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Dealing With Complications as a Young Surgeon

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ABSTRACT

Rewarding and honorable, yet challenging and humbling, this is our chosen profession. No matter how robust of a residency and fellowship training we have had or how impactful our mentors have been, nothing can truly prepare us for dealing with complications as new attendings.

Our chosen profession is rewarding and honorable, yet challenging and humbling. No matter how robust the residency and fellowship training we have had or how impactful our mentors have been, nothing can truly prepare us for dealing with complications as new attendees.

Both authors of this editorial completed an adult joint reconstruction fellowship and are now in our second year of practice. We both feel deeply honored to write this article and share our current experience. Having dealt with multiple unforeseen and uncontrollable patient issues early on in our practice, we now look back at those times with a new understanding of how hard our jobs can be when situations do not go how we or our patients would like. In this editorial, we address complications head-on and discuss tools to help young surgeons address these difficult situations. We hope lessons learned and shared with our community may guide our future colleagues in weathering the storm.

Complications in arthroplasty

Total hip arthroplasty (THA) and total knee arthroplasty (TKA) complications occur on a spectrum of type and magnitude, including but not limited to wound issues and infections, medical complications, dislocations, fractures, prosthetic failure, neurovascular injuries, or even death. Surgical complications may be technical or nontechnical, reversible or irreversible, or in an elective or nonelective setting. While dealing with all of them presents unique challenges to the patient and surgeon, certain complications, such as delayed wound healing or a hematoma, may be temporary and relatively easily addressed as a bump in the road. Other complications, such as periprosthetic joint infection or nerve injury, may have prolonged recovery times or be potentially permanent and may derail the outcome of the procedure. For example, as the surgeon, we may be more affected by an intraoperative fracture or recurrent dislocation from component malposition than a postoperative deep vein thrombosis. In orthopaedics, the “delta” values or magnitude of change hold a tremendous impact on both postoperative successes as well as complications. A devastating infectious or medical complication occurring after elective THA for osteoarthritis in a young, active runner is likely more jarring to all parties than a similar event in an older, more medically complex patient undergoing hemiarthroplasty for a femoral neck fracture. In a long-form interview-format survey of 27 surgeons, Pinto et al. reported that all practicing surgeons identified at least one case that significantly affected personal and professional life, with two-thirds reporting more significant personal impact from preventable and unexpected complications than from elective procedures [1]. Put another way, because the satisfaction rates and outcomes in elective THA and TKA are generally high and the procedures are

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viewed as "routine" by patients, the stakes are higher and failures are more devastating.

For young surgeons like us, the stakes of arthroplasty-related complications can be even higher. Concern about scrutiny from new colleagues, board certification, hospital administration, and the community has a significant impact on how complications are processed. While surgeons at all stages of practice have complications, there is an abundance of literature that suggests that complication rates in certain THA and TKA procedures are correlated with surgeon experience, particularly in technically demanding procedures or patient populations. [2-5]. Specific circumstances where experience and "learning curve" may factor in for the young surgeon include direct anterior approach hip arthroplasty, revision arthroplasty, or surgical procedures in medically complex or critically ill patients. [2-5]. In a review of the American Board of Orthopaedic Surgery database, Eslam Pour and colleagues reported that, compared to complication rates reported in the literature, complication rates following primary and revision THA were higher among surgeons early in practice, particularly those taking on revision or infection cases [5]. Burnham et al. reported that although extensive training in direct-anterior approach THA during fellowship may minimize some aspects of the learning curve, medical and surgical complications persist for the first 40-50 cases of independent practice [2].

The second victim phenomenon

As surgeons, our patients' needs come first and foremost. Treatment of our patients should be direct, honest, and expedient. However, we too can be secondarily affected by the trauma that afflicts our patients in important ways. The "second victim phenomenon," first described by Albert Wu in 2000, has been used to describe the psychosocial burden of anxiety and guilt that affects the practitioner in a traumatic medical experience related to a "first victim," the patient (Fig. 1) [7]. Although not studied among arthroplasty surgeons specifically, up to 40% of trauma surgeons report enduring "second victim" symptoms associated with work-related stress, including recurrent memories, anger, regret, fear, embarrassment, guilt, and loss of sleep [8]. Marmon and Heiss identified specific risk factors for surgeons more likely to suffer as second victims, including younger surgeons in their first 5 years in practice, errors resulting from lapse in judgment, knowledge, or skill, feelings of burnout or fatigue, female gender, or perceived work-life imbalance [9]. In an internal survey of clinicians reporting professional suffering related to patient safety incidents in the University of Missouri Health Care System, Scott and colleagues described the 6 stages of a predictable recovery trajectory among second victim responses: (1) chaos and accident response; (2) intrusive reflections; (3) restoring personal integrity; (4) enduring the inquisition; (5) obtaining emotional first aid; and (6) moving on (Fig. 2) [10]. They concluded that stage 6 (moving on) resulted in one of 3 outcomes—dropping out, surviving, or thriving—and that thriving could be promoted by a quality support system and self-reflection. Understanding the pervasiveness and framework of the second victim phenomenon among young surgeons can help with adopting systemwide support to deal with complications and maintain wellness.

