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Surgical "Buy-in": the Contractual Relationship between Surgeons and Patients that Influences Decisions Regarding Life-Supporting Therapy

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Abstract

Context—There is a general consensus by intensivists and non-surgical providers that surgeons hesitate to withdraw life-sustaining therapy on their operative patients despite a patient's or surrogate's request to do so.

Objective—To examine the culture and practice of surgeons in order to assess attitudes and concerns regarding advance directives for their patients who have high-risk surgical procedures.

Design—A qualitative investigation using one-on-one, in-person interviews with open-ended questions about the use of advance directives during peri-operative planning. Consensus coding was performed using a grounded theory approach. Data accrual continued until theoretical saturation was achieved. Modeling identified themes and trends, ensuring maximal fit and faithful data representation.

Setting—Surgical practices in Madison and Milwaukee, Wisconsin.

Subjects—Physicians involved in the performance of high risk surgical procedures.

Main Results—We describe here the concept of surgical "buy-in": a complex process by which surgeons negotiate with patients a commitment to post-operative care prior to undertaking high-risk surgical procedures. Surgeons describe seeking a commitment from the patient to abide prescribed postoperative care: "This is a package deal, this is what this operation entails." or a specific number of postoperative days: "I will contract with them and say look if we are going to do this I am going to need thirty days to get you through this operation." "Buy-in" is grounded in surgeons' strong sense of responsibility for surgical outcomes and can lead to surgeon unwillingness to operate or surgeon reticence to withdraw life-sustaining therapy post-operatively. If negotiations regarding life-sustaining interventions result in treatment limitation, surgeons may shift responsibility for unanticipated outcomes to the patient.

Conclusions—A complicated relationship exists between surgeon and patient that begins in the preoperative setting. It reflects a bidirectional contract that is assumed by the surgeon with distinct implications and consequences for surgeon behavior and patient care.

Keywords

Ethics; Patient Autonomy; Informed Consent; Surgical Outcomes; Decision Making

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Introduction

There is a general consensus by intensivists and non-surgical providers that surgeons hesitate to withdraw life-sustaining therapy on their operative patients despite a competent patient's or surrogate's request to do so. Anthropologists, sociologists and ethicists who have examined this problem have remarked on an essential surgical ethos in which the surgeon sees himself as a heroic warrior against disease with absolute responsibility for the life of the patient that mandates never letting the patient die.[1-5]

Several authors have characterized the unique components of this surgical approach. They have noted that surgeons often feel intense pressure to "succeed", both technically in the performance of the operation, as well as the cure of disease.[6] A sometimes stubborn insistence on continuing life-sustaining interventions in the postoperative setting and an unwillingness to "admit defeat" can lead to continuation of therapies beyond an acceptable period in the eyes of the patient or the patient's loved ones.[2]

Despite these observations, discord between surgeon and patient goals regarding end-of-life decision making continues to persist. Efforts aimed at limiting this conflict need to clarify the foundations of the surgical position, examine the benefits and costs of this position, and consider intervention at the level of the surgeon-patient relationship. In this paper we push beyond previous observations to examine the basis for this surgical behavior and practice. We probe the character of the relationship between surgeons and patients from the surgeon's perspective by examining the way in which this relationship forms preoperatively and the consequences of this relationship as it bears on surgical decision making and end-of-life care for the postoperative surgical patient

Methods

Study Subjects

We used a stratified purposeful sampling technique[7] to identify ten physicians from Madison and Milwaukee, Wisconsin. The sample was designed to include a significant diversity of surgeons who participate intimately and frequently in peri-operative patient care for procedures that carry high surgical risk (elective operative mortality of greater than 3%). These physicians came from a broad range of surgical and peri-operative subspecialties including trauma and surgical critical care (1), transplantation (1), neurosurgery (1), cardiac surgery (1), surgical oncology (2), vascular surgery (1), cardiac anesthesia (1), internal medicine/pre-operative clearance (1), and general-vascular surgery (1). Respondents were recruited from both private practice (1) and academic practices (9) and had varying levels of experience from 1 to 31 years post-residency (mean 16 years). The male female ratio was 8:2.

