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How Should We Understand Regret as a Moral Psychological Experience That Can Influence Clinical Decision-Making?

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Abstract

This manuscript focuses on regret as a significant moral experience in surgical professionalization. It distinguishes between constructive regret, which encourages self-reflection and growth, and destructive regret, which can lead to emotional withdrawal and impaired decision-making. This article also offers recommendations for how both colleagues and organizations should respond to each type of regret, especially regret over poor outcomes, to nourish professional formation. Recognizing the tipping point at which regret shifts from a positive driver of improvement to a source of harm is essential.

Regret Experiences Among Surgeons

Although patient decision regret is a widely studied phenomenon with significant literature devoted to the rates of regret and techniques to avoid it,[1,2,3] the incidence and impact of surgeon regret are far less well understood. However, surgeon regret is a powerful experience that shapes a surgeon's sense of self, future interactions with patients, and intraoperative decision-making.[4,5] Surgeon regret is one of many moral experiences that have a profound impact on a surgeon's career. While all physicians are exposed to complex and formative moral experiences, surgeons have a unique exposure to regret and moral injury, given the invasive nature of their relationship with their patients and the highly interdependent "surgical contract" they form with their patients.[6] This bidirectional contract entails a mutual understanding in which the surgeon commits to the operation and the patient agrees to the postoperative care required for recovery. It is based on the surgeon's sense of responsibility for the outcome developed over the course of training. As such, the experience of a poor outcome can leave a surgeon feeling exposed and can have a disproportionately negative impact on their confidence, resulting in moral injury.[7] In this paper, we discuss factors contributing to regret, the impact that regret as a moral experience has on a surgeon's development, and strategies for mitigating the inevitable and potentially consequential downstream effect of this regret on patients.

Factors Contributing to Regret

The range of moral experiences affecting physicians is vast. Moments involving regret, conflict of interest, treatment over objection, treatment at the end of life, truth telling,

and so on are faced by all physicians. Here, we first explore the factors that make the surgeon's experience of particular moments of regret exceptional. As described by Char et al, "surgeons not only determine the treatment for a given illness, but are also the instruments of that treatment, necessarily inflicting bodily harm in order to heal."[8] In other words, unlike other specialties, a surgeon cannot dismiss their role in the patient's outcome once they operate (or even decline to operate), as the surgeon's decision-making and skill become inseparably linked with the outcome. High-risk preoperative shared decision-making, isolated intraoperative decision-making, and the management of postoperative complications are all specific to surgeons and shape the moral experience that follows an encounter with a patient.

In addition to a sense of personal responsibility for outcomes, external pressures must be recognized as contributors to regret from a surgeon's perspective. Although an operation is necessarily a team activity and it is understood that system failures can contribute to poor quality care, surgeons inevitably fear blame for a poor patient outcome after an operation.[9] When faced with a complication in a morbidity and mortality conference, a humble surgeon must publicly explain their role in the bad outcome and what they could have done differently to prevent it. Moreover, the increasing emphasis on clinical productivity and revenue generation pressures surgeons to operate and has a disproportionate impact on surgeons when systemic inefficiency—exacerbated by scheduling delays, inadequate staffing, or resource shortages—increases stress. Additionally, the cost of malpractice insurance is significantly higher in surgical specialties, highlighting surgeons' higher risk of facing a malpractice claim, as well as the need for more clinical activity to make up for the cost.[10,11]

