was first introduced by Virginia Satir (which she called “congruence”) [81] and is as relevant today as when she explained it in the 1970s. Based on the many recent contributions to the literature on how people act and react during times of safety and comfort as well as during times of anxiety or stress, many of

which will be discussed in this chapter, mindful integration must exist at a foundational level for achieving team resonance. Integration refers to people's ability to value and to honor their own needs (*self*), the needs of *others*, and the demands of *context* in making individual choices. Integration is first an individual process that begins at the level of emotions and thoughts. This blending of emotions and thoughts can be described as feelings (this sensing is named as feelings because people actually feel them with their bodies). Others [39, 41] have referred to this awareness and ability to manage self, others, and context as *emotional intelligence*. Mindful integration expands these concepts to describe a level of awareness, engagement, and inclusiveness that is required of team members as they attempt to understand and respond to the complex challenges that present in medical systems. Integration is secondly a relational process – one that we have with ourselves, with others, and with our context or environment. Integration is, quite simply, a system requirement and an essential component for members of interdisciplinary teams to communicate and collaborate in a manner that is best suited to harness the collective wisdom of the team and result in best outcomes [99].

Integration requires attunement to self, to others, and to the current situation (context) that is placing demands on the team. Therefore, integration demands that team members be consistently aware of the competing demands of these three elements and find a way to value, *without judgment*, the inescapable and undeniable presence of each of these within the system. Integrated communication arises from this awareness and expresses itself with nonjudgmental acceptance that in all situations the (sometime competing) needs of self, others, and context create challenges. Since the needs of self, others, and context are all equally important and valuable, integrated communication acknowledges with compassion that all of these exist. Integrated communication does not demean or discount any of these elements. Choices or decisions can be made as an “and,” not a “but,” for example, “I know it is your son's birthday *and* I would really value your help with this case.” which might feel

a lot more valuing of someone's needs than "I know it is your son's birthday *but* I need you to stay and help with this case."

The current system of pediatric cardiac care provides limitless examples. A manuscript related to professionalism, which appeared in a surgical journal in 2004 [20], told the story of a young, hardworking cardiac surgeon who is asked by his senior partner to return from a vacation (that he had finally taken with his wife), to assist with an important operation. The story is related as a narrative and many surgeons have commented that it poignantly captured the anguish they commonly feel as they try to balance the competing demands in their lives. The point of these familiar scenarios is not that there is a correct answer. The response may differ in various circumstances. The importance is *consciousness* that the solution is dynamic and not simple and in fact, might have different solutions depending on the unique and changing needs of the *self*, *others*, or the *context*. When team members constantly select a consistent response to challenges, discounting one of the triadic elements as less important (*self*, *other*, or *context*), they risk creation of a system that feels *non-integrated*. Depending on which element is consistently and repeatedly discounted (not valued as important), this can lead to cultures of (1) *blame* (in which the needs of others are not valued by or considered important. This can result in discounting or not listening to others – for example, blame – as people in the system try to protect themselves at other's expense; (2) *placating* (in which one constantly diminishes their own needs to attend to others or to the context, with a huge risk for depression and burnout); (3) *super reasonable* (in which no needs for people in the system are valued – the only "important" need is the context, which risks developing a system that has no room for joy, and this also can result in burnout or dropout); or 4) *irrelevance* (when the stress has become so great that people just want to disengage and no longer participate in helping the team. This is seen particularly in exceptionally stressful or toxic circumstances, and it is an invitation to suboptimal patient care and possibly destructive

behavior – substance abuse and suicide – by team members who have lost the safety and support needed for them to remain engaged) [22].

What is important for team resonance is not that members all be consistently congruent – that is likely not possible – but rather that they have awareness of (and attunement to) the dynamics of integrated systems and a willingness to constantly engage with one another and make it a value to honor the difficult and challenging (and often unspoken) needs of *self*, *others*, and *context*. Integrated communication is nonviolent [79] and seeks to explore in order to understand and connect rather than to harshly interrogate, judge, and fix.

The concept of congruence can be expanded to include both concordance and coherence (see Appendix 1). In fact, learning to behave and communicate with mindful intergration of all system parts is crucial for teams to function with trust and shared understanding.

Mindful integration is a foundation for team resonance because it constantly grounds team members to the need to attune, engage, and be present to one another. Once team members can begin to communicate with mindful intergration, it is possible to engage in the next practice for highly resonant teams.

Practice Two: Invite Learning

It is ironic that most healthcare professionals learned at *teaching hospitals*. A professor at one such hospital once exclaimed, in exasperation: "There is a lot more teaching going on here than learning!" Teaching evolves from knowing and a desire to share with others what you know. In 1998, Parker Palmer published "The Courage to Teach" and each year, the ACGME bestows a *Courage to Teach* award on one of the nation's great teachers. All health practitioners recall their most influential and inspiring teachers with fondness, admiration, and gratitude. We can also recall some of those teachers who made our ignorance feel painful, shameful, and frightening. A "teacher" who contemptuously reprimands a student for "not knowing" or, worse, for being

“stupid, lazy, and insulting their time” does more damage than they likely can imagine. In her work on learning, Carol Dweck [25] describes the kind of attitudes that best correlate with performance excellence, and not surprisingly, they are not related to knowing the answers, but rather to asking the questions, even when the answers seem most elusive. This is why it takes more courage to learn than it does to teach [100]. Learning requires accepting the vulnerability [8] that accompanies “not knowing” and then embracing a willingness to struggle – and possibly fail – while trying to challenge ourselves to think differently or to do things we have never done. Everybody walks because their parents likely created an environment that *invited learning*. You likely don’t remember for yourself, but think of how babies learn to walk. When babies fall, nobody criticizes them for being a failure or tells them that they will never be successful at walking. It is not likely that they will be compared to a sibling who was walking sooner and admonished that they should try to be more like that person. No. They are applauded and encouraged to try again. Until they learn. And adults share their joy in accomplishment. What happens when caregivers and teachers forget how to do that in their teaching institutions? Have they become so fearful of “not knowing” – that it might expose them as charlatans? The rationale can be heard: “we deal with a serious business – life and death stuff. We can’t afford to tolerate those who don’t know or who can’t be perfect. There is too much at stake.” Some individuals actually believe that “it is a good thing that they ‘know’ because what would happen to our patients if it weren’t for them?” An inviting reframe of that last statement is “what ‘could’ happen for our patients if we could let go of knowing and, instead, keep wondering?”

It is unfortunate that a culture that demands perfection has been created, because, in the words of noted historian, Arthur Toynbee, “nothing fails like success.” It is regrettable that most health professionals have been taught that “if you want a job done right, do it yourself,” because this form

of contempt for how other’s might complete a task is a powerful way to diminish innovation and progress. (The statement instead should be “if you want a job done your way, do it yourself.”) One of the babies learning how to walk today will likely set the future record for the 100-yard dash. One of our struggling young students of today may be a future leader in his or her field, but only if we find a way to invite him or her to learn, which means teachers have to tolerate the students’ struggles, encourage them to continue to think differently, and carefully craft an environment that is safe and free from premature judgment.

The demand for perfection stems from the high stakes of what we do – taking care of patients with life-threatening illnesses – and from our hope that all patients will survive to have a normal life [99]. For some, this intent gets entangled with their own sense of worth and esteem – more important than the patient doing well is how they are thought of by their peers, and therefore, they can only be valued if all their patients survive and their peers (many of whom barely know them and have likely never worked with them) believe they are exceptional. The concept that there is a “solution set” that will always create a successful outcome is not realistic in complex biological systems, in which no two patients or defects are exactly alike. Although mechanical systems are expected to perform in a consistently reliable and predictable fashion [50], biologic systems do not behave this way. That is why there is an occasional mortality after ASD closure or why some patients develop early pulmonary hypertension from lesions that should be safe to follow. In his presidential address to the American Association of Thoracic Surgeons, Tom Spray lamented over the impossibility (and inappropriateness) of perfectionism, stating “What we do is hard” [92]. Unfortunately, when perfection is not possible, the delusion that it is achievable can lead to dashed expectations, disappointment, and a “culture of blame” [19].

