Society of Medical Education & Research

2024, Volume 4, Page No: 125-135
ISSN: 3108-5059

Asian Journal of Ethics in Health and Medicine

Determining Reasonable Practice: Insights into the Ethical Decision-Making of Vascular Surgeons in Routine Care

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Abstract

Vascular surgery encompasses procedures aimed at alleviating pain and ulcers, as well as preventing life-threatening events such as vessel rupture. These interventions inherently carry risks of harm, which are amplified in older or frail patients, creating complex decision-making scenarios that raise ethical challenges. Despite this, little is known about how vascular surgeons navigate these moral questions. This study aimed to investigate how vascular surgeons reason morally about what should be done for their patients. Nineteen vascular surgeons from three Swedish university hospitals participated in qualitative, semi-structured interviews. The data were analyzed using systematic text condensation. Surgeons' moral reasoning centered on the pursuit of alleviating suffering and minimizing harm by determining what is reasonable for each patient. This process of assessing reasonableness involved three interconnected dimensions: shifting focus from the blood vessels to the whole person, balancing competing patient needs, and assuming personal responsibility for clinical decisions. Shifting focus entailed developing a holistic understanding of the patient, negotiating surgical authority through dialogue, and fostering relationships to ensure mutual trust. Balancing needs involved weighing the patient's autonomy and sense of integrity against relief from suffering, respecting patient preferences while safeguarding life and well-being, and considering long-term survival versus immediate quality of life. Assuming responsibility included recognizing the potential for complications, tempering one's surgical authority, and managing timing throughout the illness trajectory. The study highlights how moral reasoning is embedded in the everyday clinical practices of vascular surgeons, influencing both patient care and decision-making. Findings emphasize the importance of integrating ethical reflection alongside medical expertise and technical skill. Clinically, these results suggest the need for structured forums where surgeons can actively discuss and reflect on the moral dimensions of their practice.

Keywords: Surgeons, Decision-making, Medical ethics, Qualitative research, Physicians

Introduction

Moral reasoning involves the consideration of what is right or wrong, virtuous or vicious, and it provides a framework for determining what actions should be taken [1]. Within healthcare, moral reasoning serves to support well-founded judgments, decisions, and actions [2, 3]. Determining the appropriate course of action for a particular patient is, however, challenging, as healthcare professionals must weigh a complex mix of contextual, social, clinical, ethical, and personal factors during decision-making [4, 5].

Traditionally, moral reasoning has been studied as a cognitive ability by moral psychologists, who have examined its development across childhood and its capacity for empirical measurement [6]. Kohlberg's influential work described the progression of children's moral thinking, from decisions driven by self-interest to

Access this article online https://smerpub.com/

Received: 01 August 2024; **Accepted:** 04 November 2024

How to cite this article: Lin CY, Frygner-Holm S. Determining Reasonable Practice: Insights into the Ethical Decision-Making of Vascular Surgeons in Routine Care. Asian J Ethics Health Med. 2024;4:125-35. https://doi.org/10.51847/o2YjbB9K3H

consideration of social norms, culminating in reasoning guided by ethical principles and rules [7].

Investigating how healthcare professionals navigate ethical challenges presents methodological difficulties, in part because the term "ethical issues" lacks a universally agreed-upon definition [8–10]. Ethical literature encompasses a wide range of concepts—such as considerations [11], perspectives [12, 13], views [14, 15], conceptions [16], moral values [17], ethical reasoning [18, 19], justifications [20], and decision-making [21, 22]—all of which reflect the complexity of studying how clinicians address ethical concerns in practice.

This study focuses on moral reasoning as it occurs in clinical decision-making, aiming to understand how surgeons manage ethical challenges in everyday patient care. Within the applied qualitative approach, moral reasoning was conceptualized implicitly, emphasizing sensitivity to the social, practical, and medical context [23]. In this framework, moral reasoning is inseparable from context, producing meaning to answer the question of what ought to be done for the patient. Facts and values are therefore viewed as interconnected rather than distinct, allowing the phenomenon to be explored from the clinicians' perspective [24, 25].