Effects of Regret on Surgeons

Regret is a complicated, strongly negative emotion driven by the feeling that an outcome would have been different had one made a different choice.[12] Regret is equally complicated for surgeons. Given the number of choices that are made when taking care of a patient pre-, intra- and postoperatively, there are innumerable opportunities for surgeons to face regret. Indeed, in one study of surgeons interviewed about their experience when one of their patients died, 18% responded that, in retrospect, they would have managed their patients differently.[13] As Boyle et al point out, "determining in retrospect that different actions may have led to a more favourable outcome does not in itself imply regret."[5] However, when a surgeon does experience regret, it can be a positive motivator. When regret is constructive, it encourages reflection and growth, allowing surgeons to refine their judgment and improve patient care. This form of regret often motivates self-improvement, leading surgeons to enhance their surgical techniques or improve communication with patients.[14] On the other hand, when felt too intensely and without constructive resolution, regret can cause a surgeon to withdraw emotionally or practice more conservatively, both of which might compromise patient care. When regret reaches a tipping point, becoming overwhelming and without motivating change, it can lead to damaging self-recrimination and have a negative and potentially long-lasting impact on a surgeon's emotional well-being, confidence, and sense of self. This shift from constructive to destructive regret often happens when a surgeon excessively internalizes blame, allowing regret to erode their confidence and impair decision-making.

Similarly, there is a tension between empathy as a positive and a negative tool. Empathy is a quality that is highly valued in a surgeon, as it can enhance the process of shared decision-making and help forge a more meaningful patient-physician relationship. The

loss of empathy, or the maintenance of an emotional distance from patients, is a risk factor for physician burnout.[7] However, to be empathetic, surgeons must allow themselves to feel what the patient is feeling. It is far easier for surgeons to distance themselves from the patient's experience of a complication and even blame the patient's risk factors for the bad outcome rather than accepting personal responsibility. Intensely engaging with a patient's distress could worsen a surgeon's regret about their decision-making or skill.

Finally, regrets of commission and regrets of omission can affect surgeons' future behavior differently.[1] Commission regret refers to regret after an action is taken, which might occur when a surgeon decides to operate and the patient has a poor outcome. Omission regret is the regret a surgeon experiences when an action was not taken; perhaps an operation was not offered, and the patient dies. A surgeon who experiences commission regret might be more likely to withhold an operation in the future when faced with similar circumstances. On the other hand, a surgeon who has suffered from omission regret might be more insistent on operating in similar future cases even in the face of evidence suggesting that an operation is not in the patient's best interest.

Regret Mitigation Strategies

The downstream effects of surgeon regret are not confined to the surgeon alone but can have significant repercussions for patient well-being. These effects can manifest through altered clinical decision-making, such as a more conservative approach in future cases to avoid further regret, or through a diminished sense of confidence that directly influences the quality of care. Therefore, supporting surgeons is not only crucial for their own well-being but also for ensuring that their ability to provide the best possible care to their patients remains uncompromised.

A system that actively fosters resilience can help mitigate these negative consequences, ultimately benefiting both the surgeon and their patients. As Devon Cassidy describes it, "experiencing surgical regret after a loss or poor outcome demonstrates the ability to accept that harm has been done."[4] In the world of surgery, resilience represents a surgeon's ability to carry on after accepting that harm has been done to a patient that is attributable to their care. The ability, for example, to continue with the scheduled cases for the day after an unexpected major intraoperative event, or even death, represents resilience. To this end, resilience has become a highly valued trait in a surgeon and has been described as "not only something surgeons should possess, but … also something that they can learn and develop."[15] Moreover, data have shown that resilience is protective against negative mental health outcomes.[7] Without resilience, regret can lead to more conservative decision-making, emotional withdrawal, self-doubt, moral injury, and burnout, potentially compromising patient care.

Resilience, or a healthy response to regret, can be encouraged by efforts to improve institutional and cultural responses to an undesired outcome. In Boyle et al's study on regret among surgeons, themes relating to nontechnical aspects of care, rather than technical errors, emerged as the most significant contributors to surgeon regret.[5] Institutional commitments to improving nontechnical aspects of care, such as the hand-off process, can strengthen transitions of care and enhance information sharing between individuals or hospitals. These actions, which focus on communication and collaboration rather than surgical technique, promote resilience by reducing preventable errors and ensuring more informed decision-making. A complete transfer of information is especially critical for thorough shared decision-making, but this process can be

particularly challenging during emergencies when time is limited and decisions must be made swiftly.