Another unintended consequence of the striving for perfection is the lack of forgiveness for oneself and for others when the results

aren't perfect. The research on self-compassion [59, 65–67] has been impressive. The ability to have compassion for oneself is directly and positively linked to the ability to learn [25] and to the ability to be resilient and cope with difficulties. When contrasting high self-esteem with or without self-compassion, there is a distinct difference. Self-esteem without self-awareness and self-compassion (recognition and acceptance that we all have experiences of disappointment and failure – that the self is imperfect and still deserves kindness) is often associated with grandiosity and failure to acknowledge what is “real” – a potentially dangerous trait in a healthcare professional [59, 66]. When self-esteem is tempered by awareness of limitations, and associated with the ability to be compassionate toward oneself, this can lead to more genuine (less grandiose) self-esteem that is more appropriate because it is related to the ability to hear feedback (without defensiveness) while still maintaining kindness toward oneself as a *learner* [59]. This is the challenge for us as lifelong learners – to accept that we are learners, meaning there will be times we “don't know” and have to “struggle” as we try to do new things or think in new ways [100]. A system that insists on perfection makes it very dangerous to be a learner and, ultimately, limits our ability to provide best practice.

Carol Dweck is a psychologist from Stanford who has spent decades studying the learning process and has arrived at the conclusion that one of the crucial ingredients of success is the ability to learn from mistakes. Her work is thoughtfully cited by Jonah Lehrer in his book *How we Decide* [60] in explaining the neurobiology of learning.

Lehrer tells a story [25, 60] about Dweck's most famous and for many, most poignant study. It was conducted in 12 different New York City schools and involved more than 400 fifth graders. One at a time, the kids were removed from class and given a relatively easy test consisting of nonverbal puzzles. After the child finished the test, Dr. Dweck and her researchers told the student his or her score and

provided a single sentence of praise. Half the kids were praised for their *intelligence*: “You must be smart at this.” The other students were praised for their *effort*: “You must have worked really hard.”

The students were then allowed to choose between two different subsequent tests. The first choice was described as a more difficult set of puzzles, but the kids were told that they'd learn a lot from attempting it. The other option was an easy test, similar to the test they'd just taken.

When Dweck was designing this experiment, she'd expected the different forms of praise to have a rather modest effect. After all, it was just one sentence. The results of her intervention are described below. Imagine, if a single sentence has the power to create these outcomes, what might result from a pervasive attitude in a system where the sentence is expressed as the organizational value?

Of the group of kids that had been praised for their efforts, 90 % chose the harder set of puzzles. However, of the kids that were praised for their intelligence, most went for the easier test. If we do what works because we think it makes us look good – if we aren't willing to risk failure or struggle as the condition of learning, then we are doomed to stop learning, growing, and improving. We get stuck. There are surgeons who tout themselves as experts, yet they are reluctant to offer new procedures to their patients and simply state: “I don't do that operation.” I myself (RMU) used to say that about the Ross procedure in the 1980s. I rationalized that it was a bad operation (“risk for two-valve disease, etc.”) and encouraged patients to avoid it. What I really meant was that “I didn't know how to do the operation and it scared me to try it,” so I had to find a way to rationalize why I didn't offer it. Fortunately, at the time, I was also learning about fixed versus growth mind-sets [25] and beginning to understand how to find the courage to try and master new things. This is similar to the transition that occurred in pediatric cardiac surgery when transitioning from the atrial switch to the arterial switch procedures. Surgeons had to be courageous enough to learn a new technique, because there was a likelihood that the new

technique might be better even though the previous one seemed to work well. Learners recognize that they need to continue to invite the “discomfort” of not knowing and of having to adopt something new if they are to keep current. The arterial switch is now a standard procedure for infants with transposition of the great arteries, and the Ross operation seems to have considerable benefits compared to other valve replacement procedures for children [1, 54, 69]. Without “inviting learning,” we won’t have progress, whether it is new technology or new solutions (such as new operations or strategies). We are unlikely to develop the skills and experience necessary to deal with challenging new problems if we continually choose the “solutions” that are comfortable in order to feel better about ourselves.

When we are taught to fear failure, we suppress learning. How does your organization handle failure? What happens to people who fail? Are they applauded for their efforts and encouraged to learn what they need to succeed, or are they admonished, punished, dismissed, or ridiculed? Which kind of team do you think would bring out the best in you?

Dweck went on to study this further. She gave the same fifth graders yet another test. This test was designed to be extremely difficult – it was originally written for eighth graders – but Dweck wanted to see how the kids would respond to the challenge. The students who had been praised for their efforts in the initial test worked hard at figuring out the puzzles. “They got very involved,” Dweck says. “Many of them remarked, unprovoked, ‘this is my favorite test.’” Kids that had initially been praised for their smarts, on the other hand, were easily discouraged. They viewed their inevitable mistakes as signs of failure: perhaps they really weren’t smart after all. After taking this difficult test, the two groups of students were asked to choose between looking at the exams of kids who did worse than them and looking at the exams of those who did better. Students praised for their intelligence almost invariably chose to bolster their self-esteem by comparing themselves with students who had performed worse on the test. In contrast, kids praised for their hard work were more interested

in the higher-scoring exams. They wanted to understand their mistakes, to learn from their errors, to figure out how to do better.

The final round of tests was the same difficulty level as the initial test. Nevertheless, students who’d been praised for their efforts exhibited significant improvement, raising their average score by 30 %. Because these kids were willing to challenge themselves, even if it meant failing at first, they ended up performing at a much higher level. This result was even more impressive when compared with students who’d been randomly assigned to the “smart” group; they saw their scores drop by an average of nearly 20 %. The experience of failure had been so discouraging for the “smart” kids that they actually regressed.

The problem with emphasizing “smart” is that it misrepresents the neural reality of education [60]. It encourages avoidance of the most useful learning activities, which is learning from mistakes. In medicine, this may be avoidance of doing the procedure we are uncertain of – staying safe doing what we know – even when the more risky procedure may be better for the long-term benefit of the patient. It may manifest, as it did in the group of “smart” kids, by choosing to compare our programs to those that are worse, perhaps using a nonvalid criterion that favors us, in order to make us feel better. Perhaps this is accomplished by avoiding difficult cases (complex puzzles) or by doing less risky, although possibly less optimal procedures. “Anything to convince ourselves and those who might judge us that we are smart.” Leaders for organizations that will find solutions to rare and unusual problems MUST create an environment where it is safe to struggle as we try new things, even if there is the price of occasional failure. In systems where leaders respond like the fifth graders who wanted to be validated, failure is feared and the eventual outcome is regression. There is no shortcut for this painstaking process.

In order to create a learning environment, leaders have to have enormous courage and vision. Short-term appearances give way to long-term investment. Driven by fear that something might or could go wrong, the prevailing styles of leadership in medical organizations have been

(a) *commanding*, which, used consistently, over time, is a dissonant leadership style (it eventually drives people away) that will produce resentment or disengagement of team members who will eventually try to find a more inviting atmosphere, or (b) *pacesetting* (doing everything and not delegating through a conviction that others cannot be trusted to do things right), which also deters some of the best people in an organization from wanting to participate, since their contributions or suggestions will be rejected. New, more resonant leadership styles invite the knowledge and experience of others [6]. More exceptional organizations are creating leadership programs or sending potential leaders to national programs for leadership training to learn skills of engaging the entire workforce as a process that leads to best care [42, 63, 70, 71, 75, 82, 93, 94, 96, 108]. As leadership styles change from dissonant to resonant, all members of the healthcare team will be reengaged into a more collaborative framework that harnesses the collective skills and experience of the entire team, making individual weaknesses less relevant. These teams also embrace a shared accountability that favors the type of systemic change and awareness required for growth and learning in complex endeavors. In order for leaders to encourage the transformation from knowing organizations to learning organizations [83], their operative *mantra* needs to invite a *courage to learn*.

These leaders have faith in best outcomes as a by-product or “indicator” of processes [53] that encourage creativity, innovation, and growth. It is manifest by open invitation to questions, even when the answers are not apparent, and especially when the answer is apparent. This valuing of genuine curiosity and safety in “not knowing” becomes a value that all the members of the team are invited to practice. Failure is viewed as an opportunity to explore and discover, not as an event to be ashamed of [8]. Each member can be challenged to learn. What don’t you know that you would like to know more about? What can’t you do that you would like to learn how to do? How can a team support, encourage, and wonder more about learning what they don’t know?

The answer, in part, is in the *third practice*.

Practice Three: Push the Up Button

There has been a lot of research [33, 35, 44, 46, 61] examining successful (high performing) compared to unsuccessful (low performing) relationships and work teams. In fact, recent research on creating great teams has indicated that *how* we communicate is far more important than *what* we communicate. [73] The result of all this research is astonishingly similar. There are ratios that can be measured and that seem to consistently distinguish high performance from low performance. The most important of these ratios is the one between *positive* (P) and *negative* (N). The ratio always finds P greater than N and ranges between 3:1 and 5.8:1, depending on whether the relationship being studied is between two individuals (3:1–5:1) [33–35, 44, 45] versus a work team (5.8:1) [61]. The important point is that positive has to outweigh negative. (Stated differently, the negative is a more powerful influence than the positive and it therefore takes more positive to counterbalance the negative.) The other important point is that negative is never zero. There has to be permission and space for conflict or imperfection. Negative elements contain valuable information and can contribute to highly functioning relationships as long as they are outweighed by a lot of positive emotions. Resonant leaders [6, 39] understand this and strive to create environments that promote positivity. We call this “pushing the up button.”