Vascular surgery, the setting for this study, involves procedures that relieve debilitating symptoms such as pain and ulcers and prevent potentially fatal events like vessel rupture [26]. These procedures carry inherent risks of harm, which are heightened in older or frail patients, making clinical decision-making particularly complex [27, 28]. Moreover, disparities in the provision of vascular surgery across different regions of Sweden have been reported [29]. Data from the Swedish vascular registry indicate substantial regional variations in procedure rates, which appear less related to patient need and more influenced by surgeons' moral reasoning regarding the appropriate course of action [29].

While theoretical discussions of general surgical ethics exist [30–32], empirical research on surgeons' moral reasoning during clinical decision-making remains limited. A few studies have explored ethical dilemmas among general surgeons [33, 34], informed consent in surgical practice [35], and ethical challenges in trauma surgery, particularly related to communication and autonomy [36]. Research addressing vascular surgeons' attitudes toward hypothetical scenarios [37, 38] and ethical difficulties in acute vascular care [39–41] has been conducted, but there is a lack of studies examining moral reasoning in routine patient care.

Given this gap, there is a clear need to investigate how vascular surgeons apply moral reasoning in their daily practice, to understand how ethical issues are addressed and how decisions are morally justified. The aim of this study was therefore to explore vascular surgeons' moral reasoning regarding what ought to be done for the patient.

Methods

This study employed an explorative, interpretative approach within a qualitative framework, using semi-structured interviews [42].

Participants

The heads of the seven largest vascular surgery units at Swedish university hospitals, identified via the Swedish vascular registry [43], were contacted by email to invite participation. Three of these clinics agreed to take part in the study. Surgeons at the participating clinics were provided with both written and oral information regarding the study. Additionally, the first author conducted an information session at each clinic to explain the study's objectives, methodology, and practical aspects of participation. A total of nineteen surgeons consented to participate. At the first two clinics, all fourteen surgeons agreed to join, while at the third clinic, a consecutive sampling method was used to recruit five participants. Demographic details of the participants are presented in **Table 1**.

Table 1. Demographic characteristics of the participants (n = 19)

Gender, *n* (%)	
Male	14 (73)
Female	5 (28)
Age, mean (range)	48 (35–69)
Years of experience, mean (range)	
In vascular surgery	15 (3–37)
Since graduation	21 (7–43)
Participants, *n*	
Hospital 1	8
Hospital 2	6
Hospital 3	5

Data collection

The first author conducted face-to-face semi-structured interviews in an office at the end of participants' regular outpatient clinic shifts. Rather than focusing on general challenges, the interviews centered on specific patients the surgeons had seen that same day. The interviews began with the prompt: "I would like to talk with you about patients you have met today. Are there any cases where you encountered difficulties, uncertainty about further management, or doubts about the best course of action? Could you describe them?" Follow-up probes such as "Can you elaborate…," "What do you mean…," and "Please explain further…" were used to deepen exploration of the surgeons' reasoning. Additional questions were tailored to the situation, addressing factual circumstances, alternative options, patient and family preferences, and perceived expectations or reactions. Across all interviews, the surgeons reflected on a total of 39 patients (mean 2, range 1–6). Interviews were audio-recorded, lasted on average 37 minutes (range 18–66 minutes), and were transcribed verbatim by a research assistant.

Data analysis

The transcribed interviews were analyzed using systematic text condensation [44] with support from NVivo-11 software [45]. Transcripts were first reviewed to ensure accurate representation of medical terminology and then repeatedly read to identify preliminary themes. Text segments containing information relevant to the phenomenon and study aim were coded, with moral reasoning deliberately defined in an open manner to avoid prematurely limiting interpretation. Understanding the surgeons' clinical reasoning was essential for analyzing their moral reasoning. Coding was fully inductive, grounded in the surgeons' narratives about their patients and their deliberations regarding the best course of action. Relevant medical and factual information that informed the moral decision-making process was included as part of the phenomenon.

As coding progressed, similar codes were grouped into broader categories based on content or emerging themes. Codes and categories were continuously compared with the data, moving iteratively between individual parts and the dataset as a whole to refine and organize codes into main themes and subthemes. The final findings emerged through condensation, interpretation, and reformulation of these themes, with co-assessment by the authors throughout the process.

The study was conducted in accordance with the Declaration of Helsinki and approved by the Swedish Ethical Review Authority (No. 2019-04387). Written informed consent was obtained from all participants. Reporting adhered to the COREQ checklist for qualitative research [46].