Data Collection

Similar to most qualitative studies, our study was designed to generate hypotheses regarding surgeons' views on Advance Directives (AD) and end of life care. To this end we designed a standardized script with nine open-ended questions to interrogate respondent's views on informed consent, how respondents discuss ADs with patients in the pre-operative setting, feelings or concerns about operating on patients with ADs, and withdraw of life supporting therapy on postoperative patients. Additionally, we proposed two scenarios for the respondent to consider. In the first scenario, the surgeon performs an elective operation (high risk and specialty specific) in which the patient remains intubated and on nutritional support postoperatively. On postoperative day 7 the patient's surrogate presents the surgeon with a previously undisclosed AD and asks the surgeon to withdraw life supporting therapy. In the second scenario, a patient is being seen pre-operatively for an elective high risk

operation (again surgeon specific). She brings with her an AD with specific instructions to withdraw life-supporting measures if they become necessary for a prolonged (but undefined) period of time.

These tape recorded interviews were conducted by one member of the research team (CTB). Prior to study commencement, the interviewer was coached and performed practice interviews with non-study physicians in order to maximize his ability to elicit the respondent's complete response to open-ended questions. After each interview, audiotapes were transcribed verbatim and reviewed by all of the members of the research team in order to assess and improve the performance of the interviewer for subsequent interviews.

Analysis

We used a grounded theory approach in order to maximize the empirical anchor of this project.[8] As such we did not use any pre-determined codes or coding schemes. All transcripts were independently coded by each member of the research team. After coding the first transcript, the research team convened to adjudicate each coded phrase or idea. This procedure was repeated for the second, third and fourth transcript using the technique of constant comparison. After the fourth transcript had been coded, a catalogue of consensus codes was developed and the first four transcripts were re-coded according to this coding scheme. Again, all three investigators coded each transcript independently using the new coding scheme, and subsequent group deliberation established the final code for each phrase or concept. The remaining 6 transcripts were coded in the same fashion, first independently then via arbitration and consensus formation by the three investigators. The list of codes underwent minor modifications throughout the remaining coding cycles when either a new concept surfaced or when a code decayed due to its inability to represent the phenomena which appeared in the data. Interviews and coding ceased once the primary codes appeared saturated and the variation in respondent perspectives took on a degree of regularity.

We modeled the data with computer software designed to catalogue and analyze qualitative data (*NVivo*, QSR International-Melbourne). Emerging themes were carefully supported with the data. Both a context chart and a checklist matrix were employed to map the themes and trends in order to ensure maximal fit and faithful data representation.

Researchers

Given the nature of this study, it is helpful to understand the background of the researchers in order to place the study in the context through which it was analyzed. All three investigators are surgeons and could not have approached this project divorced from their surgical training. We believe this surgical perspective sheds a distinct light on aspects of surgeon behavior and practice which may have been overlooked by previous observers. Despite this, the investigators are at different career stages and reflect training in general surgery, vascular surgery and trauma/critical care. Furthermore, the researchers have differing views on the nature of surgical care in the ICU, including perspectives in trauma/critical care (KJB), ethics (MLS and CTB) and surgical palliative care (KJB and CTB).

This study was approved by the Institutional Review Boards of the University of Wisconsin and the Medical College of Wisconsin.

Results

Respondents described a complicated relationship involving negotiation with patients who require high risk surgical procedures. According to physicians, this interaction creates an informal contract between surgeon and patient in which the patient not only consents to the operative procedure but commits to the postoperative surgical care anticipated by the

surgeon. We have named this implicitly-understood contract "Surgical Buy-in." To best describe this layered interaction we have separated the elements of this practice into 1) process of establishing buy-in 2) contributors to this arrangement and 3) consequences for different stake holders. Table 1 delineates the broad categories, supporting elements, and representative quotations.

Process of Establishing Buy-in

Respondents made it clear that they viewed pre-operative conversations with patients as a contract between the surgeon and patient. This "buy-in" agreement included a commitment from the surgeon to perform the operation and in turn, a commitment from the patient to participate in the necessary postoperative care.