There are many ways to enhance this on teams. In his book, *Results that Last*, Quint Studer [96] describes a behavior that he terms “*managing up*.” This behavior is an easy and powerful way for a team to push the “up button” and to suppress a “we/they” phenomenon (making oneself look good at the expense of others – a core element of blaming) that can create polarization and dysfunction on a team. As discussed above, this blaming phenomenon is particularly common in healthcare because the stakes of what we do, life and death, are so high. We have learned to be critical. So, when something is not going well, it is common to “blame” the administration for not being responsive to our needs, or the trainees who just

don't know what they are doing, or the nurses, or the surgeons, or the intensive care staff, and so on. Managing up is an organizational commitment to describe what people on the team are doing to make things work well. It requires a trust that everyone in the organization is committed to doing "good" and finding examples to demonstrate that. For example, a cardiologist might say to his or her catheterization team: "I know this case is difficult and that is not lost on our administrators. They want to know what we need to help us work better." Or an administrator might come to the ICU and tell a nurse: "Shannon, our chief surgeon tells me what an outstanding job you are doing with his most critical patients and I want you to know how much your work is appreciated." Or perhaps as one intensivist is signing off to another, they might tell a family: "Dr. Logan is now taking over for me. She trained here and is one of the best doctors to come through here in years. She is going to take wonderful care of your daughter." (Contrast this to the more damaging comments: "Our administrators don't care at all about how much we struggle – it's amazing we do as well as we do." Or an administrator walks through the unit and just misses a chance to manage up. Or, instead of the sign out described, the intensivist comes back to work in the morning and makes a comment during rounds – overheard by the family: "Logan had no clue what she was doing last night. It's a wonder this girl is still alive.") We versus they. The contrast between how these two types of teams function is extraordinary.

In the past decade, much has been written about the pressures inherent to the demands of becoming and practicing as a professional [21]. Some have described it as a lifestyle choice in which the professional demands leave little room for the balancing of relationships with one's self and others. The prevailing cultural value has been that physicians must, of necessity, sacrifice thoughts of their own needs or the needs of their family in order to place all attention on the primacy of the needs of their patients. This has created the belief that *we* (the healthcare providers) don't matter – the only one who matters is the patient. Unfortunately, this disregard to

one's own needs leads to an insidious inability to connect to the needs of others. Without the ability to find a way to genuinely honor and value our own needs, our attention to others (whether they be team members or patients) becomes artificial and obligatory – rarely driven by genuine compassion and concern. In the previous section, we described this as a form of *non-integration* (super reasonable) that, over time, feels dehumanizing. An important way to push the up button is to emphasize and encourage work-life balance (or what we term work-life integration, since balance suggests an equal allocation of time to work and to other life's needs, and that is rarely achievable or even desirable). Instead, we believe that emotional health requires the ability to make choices that consider the needs of one's self and others (e.g., team members, family members) and the demands of what we do (context) in a dynamic system that allows for flexibility. This is what was referred to above as integration [20–22, 99, 100].

The problem with a culture of personal denial is it is not sustainable. Over time, the physician who embraces the belief that he or she has no personal needs is at risk for burnout, depression, anxiety, chronic fatigue, substance abuse, divorce, or suicide [3, 5, 9, 14, 15, 20, 21, 24, 27, 28, 32, 48, 55, 68, 84, 89, 91]. Not only is it irresponsible to encourage people to enter a career that risks these outcomes, but *lack of self-care, with its attendant consequences, has been definitively linked to errors and other forms of impaired outcomes for our patients* [7, 21, 24, 26, 49, 85, 102, 106].

It is ironic that we have inadvertently created a culture that emphasizes denial of the personal needs that make us truly human while simultaneously requiring that we cater to the very real needs and demands of the humans we serve, work alongside, and seek to heal. The link between physician wellness and quality [85, 102] is becoming more apparent and increasingly more important. Although held in disdain by some, encouraging work-life balance for healthcare providers is emerging as a major factor in improving outcomes [21, 55]. One of the preeminent leaders of business transformation and

growth, Peter Drucker, addressed this in his classic article on *Managing Oneself* [23] which is consistently reprinted by Harvard Business Review in their annual issues on leadership. Self-awareness, self-management, and self-regulation comprise the cornerstone of emotional intelligence [10, 39] and are being linked to quality in every professional enterprise, including the practice of medicine and surgery. The journey to the self is an essential path to leadership [100] and may be the core work that can help us achieve the type of outcomes that are possible in our field. Stated succinctly, you cannot manage others if you cannot manage yourself; you cannot genuinely care for others if you do not find a way to genuinely care for yourself; and you generally can only give away to others what you yourself have to give – so if you have disdain for yourself and your needs, then you will likely give disdain to others for their needs. And who would ever want to work with or try to perform their best for someone like that? Unless they have to.

Pushing the up button involves all the things that leaders and team members can do to elevate the excitement, support, and camaraderie shared among team members. Sarcastic, teasing humor is eliminated and replaced by genuine caring about how to help all members of the team be the best they can be. Pushing the up button is an antidote to medical errors that result from burnout. Unfortunately, not all medical errors come from burnout, which is why there is another practice.

Practice Four: Create Systems with the Outcome in Mind

Paul Bataldan wrote that “every system is perfectly designed to give you the results that you get.” So if you don’t like the results you are getting, then you had best look at your system (not the people) and design it to provide more of what you want. In his work with High Reliability Organizations and High Consequence Industries (and the field of children’s heart care would certainly qualify as one of those), Karl Weick [103]

emphasizes the importance of systems that harness the collective wisdom of the team. In high-reliability organizations, the most valuable person on the team is the person with the most relevant information at each moment in time, and therefore, the system needs to provide safety for each team member to speak up and share.

Have you ever played the game where everyone in a group selects a playing card and without looking at it, places it facing out in a headband on their head? They then spend several minutes relating to one another according to the hierarchy of the cards, so that the person with an ace (ace is high) or a face card is treated differently than someone with a 2, 3, or 4. Seems ridiculous since it discounts all the unique talents and skills that each person might otherwise contribute to the team, yet this is how our organizations sometimes act. Harnessing all the members of the team is the basis for cockpit resource management (CRM) [107] – the process created by the FAA to reduce fatalities from airline crashes. Prior to the institution of CRM, the hierarchical system of the cockpit, with the pilot in command having complete charge over the first officer and anyone else on the plane, could lead to fatal mistakes (termed by the FAA as pilot error – or the human factor). Malcolm Gladwell writes about the consequences of mitigated speech [38] in dysfunctional airline teams where the hierarchical relationships override permission for someone with important information to speak up. As a plane approaches a mountain, instead of demanding the pilot to “ascend,” a subordinate without permission to speak up might say “that mountain sure looks pretty when we get this close to it” and just hope their message gets across in time. In an effort to improve outcomes and reduce errors, methods of cockpit resource management (CRM) [107] and checklists [36] have begun to invade our practices, especially our operating rooms. They are undeniably helpful and useful. But they will not function optimally if they aren’t utilized in an environment that permits open and noncritical communication [62]. The risk to patient safety and best outcomes in hierarchical organizations is the suppression of bottom-up and horizontal communication that is necessary to

prevent errors or to introduce new ideas. In one particularly toxic organization, a surgeon “fired” an experienced operating room nurse for “insubordination” because she told him, prior to the case, that the family who he had not yet met – the consent for surgery was obtained by a junior team member – wished to speak to him before he made the incision. This nurse “spoke up” without being asked and with the intent of helping the surgeon and the family establish an important relationship that, while it might not change the operative procedure, would change the comfort level of the family as they anxiously waited for the outcome. The nurse later confided that it was a relief to no longer be a member of that team that didn’t value her input and that she felt that she had witnessed numerous patient safety issues. The tragedy is that our profession “lost” the future contributions of an experienced and very capable team member. How will this loss be manifested for that team in the future? Of course, a surgeon like that won’t even bother to read this chapter – he is already convinced that he is gifted and none of the team members can contribute to his skills! The extreme side of poor communication is the reluctance of healthcare workers to speak up when the risk to them for doing so is admonishment, ridicule, or dismissal (being *waved off* or *waved out*) [2, 18, 37, 64, 101]. In the airline industry, the reluctance of a team member, such as a first officer, to speak up, or the use of “mitigated speech” (language that is non-direct but less risky), has been shown to result in fatal crashes [38]. A system that encourages speaking up when a team member is concerned will only work when there is experience in the system that speaking up is safe. The risk of hierarchical relationships is the inhibition of some team members to speak up when they see or know something that might be important, and this can have devastating consequences. It is incumbent on the team leader to create an atmosphere of psychological safety (it is permissible to “not know” or to say something to anyone that might be important information). In her work with cardiac surgical teams, Amy Edmondson from Harvard cites the need for psychological safety [29] for all team

members so that they can speak up without fear of reprimand, ridicule, or repercussion. In fact, in tracking the kind of outcomes desired by surgical teams, the presence of psychological safety – the permission for team members to speak up freely when they have a concern becomes more important than efficacy – the ability of team members to perform their stated jobs. None of us is as good as all of us.