Results

Vascular surgeons' moral reasoning centered on exploring what is reasonable in the pursuit of alleviating suffering and avoiding harm to patients. This process involved three interconnected dimensions: shifting focus from the blood vessels to the whole person, balancing competing patient needs, and assuming personal responsibility for making the right decision. These main themes were further divided into nine subthemes, summarized in **Table 2**.

Table 2. Surgeons' moral reasoning described by main theme, themes and sub-themes

Main theme	Exploring reasonableness questing for relieving suffer and avoiding harm		
Theme	To shift one´s perspective from vessels to the whole person	To balance patient's conflicting needs	To place responsibility for right decision on one´s shoulders
Sub-theme	Gaining holistic knowledge in the pondering of what is best	Weighing independence and sense of being whole against ease of suffering	Reminding oneself of the risk of complications
	Struggling with authority through dialogue	Respecting patient's will versus protecting life and well-being	Withholding one's power of proficiency in decision-making
	Building a relationship for mutual security	Weighing longer life against protecting present well-being	Managing time during the illness course

To shift one´s perspective from vessels to the whole person

In their pursuit of reasoned judgment, surgeons initially concentrated on the patient's blood vessels but progressively broadened their perspective to encompass the whole person. This involved acquiring comprehensive knowledge to determine what was truly in the patient's best interest, reflecting on the challenges of exercising surgical authority, and fostering a sense of mutual trust and security through their interactions.

Gaining holistic knowledge in the pondering of what **is best** involved understanding not only the patient's vascular condition but also their overall health to guide decisions about appropriate care. The patient's suffering due to the vascular problem and its impact on daily life was a central concern. Surgeons reflected on the patient's loss of function and the extent of their discomfort, paying particular attention to pain and how it affected mobility, sleep, daily routines, and reliance on pain medications.

Although patient records and imaging provided valuable information, direct face-to-face interaction was essential to gain a complete picture of the patient's health. Observing body language, movement, tone of voice, and eye contact offered critical insights into the patient's strength and frailty. This helped surgeons determine how much surgical stress the patient could tolerate and which technical approach would be most suitable. Life expectancy also played a role in selecting the surgical method. For example, endovascular procedures were considered less invasive and safer for frail patients but offered shorter-term relief, whereas open surgery carried higher risks but tended to provide longer-lasting results.

"How is he during the short walk from the waiting room—does he become short of breath or can he walk briskly? Does he experience pain while walking or when taking off his shoes? Will he be able to lie on the operating table, and what risks might that involve?" (Surgeon 9, hospital 2)

Struggling with authority through dialogue reflected the tension between projecting confident guidance and expressing uncertainty about the best course of action. Secure authority was expressed when surgeons were clear about what would serve the patient's welfare. They viewed procedures as beneficial, with risks that were justified and communicated in line with the patient's values and expressed wishes. Often, this reasoning focused on elderly or frail patients facing complex medical choices. Many patients asked surgeons for direction, and surgeons responded based on their judgment of what was in the patient's best interest. Confidence in authority was maintained when surgeons were reasonably certain of the procedure's benefits and when serious complications were unlikely.

"He left that to me. It is quite common that the patients say: 'You can decide,' or 'Do what you think' or 'What do you think?' We invite or try to invite the patient to have their own opinion and see if they want, some do, and others just want to be taken care of." (Surgeon 10, hospital 2)

When it came to preventive measures, high-risk operations, or interventions with limited evidence, dialogue with the patient became a cornerstone of authority. Surgeons emphasized ensuring patients were aware of possible harms and complications, which underpinned their own sense of justified authority. The ultimate decision remained with the surgeon, but discussions with the patient provided grounding for exercising this authority responsibly.

"… a procedure I exposed them to may cause complications. It's very important to have met them, spoken to them, looked them in the eyes, to ensure they understood the risks, that they go into it with eyes open." (Surgeon 19, hospital 3)

When effective dialogue was impossible, secure authority became fragile. Surgeons encountered patients—often elderly, frail, or with cognitive impairments—who could not process complex information or make informed choices. In cases such as patients with dementia needing vascular interventions to prevent amputation, inability to participate in decisions made procedures potentially distressing or even torturous. In these situations, surgeons sometimes judged that abstaining from complex interventions, and proceeding with an amputation, was the most reasonable way to relieve suffering.