Surgeons' understanding of patient commitment—Respondents commonly held that a thorough discussion of the operation and the postoperative care was an important part of the informed consent discussion and an essential component of pre-operative preparation. Respondents described extensive discussions delineating significant complications and potentially burdensome postoperative therapy. These conversations were felt to be a necessary requirement for proceeding to the operating room. In the surgeon's view, these discussions lead to a patient-doctor contract and a requirement for an explicit understanding that, "…this is a package deal, this is what this operation entails…" Other respondents felt that there were implicit expectations that the patient would participate in postoperative therapy based on pre-operative discussions. For example, "It is I think implicit in a relationship the surgeon has with the patient that these sorts of things are understood, the course, the expected course, what we do for complications…" None of our respondents noted formal documentation of this explicit contract, though it was not uncommon for surgeons to view the informed consent documentation as evidence that this contract exists.

Negotiations regarding limiting interventions—During pre-operative discussions, surgeons react to their patient's expressed desire to limit postoperative therapy in a variety of ways. In some cases, the negotiation depends upon the probability of a certain postoperative complication. For example, one surgeon described negotiating postoperative care for an abdominal aortic aneurysm repair. For patients who absolutely did not want a feeding tube during the postoperative period, this was something the surgeon could agree to, given that the likelihood of requiring a feeding tube after the operation was relatively low. However, if the patient absolutely refused postoperative hemodialysis and the patient was at high risk for renal failure, this was something the surgeon was much less likely to accommodate. Another surgeon noted that the negotiation was dependent on the patient's condition and the likelihood of achieving surgical cure: "I think it is appropriate for a patient to be allowed to refuse certain things depending again on the situation. If I were doing something with curative intent then I would think the number of things that should be allowed would be small, on the other hand I think it is perfectly appropriate for a patient who has recurrent intra-abdominal cancer…to have a detailed list of things that the patient would not want done following a procedure like that."

Negotiations for time—As a condition for undertaking high risk surgery, surgeons clearly had a defined number of days that they believed were essential for patients to continue postoperative interventions. This defined period of time varied between respondents and was, for some surgeons, dependent upon the clinical situation. When patients expressed a desire to limit postoperative interventions, surgeons commonly pressed patients to suspend limitations, "I have been in …multiple situations like that in multiple occasions in my practice and it requires basically that you sit down and [have patients] understand what you are foreseeing as post-op recovery, what are the elements that are

needed to be recovered and for what period of time that patient is going to have x or y intervention." There was no consensus on the exact number of days surgeons would contract for, although surgeons mentioned that, "seven days …is a very short period of time for such an [extensive] *operation.*" It should be noted that one of our clinical scenarios used for discussion a family member's request to withdraw life-sustaining therapy at seven postoperative days.

Distress when postoperative care is refused—Respondents expressed significant emotional reaction to our scenario in which a family member confronts the physician with a previously unknown advance directive in the setting of prolonged postoperative life-supporting therapy. Feelings of betrayal, unhappiness, disappointment and even culpability that this situation was not uncovered prior to the operation were common. For example, "… because clearly a major operation in a 70 year old gentleman such as a Whipple would definitely have brought up ICU length of stay, hospital respiratory failure, artificial nutrition use and the fact that none of this was mentioned to me as the surgeon for this patient, I really think this would not be a two way relationship."

Contributors to buy-in

We probed the data for elements that would explain the surgeon's viewpoint, in order to gain insight into the physician's presumption of the contractual nature of the surgical relationship. Questions about advance directives and withdrawal of life-sustaining therapy on surgical patients brought forth images of surgical culture and attitudes, as well as the emotional demands of surgical practice that were felt by respondents to be unique to surgeons.

Responsibility for bad outcomes—Surgeons described feeling personally responsible for poor operative outcomes. Some surgeons reported significant personal investment in their patient's care: "…you know I put my heart and soul and staying up all night and doing this…" while others personalized the surgeon as therapy: "…because you know the surgeon in some sense is the intervention that the surgeon imposed on the person [and hence] *put them in a life or death question situation, …*" Personalization of outcomes was a common theme such that even operative risk was attributed to the surgeon rather than a risk endured by patients: "*Why am **I** [*emphasis added*] taking this risk if it is elective?*" Furthermore, surgeons linked their position of personal responsibility to a reciprocal patient commitment to postoperative surgical care: "I have responsibilities based upon my scientific background and knowledge and the patient has to buy-in to that a little bit."