An excellent example of this occurs in the movie, *Master and Commander*. Russell Crowe is called to the deck because the lieutenant on watch thinks he sees an enemy frigate through the fog. But the lieutenant is not sure and appears a bit intimidated that he is being asked by his captain to stand by his claim. Crowe looks at another of the men on watch and asks: “Did you see it.” After hearing the second man’s reply of “No, Sir,” Crowe could choose to admonish the first lieutenant, but instead he says: “Very well. You did the right thing. Go back to your station.” In actuality, there is an enemy ship out there beyond the shroud of fog, and by checking out this information, Crowe is able to save numerous lives on his ship. But imagine if instead, he rebuked or ridiculed (such as with the use of sarcasm, as we often see in medical settings) the person on watch. Even if there were not an enemy ship, would that person have felt safe speaking up the next time? How do you treat your teammates when they make a suggestion? Especially a suggestion you disagree with? And how do you reject those suggestions? Do you do so in a way that invites future participation? Research has shown several ways of improving relations among members of a team, and perhaps one of the most effective is to “accept influence” (as Russell Crowe did in the example above) from others. In a hierarchical organizational structure, it is easy to fall into a pattern of top-down decisions, even though vital information may be trying to burst up from below – and is available to the trained leader who listens, invites engagement, and accepts influence so that all team members feel invested [46].

Even in systems designed to permit open expression of concerns or observations, the human factor can result in unanticipated errors

from omissions or oversight. In the past few years, this has led to a resurgence of checklists and time-outs to enable team members to go through a regulated process that helps prevent errors from mistakes. Atul Gawande provides an outstanding overview for the power of this type of process in his recent book, *The Checklist Manifesto* [36, 37]. Simply stopping prior to a planned procedure to review for critical (he calls them the “killer”) oversights can prevent errors. “Are the antibiotics in?” “Is blood in the room?” “Any allergies?” Introductions by team members to help improve communication. A review by the lead surgeon or cardiologist of the procedural steps (to make sure all the necessary equipment and supplies are available and at hand). And finally, the most important sentence of all: an invitation – in fact, a mandate – for anyone to speak up at any time *if they have any concerns*. As Edmondson states in her work, this usually only happens when the team leaders have made it safe to speak up. This is why our processes for creating better teams have to integrate with our understanding of how to make these processes effective. A checklist might help us avoid an error of omission (the blood not being in the room for a redo sternotomy; an allergy to contrast dye in a patient about to receive an angiogram), but it won’t always prevent us from making judgment errors, technical errors, or errors of commission. However, someone’s courage to speak up with suggestions or concerns might help us reduce the latter. A checklist can create consistency of process, but it might inhibit us from deviating to seize an innovative opportunity. A checklist might provide a forum for conversation, but it won’t create attunement. And although we can require team members to speak up if they have a concern during the case, they may not do so if they are chastised or sarcastically ridiculed once they do.

There are other important elements to this fourth practice of highly resonant teams. In order to create processes with the outcome in mind, we have to generate clarity about the outcomes we desire. Outcomes should be measurable and they should reflect precisely

on the quality of the work being performed. Since outcomes are indicators of what is being done, they are the result of processes or *drivers* that can be controlled. A properly selected *driver* will be intimately connected to the desired outcome. If we want speed, we step on the gas pedal. If we want a certain result from our cardiac team, we have to do something. Identifying that something is the challenge for highly resonant teams. Kaplan and Norton provide an intriguing method for creating this with the concept of the *balanced scorecard* [53]. Their “strategy-focused” organizations were designed to engage all the members of the organizational team in a commitment to identify and contribute to *drivers* that created the outcomes (*indicators*) that were desired. Drivers were usually related to education and learning and to tools that could be developed as a part of the internal business plan. The result of putting energy into the correct drivers is to see *eventual* improvement in the outcome indicators to which they are linked. If you are able to know what you want to see, and if you can identify the drivers that will lead to that, then all you need to do is keep fueling the drivers. This is difficult in the field of congenital heart care where outcome parameters are difficult to define and oftentimes are influenced by variables in complexity and sample size so that they are difficult to interpret [99, 104, 105]. If the team isn’t careful, it can become so focused on the outcome that it loses connection to the drivers and begins reacting to the last case or to the last set of experiences rather than staying steadily connected to the processes that are important. It is also possible to create unclear outcomes. For example, if the team wants a low mortality rate, then they simply have to avoid high-risk cases or do lower risk (but possibly suboptimal procedures) for their high-risk patients, such as staging patients to a Fontan when a two-ventricle repair, although feasible, seems too risky. In this manner, the patients may survive to be discharged from the hospital (if that is how the good outcome is measured), but that team hasn’t really created value for the patient, who might not have the best long-term outcome.

The ability to identify the correct drivers – the ones that will ultimately result in desirable outcome – is made even more challenging by the fact that we work in complex adaptive systems as opposed to mechanical systems. Mechanical systems are easier to understand and control. An elevator is a mechanical system. So is a heart lung machine or an airplane. When you push the button in an elevator to go to the 5th floor, the elevator is supposed to take you there. Likewise, when you turn up the flow on a pump head of a heart lung machine or pull back on the throttle of an airplane, you are supposed to get a predictable response. Mechanical systems are characterized by predictability. They lend themselves to checklists and task orientation. Emergent (creative, innovative, unconventional) behavior is discouraged in mechanical systems, since they are supposed to be routine, repeatable, and predictable. These systems support linear (if this, then that) thinking where there is one correct answer and that correct answer is the previously experienced outcome that is expected from the action applied. When a different outcome occurs (e.g., the elevator keeps stopping on the 3rd floor when the button for 5 is pushed), then someone is assigned to interrogate, judge, and fix the problem. Complex adaptive systems (e.g., biologic, human relationship) are unpredictable and variable. By nature, each system is different and does not lend itself to checklists. In fact, these systems can vary day to day and do not respond to a task orientation as much as to a relationship orientation – a collaborative, connecting inquisitiveness designed to enhance change and growth. (We once had to remind a surgeon that his wife was not a checklist!) Because of the unique challenges of complex systems, emergent (creative) thinking can provide outstanding solutions and problems often have multiple possible solutions. The key to managing complex adaptive systems is to explore with genuine curiosity in order to understand more about what is happening. People don't like to be treated like mechanical systems – they don't like to be “interrogated, judged, and fixed.” They do like being understood and joined. In order to be successful in

healthcare of systems, leaders of teams need to develop both left brain (logic, pattern recognition, strategic thinking, knowledge, and past awareness) and right brain (big picture orientation, identification of possibilities, spatial perception, risk-taking, future focus, and imagination) functions.

Creating processes with the outcomes in mind is a complex adaptive challenge. Our outcomes are difficult to measure and although every team wants to be excellent, careful questioning of team members often demonstrates that there are numerous definitions of what is meant by excellent. For some it might be the way the team functions – how it feels to be a member of the team. For others it might be the measureable outcomes (mortality and morbidity). And for others it might be how much they are challenged to learn and to grow. For some it might be an intuitive sense of safety and that patients are being well cared for. For others excellence might be simply related to volume and market share. In his book, *Good to Great* [13], Jim Collins describes the *hedgehog* principle – the thing a company can do to distinguish itself as great. It is different for each organization, *and* there is something for every organization that can help them achieve this level of excellence. But identifying this distinguishing characteristic is difficult and elusive and takes careful, agonizing thought. It can take years to identify. Our job, in our own complex adaptive organizations, is to determine what excellence means to each members and how to acknowledge the individual definitions (dreams) while crafting the overall organizational vision and mission.

