TITLE

Hierarchy and Harm: Overcoming Resistance to Change in Surgery

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165 years ago, Ignaz Semmelweis died two weeks after being committed to a mental asylum. The father of hand hygiene was ridiculed and his message staunchly rejected by his contemporaries, who took offense to his findings.[1,2] This overwhelming repudiation may have contributed to a decline in his mental health that initiated a cascade of events resulting in his death in a mental asylum.[2] The instinctive rejection of new ideas in favor of established norms is fittingly referred to as the Semmelweis reflex.[3] Despite a shift toward evidence-based medicine, this prevalent human behavior persists at the cost of innovation and curiosity. Revolutionary ideas may be conceived by those deemed underqualified, and all, even those who occupy the upper echelons of academia, may err. Denying this fact is tantamount to encouraging the suffocation of any challenge to the status quo. Despite a shift in our espoused values, these intrinsic human tendencies continue to plague the medical profession. Not confined to senior surgeons, such attitudes are more prevalent amongst surgical trainees,[4] which may be compounded by an individual′s insecurities. Senior residents may feel inadequate when a junior resident or medical student demonstrates greater understanding of the surgical discipline. Similarly, an earnest question from a learner whose curiosity is only matched by their enthusiasm may be erroneously perceived as insubordination and impertinence. These unfortunate victims fail to acknowledge the frailty of the human ego to their detriment. While a hierarchical organizational structure has the advantages of optimizing efficient decision-making and facilitating structured clinical instruction and progressive responsibility for trainees, it has also been shown that traditional hierarchy is antithetical to safety culture and results in poorer patient outcomes.[5] A study investigating harm data from the UK National Patient Safety Agency showed that junior team members tend to voice concerns only when it is encouraged by the organization, and that

many are disincentivized by possible recrimination.[6] Surveys of US surgical residents have reported rigid hierarchical structures to be a barrier to speaking up, and this may promote increased fatigue, burnout at the cost of empathy.[7] One of the most notable examples of how medical hierarchies undermine safety culture is that of Elaine Bromiley, where the operating room staff did not challenge the decisions the senior physician's decisions nor call for help promptly.[8]

However, reform is only possible from a position of strength. As a result of their elevated status within the hierarchy, those capable of instituting such cultural reform have likely grown distant from experiencing these consequences firsthand.[9] Understandably, such persistent issues may be deprioritized and even go unacknowledged in favor of the belief that they are relics of the past. To ensure these concerns are recognized, it is essential to establish structured communication channels where trainees can voice their grievances openly and without fear of repercussion, such as through briefings and debriefings. Anonymous digital reporting platforms can further provide a safe avenue to raise issues while protecting individuals from potential retaliation. Without awareness of the nature and scale of the issue, it is impractical to propose solutions. Even when identified, changing attitudes is easier said than done. Problematic personalities may employ denial and cognitive dissonance as subconscious defense mechanisms, which may be challenging to dispel.[10] Structured communication and conflict training for both senior surgeons and junior trainees can increase awareness of dysfunctional hierarchical behaviors, help flatten authority gradients, and empower junior trainees to voice concerns, while equipping senior surgeons with receptive, respectful, and non-retaliatory approaches. The resulting ripple effect on surgical culture could create an environment where innovative and nonconformist ideas are expressed more openly, without fear of ridicule or disparagement. At every level of training, there is an opportunity to recognize the incongruity between our ideals and everyday realities. By consciously choosing to act in ways that align more closely with our values,

progress becomes possible. Change often begins internally, through reflection and openness, rather than through external enforcement. While some may be skeptical about the feasibility of such cultural shifts, it is worth remembering that the professional environment we experience today has evolved significantly from that of previous generations. This suggests that continued growth and adaptation remain within reach, shaped by the collective efforts of those committed to fostering a more supportive and curious learning atmosphere.

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