Building a relationship for mutual security involved creating a sense of safety both for the patient and the surgeon before any surgical intervention. The patient was portrayed as facing a challenging situation marked by suffering and declining health, and the rapport developed in the outpatient clinic aimed to foster a sense of security during this vulnerable period.

"You demonstrate that you're a human being, not merely a doctor, that you acknowledge their worries, make an effort to build a connection, present yourself as a decent person, and exhibit knowledge, so they can trust that you have enough experience to make decisions on their behalf." (Surgeon 14, hospital 3)

Security could be reinforced by providing clear and precise information about the low risk of rupture and the potential for prolonged life in patients with small aortic

aneurysms. Continuity played a key role in fostering security, especially for high-risk procedures, both during surgery and in follow-up visits at the outpatient clinic. Surgeons also reported a personal need for security, particularly before undertaking high-risk operations, which arose from their interactions and dialogue with the patient, as well as from their own confidence that the surgical decision was justified.

"There's something personal here, I think—it's important that we know each other, that the patient knows their doctor, not just meet different doctors. Someone they can see again after the operation." (Surgeon 1, hospital 1)

To balance patient's conflicting needs

The moral deliberation highlighted how a patient's competing needs reflected essential ethical values in surgical decision-making. These included maintaining independence and bodily integrity, minimizing suffering, preserving life and health, extending lifespan, and respecting the patient's choices. Often, these priorities clashed, and surgeons aimed to strike a careful and justifiable balance.

Weighing independence and sense of being whole against ease of suffering focused on patients with critical ischemia who faced urgent and high-stakes situations. Surgeons often sought alternatives to amputation, especially since many patients were older and physically weak, with limited capacity to use a prosthetic limb. Losing a leg meant not only reduced mobility but also greater dependence on others for daily activities. For both patients and surgeons, the thought of amputation carried a profound sense of loss and bodily incompleteness.

"It's about being mutilated, to lose a part of the body. You're born with your parts and you want to be buried with the same parts." (Surgeon 3, hospital 1)

In these scenarios, the desire to preserve bodily wholeness was constantly weighed against the imperative to ease suffering. Chronic leg ulcers associated with critical ischemia brought persistent pain, foul odors, frequent painful dressing changes, and other burdensome complications. Surgical interventions, including amputation when unavoidable, were seen as a way to relieve pain and prevent the condition from becoming life-threatening.

"That an amputation can become a relief from pain, from serious infections." (Surgeon 6, hospital 1)

Respecting the patient's will versus protecting life and well-being illustrated the inherent tension when patients refused surgery despite severe leg impairment, and surgeons aimed to preserve both life and health. While the surgeons acknowledged the patient's choices, they faced moral and professional challenges regarding the possible consequences for survival and overall quality of life. In cases of critical ischemia, the threat to life was significant, and amputation could simultaneously save the patient's life and relieve debilitating pain, potentially improving well-being, yet at the expense of independence and the sense of bodily integrity.

"I explained that, considering the condition of your foot, the level of suffering, and our limited ability to influence it… the most appropriate option might be to remove the foot. He didn't react angrily, but said, 'No, I don't want that, it's too early.'" (Surgeon 13, hospital 3)

To guide patients through such decisions, surgeons arranged follow-up consultations and engaged with family members to discuss options. Hearing about prior patients who had delayed surgery sometimes helped hesitant individuals recognize the potential benefits of the procedure. Still, surgeons maintained a careful balance between honoring the patient's right to refuse treatment and asserting appropriate surgical authority.

"Even if he left wanting to keep the leg, I felt the consultation was valuable; he responded appropriately and articulated his reasoning clearly." (Surgeon 12, hospital 3)

Weighing longer life against protecting present well-being was central in discussions about performing prophylactic aneurysm surgery. Surgeons recognized that such operations could prevent death from vessel rupture in the future, yet at the same time might introduce serious complications threatening the patient's current quality of life, requiring careful consideration. Decisions about rupture risk drew on professional guidelines that indicate when surgery could be appropriate. However, the surgeons' reasoning went beyond these recommendations, focusing on whether intervening to prevent sudden death was justified for each individual patient.

