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Third-Year Medical Students' Reactions to Surgical Patients in Pain: Doubt, Distress and Depersonalization

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Abstract

Context: Medical students have limited instruction about how to manage the interpersonal relationships required to care for patients in pain.

Objective: To characterize the experiences of medical students as they encounter pain, suffering, and the emotional experiences of doctoring.

Methods: We used qualitative analysis to explore the content of 341 essays written by third year medical students who described their experiences with surgical patients in pain. We used an inductive process to develop a coding taxonomy and then characterized the content of these essays related to empathy, patient-clinician interaction and descriptions of clinical norms.

Results: Students found it difficult to reconcile patient suffering with the therapeutic objective of treatment. They feared an empathic response to pain might compromise the fortitude and efficiency required to be a doctor and they pursued strategies to distance themselves from these feelings. Students described tension around prescription of pain medications and worried about the side effects of medications used to treat pain. Students felt disillusioned when operations caused suffering without therapeutic benefit or were associated with unexpected complications. Although patients had expressed a desire for intervention, students worried that the burdens of treatment and long-term consequences were beyond patient imagination.

Conclusion: These observations about patient-doctor relationships suggest there is a larger problem among clinicians relating to patient distress and personal processing of the emotional nature of patient care. Efforts to address this problem will require explicit instruction in skills to develop a personal strategy for managing the emotionally challenging aspects of clinical work.

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The authors have no conflicts of disclosure to report.

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pain; curriculum; surgery; patient-doctor relationship; ethics

INTRODUCTION

> "A modern paradox: that even in the best setting and with the best physicians it is not uncommon for suffering to occur not only during the course of a disease but as a result of its treatment."[1]
>
> - Eric J. Cassell, MD 1982

Although students enter medical school with enthusiasm for the power of medicine to heal, they often have limited prior knowledge about the responsibilities and emotional strain associated with the practice of medicine. When students participate in clinical care they confront the physical burdens of disease and the intimacy of caring for patients' bodies.[2] They attend to patients in pain, witness disastrous clinical circumstances, and care for patients struggling with life-limiting diagnoses. Many confront death and suffering for the first time.[3,4] When these psychologically distressing interactions are unaddressed students can feel adrift and unsupported.[5]

A curriculum that is principally focused on medical knowledge and technical skills fails to educate students about strategies to address and cope with patients' experiences of pain and suffering. Students frequently receive little support or space to contemplate ethically dubious or emotionally upsetting situations. Absent such structured opportunities, and because students observe and mimic the behavior of residents and attendings, they passively absorb the cultural norms of doctor-patient behavior.[6] Not surprisingly, these haphazard experiences[6] leave students to model the behaviors of physicians who may or may not have developed the ability to address the complex emotional and physical needs of patients or effectively manage their own complicated feelings.

To address these gaps we designed a reflective writing exercise to support students as they navigate this difficult terrain. Our educational session, described below, was sponsored by the Gold Humanism Honor Society and is required as a part of the curriculum for all third-year medical students rotating on their surgical clerkship. The objective of this study is to characterize the reported experiences of students facing the inherent pressures and tensions of attending to patients in pain while providing clinical care.

METHODS

We analyzed essays written by all third-year medical students (N=341) attending this educational session for three years (Table 1), representing approximately 335 individual patient stories (Table 2). We informed students about this assignment at the beginning of the clerkship, with a request to tell the story of one surgical patient whose care they had participated in at our academic medical center or at other institutions in the state-wide campus. Specifically, they were asked to tell the story of one patient in pain and given prompts to help them develop this story including; provide detail about the type of pain the

patient experienced, the techniques used by the clinical team to relieve or minimize pain, and the patient's response to and preparedness for the pain. We also asked students to reflect on their own experience–how it felt to witness the patient's pain, and whether they believed this pain was justified by the patient's clinical circumstance (written instructions are in Appendix I). The students' essays were reviewed during a 60-minute discussion session described in Appendix II. Although three of four investigators either conducted or observed the in-person educational sessions that occurred concurrently with this analysis, the analysis herein is confined to the content of the student essays.