As we move our teams toward those performances that can distinguish them as great, we need to be mindful of a pitfall created by our medical culture, and that is the basis of the next practice.

Practice Five: Be Flexible and Stable

When Moses received a revelation from God called the Ten Commandments, they were given

to him carved in stone. Carving in stone left little option for discussion, exceptions, or modifications. They were indelible.

We are accustomed to being governed by rules. When we were young, rules were created to protect us. “Don’t cross the street without holding a grown-up’s hand.” “Don’t put your hand in fire.” “Wash your hands before eating.” Some rules were created to protect others as well. “Thou shalt not kill.” “Treat others the way you would like to be treated yourself.” “Don’t speed or go through red lights.” The problem with rules is that they can become rigid and inflexible (indelible), even though the context might change. At what age did you realize you could safely cross the street without holding the hand of a grown-up? Are there times when you have driven through an intersection even though the light was red (perhaps at 3 in the morning when there was no traffic and you just wanted to get home from the hospital)? In his lifelong work on creating healthy attachments and integrated minds [86–88], Dan Siegel has written about the importance of a balanced approach to rules, which he terms *FACES*: flexible, adaptive, coherent, energized, and stable.

Flexible and stable are not mutually exclusive and, in fact, are necessary for healthy growth. The two elements found as “brackets” for *FACES* work perfectly when balanced, but become distorted at either extreme – where flexibility can become *chaos* (complete lack of consistency) or stability can become rigidity (indelible without ability to consider other options).

The question that healthcare providers must consider is what are the rules under which they operate? Are they indelible, or are they open to modification as situations and technology change? For example, if a cardiologist was trained to always look at the ECG when evaluating a new patient, that might be a very important part of their ability to understand the nature of a heart defect. But what happens to that cardiologist when a patient presents in critical condition with an echocardiogram diagnosis that suggests immediate institution of PGE1? A flexible

approach, governed by a stable commitment to patient welfare, would be to begin an IV and start PGE1 – and get the ECG later. A rigid approach would be to insist on an ordered sequence of diagnostic information and withhold PGE1 until ALL the information is complete. On the other hand, suppose a surgeon has a “rule” that cardiologists can’t be trusted and that it is better to just explore the anatomy at the time of surgery? In the 1960s, when cardiologists were certainly trustworthy, but had limited ability to make diagnoses, this rule might have been useful in some circumstances. Some surgical trainers passed this rule down to their trainees (and in some cases, also passed along the contempt for their cardiology colleagues). A surgeon in the modern era who operates inflexibly according to this rule would likely have problems planning an appropriate approach to some patients, especially since modern diagnostic information from echocardiography and other imaging modalities, including MRI and catheterization, can help enormously in operative planning. However, the surgeon who demands multiple, expensive, and time-consuming tests when a specific patient has had adequate diagnosis and requires surgery is creating an opposite kind of inflexibility. Stability comes from conscious adaptation to each situation, coherent intra- and interpersonal communication to understand better the experiences and thoughts of others as well as what might be operating internally that is driving behavior or choice making, and a sense of being energized about the process that each patient invites for us as we formulate their best care plans.

Our rules also invade our expectations for ourselves and for others and can create conflict when others don’t share our rules or have conflicting rules of their own. Can you imagine the dynamic between two people who learned different rules to govern their relationships with others – one learned that in order to be successful, they should always treat others with respectful consideration, while the other learned that it is a “dog eat dog world” and to annihilate and to not to give in to anyone if you want to succeed? We work in a culture governed by the rules that we have invented – in fact, aren’t all rules

“invented?” In general, ours is a culture that values work, but not always time away – how many times are you asked at a meeting: “Are you busy?” Are you ever asked: “Are you getting enough time to live the life you want?” We have a rule that leadership should set the “example” and demand perfection – meaning you should only follow their example and do it their way – leaving little space for the emergent behavior that can help complex adaptive and human systems prosper. In our invented culture, people are expected to behave like machines – indefatigable. To admit exhaustion, such as canceling a case because we were awake all night tending to another problem (in the hospital or out), is considered a sign of weakness. We are supposed to be experts, so asking for help might also be considered a sign of weakness. Multitasking and not admitting to being affected by stress – both forms of self-neglect – are applauded and considered to be the attributes we should embrace.

Many of us have gotten inoculated with “hurry up” disease [90]. You may recognize the symptoms: You are in an elevator bay and the “down” button is already lighted, but you push it repeatedly anyhow. You believe that every stoplight is turning red out of sequence just to make you stop at every intersection. You get impatient with the recorded options being given to you on the phone call you have just made and you begin to push the “0” button repeatedly or yell at the recorded operator expressing your frustration. You are having a conversation with someone (a spouse) and you walk away in the middle of their comments to you (or worse, yours to them) because you are trying to do something else simultaneously. You find yourself getting angry because the person in the grocery line in front of you is stopping to chat with the clerk. It goes on and on. Why do we choose to live like this? Yet, we have an operational “norm” in our work that states: “I handle stress well.” What we need is education on how to live life on life’s terms.

How many of us have actually been trained to recognize when we are stressed, much less ways to manage it? The implication of this for quality and outcomes is that none of us can offer our best

once we have gotten swept up in the amygdala hijacking of stress [43]. We fall into time-worn patterns and often these are ones of blaming others, placating to try and make everyone happy (an impossible task), trying to outthink the problem (super reasonable), or just extracting ourselves from meaningful involvement (disengagement, which then makes us irrelevant). Learning to recognize and manage our stress is a lifelong challenge. In the process, we move from *unconscious incompetence* (we don’t even see how ineffective or out of control we are), to *conscious incompetence* (self-awareness – which is the first important step for change), to *conscious competence* (we begin to learn and practice skills to manage ourselves), and eventually to *unconscious competence* (we have integrated new skills in a way that we have changed). This process is circular and repetitive as we continue to learn.

Our field of pediatric cardiac care will never be devoid of stressful circumstances. Most teams perform just fine when there is no stress, but their ability to function well when there is stress can mean the difference between outstanding and simply average outcomes. Recognizing and managing stressful situations require enormous practice, especially by the team leader, but there are numerous techniques available that can be learned [11, 12, 31, 43].

If we don’t force ourselves to consciously examine our rules and transform them into guidelines, we run the risk of being overrun by inventions of the mind and missing opportunities for change, growth, and learning. On the other hand, if we fail to create basic guidelines, connected by core values and principles, we run an equal risk of chaotic, unreliable, and inconsistent decision-making that can be just as confusing, disruptive, and damaging to our patients and to the individuals on our teams. We recommend that team members carefully examine their “rules” – and that they openly discuss the drivers of their individual actions and behaviors. This type of open forum (often led initially by a skilled facilitator) can help team members recognize and become aware of differences between each other, as well as their similarities. As stated above, teams are

complex adaptive systems and require curious exploration aimed at creating understanding and shared meanings. If teams are managed as mechanical systems that should be constantly told what and how to do things, and interrogated and “fixed” when something goes wrong, that team is doomed to fail – in fact, they already have and are just not recognizing or admitting it. Virginia Satir once wrote that it is “in our similarities that we connect, and it is in our differences that we grow.” Teams, or organizations, that are committed to only seeing things one way won’t grow, and the danger of rigid adherence to rules is the prohibition of the kind of creative thinking that can lead to desirable, disruptive change. [74] Automatic or reactive thinking – the type that comes from rigid adherence to a rule – can obscure subtle and meaningful deviations in patterns that, if recognized, could lead to innovative actions and improved outcomes. This is how errors occur. We fit circumstances to our rules – it is why it is so difficult to be an editor – we can easily miss the duplicated word (unless it is underlined in green thanks to grammar check) because our brain automatically tells us what the sentence is supposed to say. We encourage mindfulness to assess each situation as unique and not to try and make them fit our rule. Look for the exceptions. Dan Siegel has termed this YODA – “you observe to decouple automaticity” [88]. Once the members of a team can identify their basic core values and principles, then they can transform their rules into guidelines and understand the exceptions to their rules that can create energy and growth, consistency without rigidity, flexibility with stability. The team begins to adopt an understanding of what they are, which is why the next practice becomes so important.