Emotional toll of unanticipated outcomes—Respondents frequently referred to the emotional burden of poor surgical outcomes. Feelings of guilt and a heavy conscience were described as typical reactions following surgical complications or death. As one surgeon described, " I think when someone goes through an elective procedure and something untoward happens, there is a tremendous amount of guilt, it may not be expressed in the chart or in rounds, but I think they walk away from the bedside shaking your head [asking] *what the hell went wrong? Why did this happen*?" Our respondents felt that the degree of emotional burden was somewhat mediated by the acuity of the surgical procedure. Elective procedures with poor outcomes carried more emotional cost for surgeons than emergency interventions that had an undertone of a last chance/heroic effort.

Success is expected—Respondents felt that advance directives and postoperative withdrawal of life-sustaining therapy were contradictory to the goals and values of surgery and surgical culture. As one surgeon said, "Because we have been educated to be champions and winners, we have never been educated to recognize the potential of an adverse event." A

common theme in these discussions was the expectation of success by the surgeon as a necessary premise for performing an operation. Efforts to withdrawal life-sustaining therapy in the postoperative period were viewed as conflicting with both expectations and goals, although surgeons were vague about whether these expectations and goals were the surgeon's or the patient's. For example, "…our goal is if we are going to operate on you, is to get you through the operation…"

Despite these expectations, surgeons were clear that poor outcomes do occur, and surgeons should reveal to patients and themselves the potential for postoperative morbidity and death, which was described as "failure." This failure was typically characterized as the surgeon's personal failure (to the patient) and not the patient's failure or a failure of therapy. For example, one respondent noted, "…we are going into this with our eyes open and to be successful and with an understanding that we fail sometimes." One particularly notable theme that has been previously described[2,5] was the use of war metaphors to describe the relationship of the surgeon to the patient's disease. This common metaphor created an image of the surgeon operating in defense of the patient against the patient's illness: "I will say that when I express to patients that when we go into this we need to go into this as a war and there are battles that we may have to fight to get you better and that from my point of view, I have to have permission to fight those battles…"

Consequences of Buy-In

We found that the contract between surgeon and patient, whether assumed or negotiated, has distinct and serious consequences for surgical practice and postoperative intensive care.

Surgeons decline to operate—While surgeons expressed a willingness to accommodate and negotiate with patients regarding postoperative care limitations, our respondents commonly stated that certain requests could not be accommodated. In response, surgery would not be offered or performed. For example, "I will have a discussion with them and …if they are at high risk for dialysis and we can't get beyond that point I may elect not to operate on that patient."

Surgeons refuse to withdraw life-sustaining treatment—Respondents described situations in which requests for limiting postoperative care were denied. Surgeons' rationale for this course was based on the patient's potential for recovery: "For example, you know some people get pneumonia but 90% are able to get through it and get off the ventilator and …that is sort of a bump in the road to that and from my point of view you have to be willing to endure that on some level if we think you are recoverable." Surgeons noted that this approach was paternalistic and even might be contrary to wishes expressed in the patient's advance directive but felt that the patient's potential for recovery as well as the preoperative negotiation permitted the continuation of aggressive support.

Surgeons negotiate postoperative care—When faced with a patient's or family's request to withdraw life-sustaining therapy in the postoperative setting, respondents described extensive conversations with family members and patients to continue to provide aggressive support. They felt that if there was a "*reasonable chance*" of survival they would "*argue*" to proceed with aggressive care or be "*more insistent*" in order to prevent the activation of an advance directive. Respondents felt that these conversations were effective and that family members were receptive to requests to continue care, although the use of the ethics committee in order to secure the continuation of life-supporting measures was mentioned.

A shift of responsibility for poor outcomes—Some surgeons described a willingness to work within the patient's requests for limitations of therapy but felt it was important for the patient to take responsibility for outcomes linked to the patient's desire to limit those interventions. Surgeons noted this was similar to treating a Jehovah's Witness who would, in their view, be responsible for complications associated with restricting blood transfusions. For the surgeon, this was clearly negotiated before the operation, and the sense that the patient was in part responsible for the outcome was important for the success of the negotiation. As one surgeon described, "Because it actually shows a little bit of thought on the patient's part as well as a little bit of culpability for what happens if [the patient doesn't] get better from this situation knowing this is a big operation, knowing the circumstances and the co-morbidities that [he] *has*."