After removing identifying information related to the patient and student, we used qualitative analysis to explore the content of these essays related to expressions of empathy, patient-clinician interactions and descriptions of clinical norms. Because we did not have a pre-existing theoretical model to guide our analysis or provide pre-determined codes, we used an inductive strategy to generate codes as they arose in the data, and used *NVivo* software (version 10, QSR International, Doncaster, Australia) to catalogue the codified data. All coders have a background in surgery. One has additional training in palliative care (KEK), two have training in ethics (KEK and MLS) and one has previous experience as a nurse (TJZ). One investigator (MLS) reviewed all student essays and made notes pertaining to major themes in the margins; these annotated essays were then divided between the 3 remaining investigators. During the process of coding, each reviewer created detailed independent notations about the text and used these observations in group discussion to further refine and clarify the codes and characterize themes and constructs as they emerged. We repeated this iterative process multiple times, sharing coded essays with the group, generating consensus about codes, and refining the coding taxonomy over time when needed. Next, the primary and senior authors developed concept maps to capture key ideas and facilitate deeper understanding of the how the concepts identified in the data were related. We confirmed the higher-level analysis was faithful to the data using quotes from the students' text to verify the variation and nuance within each construct. We also used this process to confirm that the analysis was reflective of the data source and not confounded by investigator recall of the educational sessions. We compared these results to essays students wrote for ongoing educational sessions at the University of Wisconsin and the University of Michigan and determined that we had reached thematic redundancy as no new themes or constructs appeared in subsequent student essays. To ensure rigor we used multiple processes including local peer review, record of an audit trail, exposure of researcher feelings and consideration of consistency with existing literature. As is typical for qualitative analysis, our study was designed to characterize student experiences. This study was not designed to estimate frequency or make inferences about the distribution of these events.

The Institutional Review Boards at the University of Wisconsin-Madison and the University of Michigan reviewed this study and deemed it exempt.

RESULTS

Student essays exposed a range of internal dilemmas and concerns derived from their exposure to the pain and sadness experienced by surgical patients. Although some students called out inappropriate behavior, students were typically supportive of the care provided by

the surgical team. Observations about the performance of the care team were distinct from the internal struggle students describe in these essays about how to manage their own emotions in the course of providing clinical care. Without explicit guidance about how to manage these feelings they were left with multiple unanswered questions.

Is this suffering OK?

Students found it difficult to reconcile patient suffering with the therapeutic objective of treatment. When students observed treatments intended to help that also impacted well-being or caused harm, they questioned whether the patient's suffering was justified. Students' assessment of the benefits and burdens of treatment often differed, and sometimes conflicted, with the judgement of the surgical team. Students worried the suffering they witnessed was both unnecessary and possibly cruel. For example, one student reported physically restraining a patient so a resident could make an incision without anesthesia, "*I was totally taken aback by what happened during the procedure. I was under the impression that the patient would be numb in all areas that would undergo surgical manipulation."* Although students acknowledged that procedures like chest tube insertion, epidural placement, physical restraint and daily dressing changes were necessary for patient care, they were disturbed by the pain and suffering associated with these treatments.

When students were themselves agents causing discomfort, pain or suffering their distress intensified. One student wrote, *"Never before have I felt as conflicted as when I was responsible for injecting the compound that caused my patient so much pain."* Students felt remorse and regret for removing a dressing or waking a patient from sleep during morning rounds. *"I was causing him discomfort almost exclusively for my own edification."* Some students aimed to exonerate themselves, for example, *"I continually apologized and wished I could do something to lessen the hurt."* They reflected on the culpability of their actions and hoped that patients would forgive them for their role.

How do I respond?

Students described their own reactions to patient pain ranging from sadness to apathy, yet they felt unsure about how to manage these feelings (Table 3). Some instinctively offered words of encouragement or held patients' hands. They later wondered if these actions were permissible. Some students found the sadness of the patients' story or circumstances overwhelming and wished to suppress their own response. They feared this emotional reaction might compromise their ability to be an effective doctor and presumed that disregard for patient pain was normative behavior. Some believed that attending to patients' emotional needs would deny them the fortitude to administer needed medical therapy. Others feared their impassioned response was exhausting and unsustainable, *"after a long time of seeing the same person in pain, it becomes a drain on emotional resources to revisit the same feelings over again."* One student noted the complexity of this tension, *"…not getting too attached to them, being empathetic and feeling the patient's pain, and remaining the strong and professional provider."*