Practice Six: Share Accountability

On October 14, 2003, the Chicago Cubs major league baseball team lost to the Florida Marlins (who eventually went on to win the major league baseball world series) in the sixth game of the National League Championship Series. The loss by the Cubs was blamed on Steve Bartman,

a Cubs fan sitting in a row of seats near the left-field foul line. In the eighth inning of the game, the Cubs were leading 3–0. The Marlins already had one out and when the Marlin’s batter, Luis Castillo, hit a fly ball toward the left-field foul line, Bartman (as fans are allowed to do) reached over to catch it. Actually, replays confirm that the ball was actually going to and in the seats and not in the field of play. He deflected it and it fell to the field inches away from the glove of Cubs outfielder, Moises Alou. Had Bartman not deflected the ball, Alou could likely have caught it (or so he claimed later), resulting in the second out of the inning and putting the Cubs 4 outs away from qualifying for their first world series since 1945. The Cubs pitcher, Mark Prior, was pitching well and it seemed that the Cubs were on the verge of making important team history. Important history was made, but not what was hoped for by Cubs fans. The dropped ball was considered just a strike and Castillo went on to walk when Prior was unable to get him out on subsequent pitches. The next batter for the Marlins singled, and the next hit a ground ball to short which could have been a potential inning-ending double play, but it ended up going under the glove of the Cubs shortstop and all base runners were safe. The Marlins went on to score 8 runs in the inning, handing the Cubs a crushing defeat from which they never recovered (the Cubs lost the decisive game the next day, giving up a lead late in the game, and have not won a play-off game since that time). The debacle was termed the “Bartman incident” and Steve Bartman required police protection and suffered for years from criticism and blame for costing the Cubs their chance at the World Series.

Does any of this sound familiar? There is a bad outcome and the members of the team decide who to blame. We know of two pediatric cardiac programs that have actually constructed committees that are designed to assign blame when there is a bad outcome – under the auspices of quality improvement and learning. Who would want to work in an organization like that – unless they were on the committee and committed to deflecting the blame from themselves?

In 2001, a team of very skilled, qualified, and exceptional individuals at one of this country's leading hospitals transplanted an ABO incompatible heart into a 13-year-old girl, who subsequently died. This incident boiled on national television until the blame was given to one individual who accepted accountability in what was, to us, one of the most disturbing and poignant examples of public team destruction that we have ever witnessed [19].

What really happened in these and other similar incidents? Some experts on error theory have described the Swiss-cheese model, where the unfortunate oversights or mistakes made at several levels conspire to get past all the checkpoints designed to prevent those errors. The problem is that there is someone at the end of those aligned holes who gets the blame. Look at the famous Bartman incident. Mark Prior walked the batter who could have been out. He then gave up a base hit to the next batter. Then there was an error by the Cubs shortstop that should have ended the inning with the Cubs still in the lead. Subsequently, the Cubs pitchers gave up more hits and more walks, and the Cubs outfielders made more errors (that led to more runs). Bartman was a spectator. A fan who was caught up in a moment of thrill that he might catch a foul ball during a championship game – a ball that was close enough to the foul line that he might be able to catch it. Where was the accountability by the players, many of whom subsequently failed to do their jobs well? And what about the incident of the “botched” heart transplant? There were numerous people who could have, perhaps should have, caught the type mismatch and said something. But they didn't. Why? Perhaps there was no psychological safety to speak up when the locomotive of impending transplant was barreling down the track. Or was the mismatch simply unrecognized by numerous people? And why didn't the leaders of the institution acknowledge this as a systems error – and find a way to still commend the excellence of their team members (who truly were excellent and still are despite this unfortunate occurrence) instead of allowing the blame to fall on one member of the team? More importantly, what happens to us when someone,

who is not we, but who is on our team gets blamed? Do we feel relieved that at least it isn't us? Or do we feel sad because there was a bad outcome that we might have been able to help avert?

Regardless of whom we choose to blame, a bystander or a team member, the outcome doesn't change. The team loses the game, even an important game. Or worse, in our profession, we might fail to save a patient from their disease. It feels bad. We wish it didn't happen. We might wish that we could do it all again in the hopes of achieving a better outcome. In golf, this kind of “do over” is termed a Mulligan. Many people who play golf always wonder why that second shot is so much better. But, our field doesn't give Mulligans. And occasional shots, despite our best efforts, go awry. Great teams find a way to recover from adversity – they develop a team resilience that is important to identify and to understand. How do they do this? How can they avoid being dragged down by adversity and find a way to succeed again, often in remarkable fashion?

The answer lies in acceptance of the outcome *and* recognition that it belongs to the entire team. We term this shared accountability. The team wins or loses together. Many studies on errors have demonstrated that it is often the culmination of a lot of minor errors by multiple people that led to one, final, critical mistake. These minor errors are occasionally termed near misses. Some of the practices described in this chapter can help to reduce errors, but will not eliminate them. In complex adaptive systems, errors will happen. How we manage ourselves and learn from these experiences is what distinguishes the great teams from the average or poor teams. A technique that can be helpful is to use the team QI (quality improvement) sessions as an opportunity to improve team cohesiveness. Instead of trying to determine who (or what) was at the end of the error sequence (root cause) and therefore responsible, try having each member of the team express what they might wish to do differently the next time. What did they do, or didn't they do and wish they could have done, that might have contributed to the undesirable outcome? We did this

once with a team and a team member ducked their accountability by stating “Well, I wasn’t there that day.” We pointed out that this was a perfect example of the fragile and important interconnectedness of a team. The simple loss of the potential contributions from that member on that day was an important deficit to the team. Although none of us can be there all the time, we should appreciate, value, and honor the important reliance we have on one another. None of us is indispensable or more (or less) important than anyone else. As team members begin to share accountability, they take on a unique understanding of the complex nature of congenital heart problems and the importance of all team members to the outcomes. More recently, we were asked to work with a team that encountered an unfortunate occurrence. When we asked each person to discuss what they would like to have done differently, one individual kept insisting that they wouldn’t have done anything differently – that they didn’t do anything wrong – had done everything “by the book” and would not have changed a thing. We wondered out loud to this person how many of these sessions they would be able to tolerate coming to if the same actions produced the same results before they might be able to reflect on something they would like to try differently. In their book on *Mistakes were Made (but not by me)*, Tavris and Aronson [98] emphasize the human capacity to create schemas that continually support their beliefs. We see what we choose to see and hear what we want to hear. How often do perfusionists worry about the neurological outcomes or the postoperative convalescence of patients? Or how often does an OR nurse come to the ward (or even be granted time to do so) to see a child a few days after surgery so that they can gain appreciation for the life of the patients who they generally only see in the OR? How often does a cardiologist come to the operating room to *encourage* the surgeon during a challenging repair? How common is it in your program for a surgeon to go, unsolicited, to the echo or cath lab to simply see how his or her colleagues are doing, offer morale support, or discuss a challenging patient? At the completion of

a surgical case, how often have you heard the surgeon ask the anesthesiologist: “Is there anything I can do to help you?” How often do we “manage up” our colleagues? We see all of this on great teams. Is there a palpable sense of esprit de corps? Or is the palpable sense one of the people staying under the radar? Great teams rally together when there is difficulty. They openly discuss their experiences as shared, team experiences and try to explore ways to help one another.

In his seminal work on relationships, John Gottman [44, 46] found that there were four behaviors that destroyed relationships and teams: stonewalling, defensiveness, criticism, and contempt. We see all of these on low-performing teams. Stonewalling is an avoidant behavior by leaders to acknowledge problems. Their common statement, if you could even engage them, is “I don’t want to talk about it.” Important topics become off-limits, and if you try to bring them up, these leaders will either change the subject or withdraw and ignore the issue. When there is stonewalling on a medical team, it is difficult to solve problems because the problems aren’t allowed to exist. The antidote is for team members to support one another when there is a difficult issue. Make it safe to struggle and encourage learning. Teach stonewallers how to self-soothe – how to disengage constructively; find a way to breathe and accept the difficulty of the circumstance so that they can reenter with a positive attitude aimed at contributing to solution, not ignoring a real concern. Defensiveness is the “flip side” of blame. When someone says “I didn’t do it,” it is tantamount to saying “She did it.” Defensiveness occurs when it is dangerous to take accountability. On these teams, excuses abound and the common statements that you hear are “Yes, but...” The antidote to this is teaching the courage to fail and to learn by accepting some accountability (notice, we didn’t say all accountability) for a poor outcome. In organizations or on teams that transform defensiveness into shared accountability, it is safe to accept accountability for one’s part in an outcome, and when the self-accountability of all team members is counted, there is a *shared*

accountability that is healthy and life giving for teams. Criticism is common on medical teams. It seems to be a part of the medical training culture, and the common phrases associated with it include personal attack with rampant generalization: "You (personal) never (or always – general) . . ." It is difficult to create an environment where it is safe to take and to share accountability when there is risk to being attacked and criticized. This can be imagined as taking a soccer ball and putting it inside someone and kicking them around. The antidote is to take the soccer ball out of the person and let everyone on the team kick it (the problem) around. It is no longer personal. It belongs to the team. "We aren't getting good results with such and such disease. What can we do so that we might all get better at this?" This is very different than putting the responsibility into one person: "You need to get better at this because you never seem to get this right." Ouch! Finally, there is contempt. Perhaps the most destructive of all the four behaviors, contempt doesn't even require a common phrase. Surgeons, unfortunately, have learned it well. A simple roll of the eyes or a sneer may be all that is necessary to show disdain for someone else or for their ideas. Contemptuous behaviors include insults and sarcasm. There is no role for biting sarcasm on a high-performing team. The antidote to contempt is the exploring and appreciation for differences among team members that comes from *attuning*. Great leaders and great teams appreciate and value the unique attributes of each member, and each member of a team has something uniquely valuable to offer, as long as the team members can recognize it, appreciate it, and harness it. This requires the ability to listen to others and to honor and try to understand their perspectives, even when they are different than yours.