Discussion

Choosing to undertake a major, high-risk operation is a critical decision for patients and surgeons alike. For surgeons who perform these high-risk operations, the pre-operative discussion with patients is a significant event.[9] It is a time at which an agreement or contract between the surgeon and patient is developed and a commitment is made. This two-way negotiation secures a commitment from the surgeon to operate and a commitment from the patient to endure potentially burdensome postoperative care. This "surgical buy-in" has important implications for both patients and clinicians.

For patients, surgical buy-in may be a barrier to obtaining care in line with personal preferences. While the existence of surgical buy-in is assumed by our respondents, it is not clear that this process is apparent for all who are involved in high-risk operations, especially the patients. Surgeons clearly believe that their pre-operative discussions with patients cover the considerable risk of the operation as well a long list of potentially burdensome therapies that patients would need to undertake in the postoperative setting, such as ventilatory support or hemodialysis. This is not surprising, given the elements of informed consent and the frequency with which surgeons obtain informed consent for surgical procedures. What is less clear is whether patients explicitly or implicitly agree to this contract and how this contract influences the patient's ability to make an autonomous decision after the operation should care become too burdensome or if the potential for meaningful survival is no longer consistent with the patient's quality of life preferences. While the surgeon may be trying to protect the preoperative expression of patient preferences for survival and aggressive therapy, patients and their families may struggle to navigate the surgeon's optimistic stance.

For surgeons, the contract of surgical buy-in seems both necessary and justified because of the unique personal investment and responsibility for outcomes that surgeons assume at the time of operative intervention. On some levels, this investment reflects their physical participation with a distinct and active role in the patient's therapy (as opposed to a prescriptive role), while on other levels, this is an emotional investment, with the surgeon placing "heart and soul" into the care of the patient. Bad outcomes are defined as the surgeon's personal failure. This personal culpability is in contrast to physicians in other fields who may typically describe an unsuccessful outcome as a failure of the patient to respond to therapy or a failure of the therapy to treat the patient's disease.

While intense personal commitment and responsibility for patients' outcomes are laudable and likely a very important component of the practice of surgery there are side effects of this buy-in agreement. First, surgeons who cannot negotiate an agreement about postoperative care before an operation may choose not to operate on a patient who desires and may potentially benefit from a high-risk procedure. Second, conflicts about buy-in may arise in the postoperative setting as patient preferences change, depending upon the clinical picture

and the potential for recovery. In this situation, surgeons may refuse entirely to withdraw life-sustaining procedures or argue demonstrably for continuation of life-sustaining therapy based upon the surgeon's vision of the patient's potential for meaningful recovery.

Though we did not examine this question specifically, we believe providers of intensive care, both physicians and nurses, are affected by the surgical buy-in contract as well. The intensivist may be caught in the crossfire between patient preferences and the surgical "rescue effort", without having any chance to participate in the pre-operative negotiation. Clinical consequences of this surgical position include the moral stress placed on families and care providers because of the conflict between surgeons and intensivists. Families report significant distress from discussions with physicians who don't agree with each other.[10] In addition, family members who hear differing opinions about prognosis struggle to make difficult choices about withdrawal of life-sustaining therapies for loved ones. The decision to withdraw life-supporting therapy is intensified when one caring physician reports a strong or definite chance for recovery while others prognosticate only a slim chance for survival.

This work is not the first attempt to characterize the distinct role that surgeons view for themselves or the unique relationship that surgeons harbor with their patients. Charles Bosk was one of the first to examine the behavior and professional conduct of surgeons. He defined normative error for surgeons as failure to do everything to achieve a patient's survival. By emphasizing the moral imperative of "doing everything possible" the surgeon protects him or herself from the burdens of the occasional, and inevitable, technical error. Consequently, by acting in good faith through the performance of all possible surgical interventions, the surgeon is defended psychologically and socially within surgical culture by his compliance with the professional norm.[1]

In a rigorous analysis of the provision of ICU care Joan Cassell describes this problem as one of a surgical covenant.[5] This covenant is a relationship between the surgeon and his patient whereby the patient agrees to trust the surgeon to invade his body and the surgeon in turn promises to do everything in his power to keep the patient alive. While others have briefly cited the advantages of this covenant[3, 11] Cassell distinctly notes the negative consequences of this arrangement when surgical patients are dying in the ICU. This includes conflicts over the goals of care with other providers, mixed messages about survival to families, and failure of surgeons to respect patient autonomy. As an extension of, or perhaps a foundation for, these previous works, our study goes beyond a characterization of the unique traits of surgeons and their approach to high-risk surgical procedures to examine the source of this commitment by surgeons, both emotional and intellectual, as they seek "buy-in" from their patients.