Advanced communication training for surgeons that enhances shared decision-making, particularly in high-risk circumstances, can help to improve the quality of decisions made and mitigate both patient and surgeon regret.[6] Building a surgical culture in which surgeons can safely ask a colleague for advice about a difficult case may help to prevent an undesirable outcome and to provide support if something does go wrong. Morbidity and mortality conferences should be an opportunity for surgeons to model humility and resilience for younger surgeons. Conferences should be structured in a way that does not place blame but instead focuses on the learning opportunities of a complication and frames regret as a valuable teaching tool.

Conclusion

Regret is an unavoidable experience for a surgeon. As the saying goes, "the only surgeon who never has complications is a surgeon who never operates." Certainly, the same applies to the experience of surgeon regret. However, unchecked regret can lead to unintended consequences for future patient care, such as overly conservative decision-making or withdrawal from the emotional aspects of patient care. Regret must be framed not as a feeling to be avoided but rather as a critical opportunity for growth. By confronting regret, surgeons can develop the resilience needed to continue providing compassionate, confident care in the face of inevitable challenges.

References

1. Wilson A, Ronnekleiv-Kelly SM, Pawlik TM. Regret in surgical decision making: a systematic review of patient and physician perspectives. *World J Surg*. 2017;41(6):1454-1465.
2. McQueen P. The role of regret in medical decision-making. *Ethical Theory Moral Pract*. 2017;20(5):1051-1065.
3. Christie DR, Sharpley CF, Bitsika V. Why do patients regret their prostate cancer treatment? A systematic review of regret after treatment for localized prostate cancer. *Psychooncology*. 2015;24(9):1002-1011.
4. Cassidy DE, Vercler C, Englesbe M, Firn J. Surgical regret and intraoperative decision-making: a living donor kidney case. *Am Surg*. 2024;90(6):1772-1774.
5. Boyle FM, Allen J, Rey-Conde T, North JB. Learning from regret. *Br J Surg*. 2020;107(4):422-431.
6. Schwarze ML, Bradley CT, Brasel KJ. Surgical "buy-in": the contractual relationship between surgeons and patients that influences decisions regarding life-supporting therapy. *Crit Care Med*. 2010;38(3):843-848.
7. Weiss JB, Vu MM, Hatch QM, Sohn VY. Maintaining wellness and instilling resilience in general surgeons. *Surg Clin North Am*. 2021;101(4):625-634.
8. Char S, Prager K, Dugdale L, Fischkoff K. Surgeon perspectives on daily presentation of ethical dilemmas: a qualitative study. *J Am Coll Surg*. 2023;237(5):751-761.
9. Gorini A, Miglioretti M, Pravettoni G. A new perspective on blame culture: an experimental study. *J Eval Clin Pract*. 2012;18(3):671-675.
10. Black BS, Traczynski J, Udalova V. How do insurers price medical malpractice insurance? IZA Institute of Labor Economics discussion paper 15392. July 7, 2022. Accessed November 26, 2024. https://shorturl.at/nOaBo
11. Jena AB, Seabury S, Lakdawalla D, Chandra A. Malpractice risk according to physician specialty. *N Engl J Med*. 2011;365(7):629-636.

12. Connolly T, Reb J. Regret in cancer-related decisions. *Health Psychol*. 2005;24(4)(suppl):S29-S34.
13. Cattanach DE, Wysocki AP, Ray-Conde T, Nankivell C, Allen J, North JB. Post-mortem general surgeon reflection on decision-making: a mixed-methods study of mortality audit data. *ANZ J Surg*. 2018;88(10):993-997.
14. Luu S, Patel P, St-Martin L, et al. Waking up the next morning: surgeons' emotional reactions to adverse events. *Med Educ*. 2012;46(12):1179-1188.
15. Arnold-Forster A. Resilience in surgery. *Br J Surg*. 2020;107(4):332-333.

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