Shared accountability is an attribute that is unique to successful teams, whether they are medical, business, sports, or families. It prospers in an environment that cultivates psychological safety [29] and is prominent in great organizations and in great leaders [13]. It is not likely that a team will sustain greatness if individuals on the

team are unable to simultaneously explore their own self-accountability and encourage others to share the same. Ironically, the ability to be accept one's own accountability (with self-compassion) while inviting others to do the same may be the single driving factor that can help teams move from good to great. In more recent research [47], Gottman has emphasized that the most important element in relationships that succeed is that the partners feel that the other one has his or her "back." What stands in the way? That is why there is one final practice that is important in order to achieve resonance as a team.

Practice Seven: Be an Upstander

Unfortunately, not all people belong on a team. The research is clear that there are some individuals who are incapable of the kind of self-awareness, self-accountability, honesty, and compassion for others [4, 95] essential for attunement and congruence. These individuals are often characterized by lack of conscience for the impact of their behaviors on others. They have a notable lack of self-awareness, manifested as deceit, grandiosity, extreme self-focus, and inability to learn from or to be accountable for their actions. When we have given our talks around the country, someone invariably asks how to deal with these types of team member, and we have received so many requests related to this topic that it finally became apparent that we needed to include this final, essential practice for creating team resonance.

Cultivate the willingness to stand up to bullies as both an individual and a team attribute. This is not an easy task. Albert Einstein once stated: "The world is a dangerous place, not because of those who do evil, but because of those who look on and do nothing." When a team member witnesses acts of "violence" against another team member (and this can be nonphysical, verbal, or relational), it is imperative that the system allows for and encourages them to speak up or the disregard will continue and eventually have the potential to harm patients who depend on the team function, as well as the individuals themselves who no longer feel valued and

included by the team or worse, safety as a member of the team. In the words of Hannah Arendt, "the problem.....after all, was not what our enemies did, but what our friends did." Or in some cases, didn't do. On resonant teams, the health of the team is paramount and people on the team have each other's "backs" and are encouraged to stand up for one another. Resonant leaders encourage this, model this, and acknowledge with gratitude the team members who are courageous enough to be upstanders.

Without this final practice, a team can go astray, often following the lead of someone whose interests are more personal and less connected to the important practices outlined above that will ultimately contribute to best outcomes. When teams slide down this path, they lose resonance. It is a palpable shift for members who have experienced the pure joy and productivity of highly attuned and resonant teams.

We often see this manifest, not only as low morale, but by an unfortunate occurrence that has received substantial press in the past year – bullying and mobbing. In these instances, organizations, or the poor leaders who have gained control of the team, try to find a scapegoat for problems. Oftentimes these are deep-seated institutional deficiencies, but an individual is selected (usually by a dysfunctional few who are able to gain traction from leaders who are not able to truly look at a problem), and this individual is singled out as the "problem." The literature on mobbing, and some of the forces behind it, is chilling [4, 17, 30, 57]. We have encountered increasing examples of this in the field of pediatric cardiac care, and the stories that some have approached us with are heart wrenching. The reason this is important in a *chapter* related to teamwork, outcomes, and quality is that mobbing almost invariably robs a workplace of their most dedicated, diligent, and competent performers [17]. Because it is becoming, unfortunately, so prevalent, it is pertinent to list the ten key factors that define mobbing. If you find yourself experiencing or witnessing these in your workplace, then not only will you be at risk for poor performance (in fact, that has likely already occurred and is

often the "trigger" that incites mobbing), but you may need to find a way to protect someone (including your patients) from harm.

Ten key factors of mobbing [17]

1. Assaults on the dignity, integrity, credibility, and professional competence of an employee
2. Negative, humiliating, intimidating, abusive, malevolent, and controlling communication
3. Committed directly, or indirectly, in subtle or obvious ways
4. Perpetrated by one of more staff members – "vulturing"
5. Occurring in a continual, multiple, and systematic fashion, over some time
6. Portraying the victimized person as being at fault
7. Engineered to discredit, confuse, intimidate, isolate, and force the person into submission
8. Committed with the intent to force the person out
9. Representing the removal from the workplace as the victim's choice
10. Not recognized, misinterpreted, ignored, tolerated, encouraged, or even instigated by the management of the organization

It is easy to discern that these factors violate virtually all the practices discussed above that contribute to team resonance, high performance, and better outcomes.

The result of mobbing is always injury. Although the literature is explicit that this is injury to the victim, in a field like pediatric cardiac care, there will also be injury to our patients. Organizations that tolerate or allow mobbing will not be centers of excellence. The people in the organization have gotten too out of control (usually from lack of leadership) to function as a safe team. In our opinion, organizations that permit this behavior by a member or a few members of a team should recognize the serious lack of leadership, dismiss the offending parties, and provide leadership training for people with leadership roles. Bullies only succeed because the "adults" allow them to. In organizations, mobbing (which is sophisticated bullying) can only exist when there is poor organizational leadership. Most important is the huge impact that this behavior has on quality and outcomes [57]. It should be clarified that

bullying and mobbing are an extreme dysfunction along the spectrum of not counting others and valuing their contribution to a team. It won't be permitted to occur in organizations or on teams where there is resonant leadership [6, 98, 109] and in particular, where team members are encouraged to be *upstanders* and to speak up when they see other members of the team being treated unfairly or contemptuously.

The permission and encouragement to "upstand" is similar to the expectation in crew resource management programs developed by the Federal Aviation Association that if anyone on the crew sees something concerning, they will speak up. Even more important is the support by leadership that the concerns are taken seriously and evaluated objectively, irrespective of the "role" of the person on the team. This is what makes high-reliability organizations (HRO) [103] highly reliable. It is equally important that leadership remain connected to important core values developed by the entire team, so that concerns are handled as complaints (not criticisms) where all team members are encouraged to participate in solving the problem (and not focused on "solving a person") and that the team approaches this problem solving with all of the requirements of evaluating complex adaptive problems – explore to understand (rather than coerce and tell), share accountability (rather than defensive blaming of another), appreciation for the collective talents of the team (rather than contemptuous diminishment of a victim), and the courage to address difficult dilemmas with acknowledgement of numerous perspectives (the truth is the consensus of perspectives).

Upstanding has had an important role throughout history. It is a mechanism for standing up to bullies who might use their position, authority, or persuasions to further self-interests rather than the interest of the greater good.

Conclusion

This chapter has summarized the practices of highly resonant teams. These practices are supported by considerable research in the

neurobiology of relationships, business, psychology, medicine, and sports. The relationship of these practices to best outcomes has been clearly documented. The final question is simply a personal one: "You have a fleeting professional life. This professional life can add energy and joy to your world, as you work with others toward a noble shared goal. Or it can slowly erode away at your happiness, satisfaction, and health. The practices can be learned and embraced by any team that is willing to establish them as a core mission and value. You can go to work and try to survive, or you can go to work and thrive. Which do you choose?"

Appendix 1

We can define three kinds of interpersonal interactions, all of which we include under the general term *integration*, which is meant to be inclusive of:

- Congruent [22, 80] – which defines the *decision-making* process between yourself, others, and the current context in a way that integrates all the competing needs in a manner that honors them and has them contribute to the choices that are made.
- Concordant – which defines the *relationship* between two or more members of the team such that they are completely "in sync." This can also be called attunement or resonance.
- Coherent – which defines the *communication* process between yourself, others, and the current context. It requires *simultaneous states of differentiation and linkage* to self, others, and contexts. In coherent communication, an individual has a knowing and stable core from which he or she feels available to be influenced and receptive to the opinions of others without disintegrating into chaos or needing to operate/communicate from a rigid status quo. Coherent communication is based on personal insight and interpersonal empathy, and it allows for flexible, adaptive, and creative outcomes.