You see a patient's name on your clinic schedule who has had a complication. You are flooded with negative emotions. There is a visceral response: your heart races, your skin tingles, and you feel shame and disappointment in your work. Your mind races in a vicious loop of anxiety and fear. You may even question your ability to do this job and feel like a worthless imposter. This is the feeling of being a "second victim," and one that, as surgeons, we must recognize and work through in order to thrive and give the best care we can to all our patients."

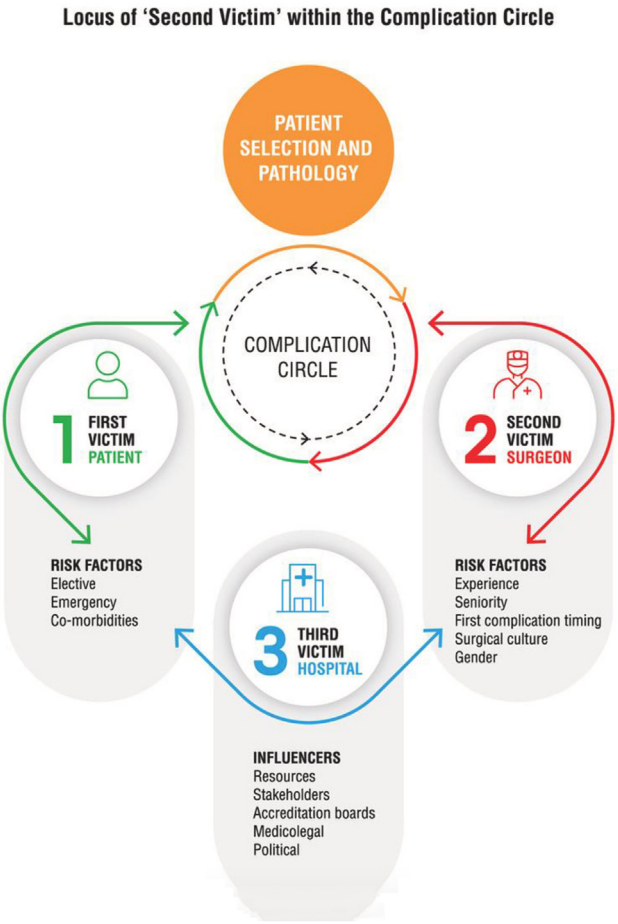

Figure 1. The "second victim phenomenon." Figure adapted from Siddaiah-Subramanya et al., Ann Med Surg (Lond) 2021. [6].

Dealing with complications

The emotional toll of a postoperative complication cannot be overlooked. Furthermore, it is hard to process these complications alone. The expectations placed on us as hip and knee surgeons are so high, and we care so much about improving the quality of life for our patients that the failure of that goal is devastating to all of us. We believe there are 3 categories to consider when addressing being a second victim: 1. prioritizing patient care; 2. establishing a support system; and 3. diving into a self-care routine. Within each of these categories, we can establish trust not only with the patient and their care but also with ourselves.

Prioritizing patient care

First, we must fight the instinct to run away, put our heads in the sand, or hide in a dark corner. We recommend increasing the duration and frequency of follow-up visits, ensuring the patient has appropriate communication and access to us or our team, and educating the patient on best practices for an optimal outcome. We need to take notice of our bedside manner and consider how we are showing up for the patient in their time of need. To reestablish trust

Table 5 Research team consensus for trajectory of recovery

	Stage characteristics	Common questions
Stage 1	Error realized/event recognized	How did that happen?
Chaos and accident response	Tell someone → get help	Why did that happen?
	Stabilize/treat patient	
	May not be able to continue care of patient	
	Distracted	
Stage 2	Re-evaluate scenario	What did I miss?
Intrusive reflections	Self isolate	Could this have been prevented?
	Haunted re-enactments of event	
	Feelings of internal inadequacy	
Stage 3	Acceptance among work/social structure	What will others think?
Restoring personal integrity	Managing gossip/grapevine	Will I ever be trusted again?
	Fear is prevalent	How much trouble am I in?
		How come I can't concentrate?
Stage 4	Realization of level of seriousness	How do I document?
enduring the inquisition	Reiterate case scenario	What happens next?
	Respond to multiple "why's" about the event	Who can I talk to?
	Interact with many different "event" responders	Will I lose my job/license?
	Understanding event disclosure to patient/family	How much trouble am I in?
	Physical and psychosocial symptoms	
Stage 5	Seek personal/professional support	Why did I respond in this manner?
Obtaining emotional first aid	Getting/receiving help/support	What is wrong with me?
	Litigation concerns emerge	Do I need help?
		Where can I turn for help?
Stage 6	Dropping out	Is this the profession I should be in?
Moving on (one of three trajectories chosen)	Transfer to a different unit or facility	Can I handle this kind of work?
	Consider quitting	
	Feelings of inadequacy	
	Surviving	How could I have prevented this from happening?
	Coping, but still have intrusive thoughts	Why do I still feel so badly/guilty?
	Persistent sadness, trying to learn from event	
	Thriving	What can I do to improve our patient safety?
	Maintain life/work balance	What can I learn from this?
	Gain insight/perspective	What can I do to make it better?
	Does not base practice/work on one event	
	Advocates for patient safety initiatives	