Students reported that supporting patients' emotional needs could compromise clinical efficiency. They described residents and surgical staff who were tired and overworked. They

empathized with the team's need to get the job done, which justified actions such as rushed dressing changes and insufficient explanations for patients who were seriously ill. One student wrote, "*It is hard to cry or get upset every time, given that such behavior would greatly impair the work that needs to be done."* Although students confirmed the need for efficiency, some worried it would negatively impact their professional conduct and humanity, *"her pain affected me, like it did the rest of the team, only briefly. We winced while she sobbed, but then moved on [to] the next patient without giving her a second thought, leaving me to ponder how callous I was becoming."*

How can I trust this patient?

In managing pain, students felt trapped by the tension between providing opioids and concerns about opioid dependence and other major side effects. They were torn between two unfavorable outcomes. One wrote, "*I worry about over-medicating or causing my patient harm in attempts to control their pain."* Simultaneously students had concerns about undertreating pain, *"I worry about not controlling their pain adequately because I am worried about the possibility of harm from the pain control."* This conflict was exacerbated when students observed clinicians labeling patients drug seekers. They saw residents and hospital staff use derogatory language –indicting the patient's character and motives— during conversations about how to care for these patients. This led to pressure to withhold opiates despite patients' demonstration of excruciating symptoms. Along with the surgical team, students experienced distrust within these patient-doctor relationships, believing patients had lied about their pain or over-exaggerated their symptoms. They wished for ways to verify the patient's pain experience and struggled with their dislike for patients who seemed to be manipulating clinicians in order to obtain drugs.

Why aren't we helping this patient?

Students identified multiple healthcare limitations and failures. They were disillusioned when operations targeting a surgical problem didn't make the patient feel better or resulted in unexpected complications. Students were disappointed by the impotence of medicine, *"I often felt helpless and frustrated that there wasn't more we could do."* They worried that invasive treatments had robbed patients of their personhood and irreparably changed their lives. One student described her patient who developed many postoperative complications, *"Each day seemed to bring some new problem and the patient I met pre-op was lost amidst all the pain and confusion."* Many students questioned why the care provided had failed to achieve relief and comfort despite the surgical team calling the operation a success. The feeling of letting patients down was widely endorsed by students. This feeling intensified when the team failed to acknowledge that the patient's preoperative goal had not been met after surgery.

Students did not openly express curiosity or question the care that patients received. They felt uncomfortable raising concerns that the benefits of treatment might not be worth the harms (Table 4). One student noted, *"Seeing patients in pain…often causes me to have thoughts about if we did the right thing."* Another wondered whether *"it would have been more humane just to make the man comfortable as possible and let him pass peacefully rather than keep him alive at all costs."* The students worried that surgery might not restore

health or meet patient expectations, but they did not discuss this with the surgical team. At times, students reconciled their distress by acknowledging their lack of expertise and experience. They reasoned that seasoned physicians were justified in their actions, and worried that asking questions would reveal their ignorance or impact their grade.

Is this really what the patient wanted?

Students feared that efforts to support patient autonomy through pursuit of aggressive treatment overwhelmed concerns about patient well-being. They described serious postoperative suffering or shocking disfigurement that seemed inconsistent with patients' preoperative desires and goals. For example, *"I got the sense that his focus was more on the binary nature of the decision- extended life versus imminent death- and not the… consequences of his decision."* Students doubted patients and families could comprehend the consequence of surgery or the gravity of possible complications. They worried preoperative counseling was insufficient to support patient autonomy and remarked that notions of informed consent, even when done well, were idealistic and impractical. One student wrote that his patient's experience *"[made] me wonder how any patient could ever know enough information at the outset to give 'informed consent.'"*

DISCUSSION

As students learn to integrate into the clinical team, they experience doubt and feel conflicted about caring for patients when providing care that causes pain. Although students instinctively react to patients in pain with empathy and compassion, they question the acceptability of this response. They worry that hand holding and other acts of kindness might interfere with their ability to be a good doctor, in part due to efficiencies of clinical care that do not provide time or space to support patients, and in part due to concerns about their own emotional investment. These tensions spill over to prescription of pain medications as students wrestle with the difficult balance between patient pain and the side effects of medications used to treat it. Trust between clinicians and patients is eroded because of their inability to verify the patient's reported pain experience.