High-performing (resonant) teams require congruent, concordant, and coherent

communication. Without attunement, this kind of communication is not likely to occur. Attunement-driven integration entails the following ten functions that must be practiced and mastered [10, 12, 31, 40, 56, 76, 88, 100]. For experts, these functions can be performed in less than a second. The following is a definition of each and a concrete example of an experience you can incorporate in support of each function:

1. *Interoception*. This is your ability to be aware of the sensation the current situation creates in you in a way that you can sense that it just doesn't feel right [60]. Sensation is created in our nervous system from implicit and explicit memories. It is important that you be able to observe with all of your senses in the operating room, cath lab, or clinic, not just your eyes, ears, and hands but also with your important sixth sense.
 - (a) What happens inside of you when something unexpected occurs? Do your hands shake, does your heart race, does your breathing become shallow, or do you feel weak and shaky? Try to recognize and tune into these feelings. They will be your clues that you need to get off automatic pilot and tap into a greater wisdom for response.
 - (b) Take a deep breath(s) and connect to your internal sensations. Check-in with yourself. What images or experiences from the past are creating or contributing to this present physiological experience? Do I have someone else's "hat" on a person in the room? Does this situation remind me of a specific time (explicit memory) or a feeling that I can't quite explain (implicit memory) that I had an unpleasant experience? Remind yourself that you don't have to continue to be shaped by the past.
 - (c) Learn to take a deep breath(s) and be aware that something inside you says "danger."
 - (d) Understand that this is happening *inside you* and not necessarily out there for others to be aware of, before you formulate your verbal commentary.
2. *Emotional Balance*. This state is controlled by the prefrontal cortex and enables you to use both your brakes and your accelerator. If you lack this internal emotional balance, you will either find yourself panicking or not reacting appropriately to the current circumstance. In order to communicate coherently with team members, you first need to find your emotional balance. You can't allow the circumstance to knock you off your feet or bounce you off the walls.
 - (a) Practice reflection/relaxation. Take a deep breath(s).
 - (b) Moderate energy and ask yourself: Do I need more energy? Do I need to slow my energy down? Is my nervous system sending both messages simultaneously so that I need to practice self-soothing? Should I provide more energy? Can I sense the energy of my teammates?
 - (c) Check with team to gauge their energy levels.
 - (d) Step back from the surgical table (metaphorically), take a deep breath(s), and connect to your internal sensations. Check-in with team.
3. *Attunement*. As you are assessing your own response, you are aware that something is also happening with others. When we are attuned to ourselves, we experience nonjudgmental compassion for ourselves [66, 67] and others feel felt by us in much the same way. When you are attuned to others, you can resonate with them. This is an essential component for high-performing teams and is required for coherent communication.
 - (a) Practice compassion and genuine caring for yourself and others.
 - (b) Spend time and energy learning more about the other members on your team. The more you can learn about them, the easier it will be to attune to them and value (congruence) what might be happening for them.
4. *Response Flexibility*. This is a leadership trait that is developed by resonant leaders [22] who have learned to break away from patterned reactions and create responses that

are flexible and adapt to the current situation. (We will describe this further in our *fifth practice* of highly resonant teams.) Response flexibility provides you with an openness to be able to consider a variety of options for communicating, including some you rarely use.

- (a) When you encounter a problem, try to think of three more options. Then ask members of your team what they might do. See if they think of options that you hadn't considered.
 - (b) Spend time learning about your typical response patterns. There are numerous tools for this kind of learning, including the Thomas-Kilmann Conflict Resolution Index (TKI), the Myers-Briggs Temperament Indicator (MBTI), and the Strength Deployment Index (SDI). Then consider how you would respond if you adopted other patterns.
 - (c) Practice COAL – curiosity, openness, acceptance with love (nonjudgment) [88].
5. *Focused Energy*. Integration requires attentiveness to the present moment. The present moment becomes your consciousness. Imagine having this dialog with yourself:
- “Where are you?”
Here
- “What time is it?”
Now
- “What matters?”
The moment
- Your mind becomes clear and you have an experience of consciousness about consciousness. You have an awareness of the possibility to choose where to direct your focus. This experience was described beautifully by Captain Sullenberger as he prepared to try and land his powerless plane in the Hudson River [97]:
- (a) Practice mindfulness, reflection, and relaxation.
 - (b) Stop and notice where you are focusing. Does the focus make it more or

less intense? Can you observe yourself observing? Observe yourself and what you are choosing to think and feel. Have curiosity and experiment with focusing on a variety of experiences.

6. *Self-Regulation and Self-Soothing*. You find a way to control your impulses and to modulate your fear. You acknowledge your “fear” but you don't allow yourself to be overcome by it. You know how to bring your heart rate and your fear back under control. This is taught by heart math [11, 12] and can be learned as a tool for stress management. You won't be able to communicate with others if you can't control and communicate with yourself:
 - (a) Practice reflection/relaxation.
 - (b) Take calming breaths. Notice the fear without trying to control it. Speak gently to yourself.
 - (c) If a colleague is fearful, angry, upset, don't respond in kind. Take a deep breath(s) to suppress a reaction and to maintain your stability. From this position, you can communicate with a sense of compassion and empathy.
7. *Insight*. This is where you perform mental time travel to tap into your wisdom of the current situation and link past with present and future. This is termed self-knowing awareness. You have awareness of your choices. You have awareness of what you have learned and how the future can be influenced by the past.
 - (a) Internally articulate your understanding of the present experience to yourself as well as what you want to do with your understanding. Try it on with yourself and then share it with your team, not as a fact, but rather as a speculation. Ask for feedback from others. Do they share your insight? Allow influence.
8. *Empathy*. The cognitive ability to put yourself in the shoes of another and understand the world through their eyes. In order to do this, you need to learn how to practice

“self-empathy.” What is the part of you that is reacting or feeling? Does it tap into a past experience (an explicit memory) or are you unable to pinpoint the experience? You only know that the event that is happening has created somehow in your forgotten past a response of anxiety (implicit memory – olfactory memory is an example of the power of implicit memory, when a certain smell can conjure up a very strong emotional association from our past; or perhaps when you hear a certain song, it arouse intense feelings in you related to a past event). Try to identify the part of you that is reacting and have empathy for that part of you – perhaps a part that you have outgrown, like your fear that you might be thought of as not capable, even though you have proven yourself capable many times over many years. It requires the cognitive capacity to move from the concrete to the abstract. Use your knowledge of your colleague to try and understand how they may be having an internal experience based on their memories and tune into what they might be experiencing. Using what you have learned about them, can you understand the experience from their perspective?

- (a) Think of what you know about another team member. What are their hopes, beliefs, values, and goals? Has your team taken time to learn this about the team members? If you were in their shoes as if you were he or she, ask yourself, “What would I be experiencing?”
 - (b) When appropriate, check out your experience of another to discover if you are accurate. Revise your picture of them to include new information.
9. *Morality*. As you consider the current situation, you also tap into your moral code of what is important to you and you hold the intent to function with the greater good for the whole in mind.

As you choose your response, you want to ensure that it is consistent with who you are and who you want to be, as well as being a choice that considers the impact on others:

- (a) Get clear on your personal values and goals as well as the goals and values of others. Try to write down your values as words or sentences and then ask yourself, “how important is this value to me?” “Would I rather leave this job than sacrifice on this value?” Take your own welfare into account as well as the welfare of others.
 - (b) As a team, articulate and define your values, goals, and mission. Create a vision statement for your team, but in order to do this, you must first be clear on your own values.
10. *Intuition*. Your anterior cingulate cortex has spent years gathering information for you about experiences [60]: If this, then that. The dopamine receptors in your brain have been trained to teach you because they have been responding to patterns your entire life. You have wisdom collected from years of experience and your intuition is more than a random guess. Learn to be aware of what your intuition has learned:
- (a) Check out hunches with others and tap into the collective wisdom of your team.
 - (b) Keep a record of times you had an intuition. What was the outcome? Were you right? How would you modify your intuition for the next time something similar happens?

As you master these foundation functions, you will develop the ability to attune (to yourself, to others, and to situations) and to communicate from a place of mindful integration. You will exhibit personal insight and the ability to have empathy for others. This is a dynamic, evolving, and expanding process that feeds off energy and information available within yourself and from the members of your team. *Mindful integration* (as defined by the steps listed above) is the first, and essential,

practice for teams to function with the kind of attunement that leads to high performance. It is mandatory for leaders of teams to understand the complexity of integration and to model it for the team.

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