The dynamic created by surgical buy-in engenders several ethical challenges and questions. While our respondents feel that buy-in is justified from the perspective of a surgeon, ethical justification of this practice is more difficult. An argument for buy in can be made with respect to resource utilization as the investment of time, operating room facilities, and sometimes scarce biologic products (blood, organs) typical for high risk operations may be used inappropriately on a patient who does not consent to "standard" postoperative care. Alternatively, a claim can be made when patients do not commit to a level of postoperative care that the surgeon (knowingly) becomes an agent of harm. Whether either of these two arguments justify what may be considered an exploitation of the position of power held by surgeons in the patient doctor relationship is controversial.

Limitations

Given the structure of our investigation, there are many questions that we are unable to answer. While buy-in in this study clearly is important for surgeons in different surgical sub-

specialties and types of practice (academic and private) our sample of physicians in Wisconsin cannot provide any information about the extent and prevalence of this process among surgeons at large that perform high risk surgery or the degree to which buy-in affects their practice. Furthermore, we can offer no information as to whether this contract is unique to surgery or whether it occurs in other fields of medicine where buy-in may play a role, for example bone marrow transplantation. Finally, given that all of our respondents were physicians, we have no information regarding the patient's understanding of this pre-operative agreement and its consequences.

Conclusions

This investigation expands the conclusions of previous studies that explored the nature of surgical versus non-surgical administration of intensive care.[5] While the "surgical covenant" model provides a basic framework for viewing surgeon's attitudes, we believe these additional data show a more complicated relationship between surgeon and patient. By probing the surgeon's perspective of the patient-doctor relationship we show that this interaction goes beyond a covenantal arrangement and is an agreed upon (in the surgeon's mind) bidirectional contract with distinct implications and consequences for surgeon behavior and patient care.

Description and further quantification of surgical buy-in has the potential to affect patient care in the future. This initial qualitative study implies the need for additional quantitative research and also suggests potential avenues for improvement in surgical and intensive care by focusing on pre-operative discussions. Education of patients and surgeons and creation of a surgery specific advance directive for patients would help to blend respect for patient preferences with the fierce ethos of responsibility surgeons have for their patients.

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Table 1

Elements of Surgical Buy-In

Broad Category	Supporting Elements	Representative Quotations
Process of Establishing Buy-In	Agreement	"…during a big operation surgeons feel that there is a commitment made by both the patient and the surgeon to get through the operation as well as all of the post-operative issues that come up."
	Negotiations about limitations	"I cannot just sort of pander to everything they believe and if we can reach an accommodation, sometime which is really a negotiation, that I feel comfortable and they feel comfortable that is great."
	Negotiations for time	"I mean usually if a patient has very clearly DNR order written, I will contract with them and say, look if we are going to do this I am going to need thirty days to get you through this operation."
	Surprise if post-op care refused	"I would express my unhappiness that this [advance directive] was not mentioned."
Contributors to Buy-In	Personal responsibility for bad outcomes	"It's like I made this decision to do [it] and I am going to see it through to the end and that makes it a little harder, at least in my conscience…to throw in the towel so to speak…"
	Emotional Toll	"…you might feel terrible, you always feel terrible, but you might feel really terrible if it was a completely elective procedure…"
	Surgeon as intervention	"…obviously you don't want to be the agent that you know…kills someone in the operating room…"
	Success expected	"Because we have been educated to be champions and winners, we have never been educated to recognize the potential of an adverse event."
Consequences of Buy-In	Unwillingness to operate	"I don't need to offer them that operation. They can ask for the operation, they can also go to any other surgeon."
	Reluctance to withdraw support	"…I cannot, even if you wish it, I cannot turn off the machinery if I think you are survivable and that is sort of the attitude we go in with."
	Negotiate post-operative care	"…you went through this big operation and I think we have a reasonable chance …maybe in another week or ten days of getting him off this, I would argue for proceeding as we were going."
	Shift responsibility for outcome to patient	"…this isn't what I would normally choose but this is what you want and they would have to live with the consequences I guess."