Although patients had expressed a desire for surgical intervention, the possibility that operations might cause harm or not meet expectations seemed unacceptable and beyond patient imagination. While students found these episodes troubling, self-imposed pressures to achieve a good grade and concerns about their role as a student inhibited their impulse to express concern. These lessons about physician behavior including constrained empathy and an emphasis on technical solutions are learned through participant observation, and suggest there is a larger problem among clinicians relating to patient distress, professional demands for efficiency and personal processing of the emotional nature of patient care. Although doctors frequently interact with patients who have serious emotional and physical pain,[7] few have received formal instruction on how to attend to these needs or developed a personal approach to cope with the tragedy of patient illness.[8] Instead, the physician's response to patients in pain is learned passively and perpetuated through generations. Students now seek to suppress empathy in order to get the job done.[9] These observations have important implications for physicians, patients and educators.

For physicians, failure to develop a strategy to process unsettling experiences can lead to depersonalization of patients, which may compromise the patient-doctor relationship and the ability to provide good care. Both for personal protection and to maximize efficiency, physicians become disconnected from their instinctive empathic response and can appear unaffected by the pain and sadness they witness regularly.[10] Without specific instruction[11] on how to cope with inflicting and then attending to patient pain, physicians often behave as though they are immune to the emotional context. At times, students characterize the actions of the care team as “numb” or lacking empathy and strive to emulate these behaviors. As nearly all physicians encounter psychologically taxing interactions with patients,[12,13] more formal education about how to generate a personal approach to maintain empathy[14] and support resilience[15] is required.

In the face of serious complications or intractable pain, students were troubled when the value of surgery was linked to reassurance that treatment had “fixed” the patient’s problem. Students challenged the notion that patients could anticipate the hazards of surgery and wondered why the team did not openly appreciate or acknowledge the limits of surgical care. Although students asserted that suffering was justified because patients had consented to treatment that might help, or there were no desirable alternatives, many were puzzled by a system that prioritized expressions of autonomy over patient well-being. The system-wide focus on isolated clinical problems, disarticulated from the overall health of the patient, [16–18] left little room for assessment of the value of treatment beyond its immediate physiologic impact.[19] Students noted that surgical “success” was often ill defined and neglected the perspective of the patient.

For patients, the struggle to achieve relief from physical pain is complicated by systems that prioritize efficiency and the direct and serious consequences of opioid misuse. Given the side effects of opioids and the dangers of addiction, clinicians are caught between the tensions of overtreatment and under treatment, leading to loss of trust in the patient-doctor relationship.[20,21] Although the responsibility for the opioid epidemic is often attributed in part to healthcare providers,[22] opioids are regularly needed after surgery. When clinicians struggle to navigate the difficult backlash caused by the opioid epidemic, patients are left to languish as their pain remains unaddressed.[23] For patients with opioid use disorder or who use opioids to treat chronic pain, clinicians, and surgeons specifically, would benefit from additional educational opportunities, a standardized approach to pain assessment, and multidisciplinary consultation to address the needs of this patient population.[24–27,28–30]

For educators, our results provide an opportunity to attend to the overlooked needs of medical students. The learning environment itself is likely a significant contributor to distress among U.S. medical students, which can lead to emotional exhaustion and depersonalization.[31,32] Feelings of loneliness are common,[33] and may be related to isolation students feel when they question the norms of clinical practice and feel pressure to fit in on a busy clinical service. Other innovative methods have been used to address the emotional needs of trainees, including exposure to poetry, fictional excerpts, and art.[34,35] These sessions, similar to ours, foster discussion about coping with medical failure and patient suffering. In deliberately exploring the behaviors of physicians, students can reflect on their observations, consider alternative expressions of empathy, and build resilience.

This study has both strengths and weaknesses. We collected all essays from each cohort of students rotating on the surgical service during three academic years (six sets of essays per year) and found similar responses regardless of clinical experience. Students who had nearly completed one year of clinical rotations expressed concerns that were indistinguishable from those whose first clinical rotation was surgery. Although students described patient experiences that stood out to them, the repetition of the themes and constructs over time suggest these are not outlier experiences. As the essays represent a convenience sample of students rotating on a surgical clerkship, all stories reflect the students' rendition of surgical patients in pain and their impressions of the surgeons caring for them. The actual patient experience and recollection of the clinical team's actions would likely be different if described by other observers.