Figure 2. The 6 stages of recovery from the second victim phenomenon. Adapted from Scott et al., Qual Saf Health Care 2009 [10].

with the patient and their family, we need to talk openly and honestly with them and ensure all parties are on the same page. This will take extra time or multiple conversations in the office or over the phone. It could involve printing out articles to give them or drawing diagrams to explain what happened and why. It is our job as surgeons to regain our patients' confidence by clearly explaining and relaying the most important information so they can truly understand what is happening and be partners in the process. In doing so, we aim to avoid a patient's feeling of abandonment. As surgeons, we are our patients' biggest advocates and cheerleaders, helping them to achieve the best possible outcome.

Establish a support system

Not only do our patients need support, but so do we. It can feel very lonely when a complication occurs. We recommend contacting colleagues, mentors, friends, and family to support you through the self-recovery process.

It is very important to establish a group chat with those in our residency and fellowship classes to discuss and deal with patient issues. When complications occur, being able to message these groups of orthopaedic peers is extremely helpful in not feeling alone, getting treatment advice, and getting emotional support from sharing with those we trust. We are all going through these similar issues concurrently, and it feels comforting to talk with peers who can relate to what we are going through. Furthermore, we recommend setting up a recurring weekly call with at least one peer so that as the case unfolds and as different emotions arise, we know there is a safe space to continue to check in.

Next, we can establish conversations with senior partners and mentors, as they are best positioned to guide us in caring for these difficult situations and patients. They can also be key in instilling calm and helping us regain lost self-confidence. Speaking with our more experienced colleagues can help teach us tools or techniques to leave the complications at work and not take them home. They can also help us better understand the natural progression of the patient's recovery and aid us in creating a well-thought-out post-operative follow-up plan. Lastly, we can ask them to do a detailed retrospective review of the case with us so that we might learn how to improve our preoperative evaluation and/or intraoperative techniques to avoid another potential complication. Furthermore, our practices, hospitals, or academic institutions may have resources we can use to help with anxiety and stress related to dealing with complications. Thankfully, resources provided by our institutions are becoming more available as topics like these are becoming more accepted.

Lastly, don't forget to rely on family and friends. Although they may not understand the medical situation as well as a fellow orthopaedic surgeon would, they may know us better and are uniquely positioned to address our individual emotional needs.

Diving into a self-care routine

We strongly recommend carving out extra time for our unique self-care routines. When we try to suppress our emotions instead of dropping into them and working through them, our minds and bodies are not able to properly process the pain. Prioritizing fitness with activities like yoga, running, weightlifting, cycling, and swimming, to name a few, is paramount to working through tough times. Not only can physical activity help us relieve pain and stress, but also practices like meditation, journaling, breath work, and reading allow us to drop in and explore our own emotional states.

Furthermore, we must continue to combat the stigma surrounding mental health care [11]. Orthopaedic surgeons have a high rate of burnout (40%-60%) and depression, more than double the general population [12-15]. Furthermore, we have been reported by the Center for Disease Control National Violence Death Reporting System to be the most at-risk surgical subspecialty for death by suicide [11,16]. Starting conversations with a licensed therapist can be one of the most important tools we have to deal with complications, and it is something that all surgeons should consider on a more regular basis. Yet, there are still concerns about judgment from peers, cost, and fear of documented mental health issues for medical licensure [17,18]. Without proper self-care, we cannot have the energy and clarity to continue caring for patients.

The unfortunate truth is that tough complications will happen to our patients, no matter our skill or experience level. We must recognize that not only the patients are suffering, but also the orthopaedic surgeons. The pain and emotional toll this takes on us are real and cannot go unnoticed. In dealing with complications, we recommend focusing on 3 goals: 1. prioritizing patient care; 2. establishing a support system; and 3. diving into a self-care routine. If we lean on our peers, mentors, senior partners, friends, and family to help us weather the storm, then we can take better care of our patients. We are so fortunate to have one of the best jobs on the planet, and as young surgeons, we have so much to look forward to, especially if we can find support and self-care when times are tough.

Conflicts of interest

A. Arshi is an editorial board member of the Journal of Arthroplasty. P. Gold is a member of the AAHKS Young Arthroplasty Group Committee and fellow of the AAHKS Health Policy Committee.

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CRediT authorship contribution statement

Pete Gold: Writing – review & editing, Writing – original draft, Data curation, Conceptualization. **Armin Arshi:** Writing – review & editing, Writing – original draft, Data curation.

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