Furthermore, we did not ask students to describe how staff surgeons and trainees personally managed or coped with their own emotions; our results only characterize how students witnessed surgeons interacting with patients experiencing pain. Future work promoting open dialogue between attending surgeons, trainees and students could illuminate positive coping strategies for clinicians at all levels who witness patients in pain and might serve to support clinician well-being and improvements in patient care.

All investigators on this study are surgeons, and we did not include students or non-surgeons on our analytic team to avoid overly-cynical conclusions about surgeon behavior. We expect experiences of pain are not unique to surgical patients and the behaviors modeled by surgeons and surgical residents are stereotypical but not confined to surgery. Certainly, the need to cope with difficult patient experiences, regardless of medical specialty, is widespread[27,28] and most of the students whose accounts we analyzed have gone on to pursue fields outside of surgery. Although this study reports experiences at a single academic institution, we conducted this educational session at the University of Michigan and found similar concerns expressed in essays written by students there. We expect these experiences would resonate with students, regardless of geographic location.

As students integrate into clinical teams and learn the roles and responsibilities of doctoring, they confront the challenges of caring for patients in pain. Passive absorption of clinical behavior leaves students questioning how to manage the personal hardships of medical care with few pragmatic skills to maintain empathy or support personal resilience. Opportunities to provide direct education about management of patients' complex emotional needs and the interpersonal relationships around these interactions could help improve the care physicians provide, as well as their own capacity to cope with emotionally difficult aspects of patient care.

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APPENDIX 1

Student Name: _____

"Surgery Hurts"

In Surgery, we often don't fully consider how painful it is for patients to have an operation. We put people through quite a lot in order for them to "get well" (NG tubes, being NPO for long periods, incisions, diarrhea, ICU care etc.) During your Surgery rotation, pay attention to an instance where pain was inflicted on one patient as part of the surgical treatment. Tell the patient's story by writing a one-page self-reflection essay about that experience with that one patient. This should be no more than one page. In your essay you may want to pay attention to the following:

1. Describe the burdens of the treatment vs. the benefits it provided- what trade-offs were made?
2. Describe the pain and how the patient felt during the treatment
3. Describe how well the patient was prepared for the pain (mentally and physically). Do you feel the patient's expectations of how painful the procedure would be compared with their actual experience?
4. How could the pain be minimized in the future?
5. Explain your perspective on the experience- how did you feel the treating team dealt with the patient's pain? Was the pain worth it in your option? And was the treating team sensitive to the patient's pain?
6. What did you feel when you saw this patient in pain?
7. What do you feel in general when you see patients hurting?

There are no right or wrong answers here, the idea is to consider how you respond to watching others in pain and how the people you are working with react to patients in pain. This should not be an essay about pain management but rather an essay about the challenges of being a physician and watching people hurt.

Near the end of the rotation, we will have a one hour session where you will have the opportunity to share the experience you had. A faculty facilitator will be present.

APPENDIX II

Conduct of the educational sessions:

At the beginning of the third-year surgical clerkship, all students were provided with the assignment described in appendix I. Students were asked to complete and return the assignment by the end of week 7 (of an 8-week rotation). Prior to the 1-hour debriefing session conducted during the final week of the surgical clerkship, the instructor reviewed all student essays, underlining important phrases or paragraphs that would be useful to support discussion, and grouped the student essays into clusters when themes repeated, or events were similar.

During the debriefing session with students, the instructor introduced the session with an invitation for students to share their thoughts and experiences with others, noting this was not mandatory and it was not being graded. Next, the instructor, after receiving permission from the student, read aloud from each essay, specifically the items selected during pre-session preparation. After reading aloud from student essays, the instructor asked the student to comment about their observations, using phrases like “Tell me more about how you felt when….” Or “What do you think about this (behavior) you describe here….”

Each session had approximately 20 students and the instructor was generally able to review more than 90% of the essays with the group during the session. Few students declined to have their essay read. In evaluations of this session, students noted their favorite part of this session was that their essays were read out loud.

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Table 1:

Characteristics of Students Participating in the “Surgery Hurts” Educational Session at University of Wisconsin

***S*tudent Characteristics**	
Average age at matriculation	25
Percent female	48%
Under-represented in medicine*	13%
Specialty at Graduation	
Surgery or surgical sub-specialty	19%
Internal Medicine	18%
Family Medicine	14%
Pediatrics	11%
Emergency Medicine	10%
Obstetrics and Gynecology	7%
Anesthesiology	7%
Radiology and Rad Onc	5%
Psychiatry	4%
Dermatology	2%
Pathology	2%
Neurology	2%

*includes students who are African American, Hispanic/Latino/a, Native American/Alaska Native, Native Hawaiian/Pacific Islander, Hmong, Cambodian, Vietnamese, or Laotian

Table 2:

Characteristics of the patients as reported by students*

Patient Characteristics	N	%
Age (median)	50 ± 21 years	
Female	143	46
Surgical Service		
General	125	38
Cardiac/thoracic/vascular	54	16
Transplant	31	9
Surgical oncology	29	9
Otolaryngology/plastics	29	9
Trauma/burn	24	7
Pediatrics	16	5
Orthopedic	12	4
Urology	12	4

*only includes values that were documented in the essays

Table 3:

Students described their reactions to patients in pain

Students want to relieve patient suffering	*"When witnessing pain, the initial 'gut reaction' is to do everything you can to make the pain lessen or stop completely; it's human nature."*
	"I felt desperate to help her. She was in obvious distress, struggling to speak, her eyes clenched shut."
	"I held her hand for almost 3 hours as she was in pain and her mental status declined before she was intubated."
	"I was so sad for the patient and worried for her. During the day, I visited her multiple times just to check how she is doing and if the pain has improved in severity."
	"I felt terrible whenever I saw my patients hurting because I was not as knowledgeable enough in pain management."
Students are unsure about how to respond to patients in pain	*"I so badly wanted to grab her hand, but because it was my first week seeing patients I wasn't quite sure what was the appropriate action to take."*
	"I have learned to separate my emotions from the pain the patient is experiencing… I am not sure if this is the best approach
	"I think this will be a struggle for me throughout my career in medicine. I hope over the next few years I do not lose my empathy for patient's suffering and struggles."
	"We have chosen a field to go into that requires people to go through pain in order to get better. I hope that I will become less affected by it in time."
Students learn to distance themselves from the pain experienced by patients	*"Without separating myself from the patient's pain, as was common at the beginning of my third year, I could not provide care for the patient."*
	"Typically, I just turn pain into a number on a scale from one to ten and write it in the chart and think about adjusting their narcotic medications. What I don't typically do is live in their shoes and attempt to understand what the patient is feeling."
	"It becomes a drain on emotional resources to revisit the same feelings over again. It's better to just focus on one's task, especially when the doctor and the patient already have a treatment relationship."
	"I look at pain control as another problem that needs to be appropriately addressed in order to complete a successful discharge."

Table 4:

Students described their concerns about the treatments patients received

	Quote
Patient well -being seemed compromised	*"To see him going from no pain with his first to being in significant pain after the second procedure was somewhat shocking."*
	"I felt a huge sense of guilt that by trying to help this man, we had in fact moved backwards."
	"It was difficult for me to witness a patient and his family suffer so much from a procedure aimed at improving his overall health."
	"It felt almost inhumane to disfigure this woman more, to increase her pain, to expose more of her body."
	"He spent a month in the hospital and much of that time was on the SICU. His quality of life was compromised and he had difficulty processing everything that was happening with his body."
Patients were unable to imagine the impact of surgery	*"She needed the operation but it was difficult to see her struggle to comprehend the severity of her situation and my heart was heavy thinking about the pain that she would have to continue to endure."*
	"Although he had been told what to expect before the surgery, he commented that there was no way he could have anticipated what it would actually feel like."
	"I do not think the patient was mentally or physically prepared for the pain that he would endure, but I don't think anyone could have been prepared for such a huge operation."
	"In those moments I wondered if she had, if any of us could, truly comprehend how dramatically this operation had changed how she would have to live for the rest of her life."
	"I don't think this patient was well prepared for this pain because during obtaining consent we made it sound like a super simple procedure"