"On one hand quite low risks with the operation, in the longer perspective expected good survival and untreated, substantial risk of rupture. There are other patients that are much more difficult." (Surgeon 13, hospital 3)

In weighing the options, surgeons considered the patient's overall health and expected lifespan. For older patients with chronic illnesses or reduced physiological

reserve, the emphasis often shifted toward preserving current well-being rather than pursuing surgery for the sake of extended life. In contrast, patients with robust health and functional capacity often tipped the scale in favor of surgical intervention to prolong life. Surgeons also assessed the technical difficulty of procedures, particularly when the likelihood of rupture was similar to the risks posed by the operation itself. Ultimately, the decision to proceed relied on the benefits clearly outweighing the potential harms.

"Why we abstain treatment is because the costs for the patient, the risks and the suffering of the patient, is too large. So it's not on the basis of economic resources or something." (Surgeon 8, hospital 2)

To place responsibility for right decision on one's shoulders

The surgeons repeatedly reflected on the heavy responsibility they assumed. Their reasoning involved constant awareness of potential complications and the careful effort to strike an appropriate balance between risks and benefits. Bearing this responsibility also encompassed exercising restraint in applying their professional expertise and managing time responsibly while monitoring the patient throughout the course of their illness.

Reminding oneself of the risk of complications meant reflecting deeply on how to present these risks to the patient. Surgery should not only be technically successful but also avoid causing harm that could negatively affect the patient's health or life. By carefully evaluating the complexity of the procedure, the surgeons sought to judge the likelihood of adverse outcomes and whether performing the operation could be ethically justified. Being candid about potential complications was seen as a responsibility, requiring communication that neither minimized significant risks nor exaggerated them to the point of deterring the patient unnecessarily. Patients were often observed to struggle with understanding the information and its consequences.

"It's a quite difficult case. There are technical aspects and risks to consider. You do not want to put the patient in a worse situation. Sometimes it's most right to do nothing." (Surgeon 7, hospital 2)

Withholding one's power of proficiency in decision-making meant that the surgeons' expertise carried a continuous obligation to act in ways that prioritized the patient's welfare. Vascular surgery, being extremely technical, demanded advanced skills that should always serve the patient's interests. Yet, these complex interventions could tempt surgeons with technical appeal, sometimes making it harder to focus on what was truly best for the patient. Just because a procedure could be carried out did not mean it should be; responsible decision-making required considering the patient's overall health, life context, and quality of life before proceeding.

"It's more of a technical challenge to fix this aneurysm than a real benefit for the patient. This is high-tech work. But what I sometimes forget is that yes, we can do it, we can tackle this through major surgery or a series of complicated steps, but this is an 87-year-old man in declining health—what is his life like now, and what will this actually achieve?" (Surgeon 12, hospital 3)

Surgeons also had to curb their authority to avoid eclipsing the patient's own choices. They wrestled with offering surgery while staying sensitive to what the patient genuinely wanted. Exercising restraint became especially difficult when older or frail patients explicitly left the decisions to the surgeon.

"I might assume I know what the patient wants, but often it's different from their actual preference. I could end up persuading them toward something they don't really want, and they might not feel able to say no because of the power imbalance in the room. For patients with cognitive issues or after a stroke, figuring out the right approach can be really complicated." (Surgeon 16, hospital 3)

Managing time during the illness course required surgeons to navigate between slowing down and speeding up their decision-making. They carefully assessed how urgently a surgical intervention was needed in the patient's best interest. On one side, they aimed to allow patients enough time to consider their options; on the other, they needed to prevent prolonged suffering or decline in overall health. In situations such as critical ischemia, decisions had to be expedited, since timely surgery could halt deterioration or, in some cases, an amputation would represent the most beneficial course. Surgeons also gauged whether patients were emotionally and mentally prepared to make a surgical decision, or whether additional time was needed to build confidence and security before undergoing the procedure. This evaluation was particularly crucial for high-risk operations or preventive surgeries. At times, surgeons themselves required extra time to resolve uncertainties,

arranging follow-up visits in the outpatient clinic as needed.

"If you know this won't turn out good, you shouldn't wait too long either because meanwhile the patient is immobilized because of this withered leg under a longer period, the patient becomes generally declined with tougher rehabilitation and difficulty walking with a prosthesis." (Surgeon 4, hospital 1)

Discussion

The ethical reasoning of vascular surgeons revolved around determining what is justifiable in the effort to ease suffering while avoiding harm. This required broadening their perspective from focusing solely on blood vessels to considering the patient as a complete person. They had to weigh competing patient needs, manage conflicts between values, and carry the responsibility of making morally defensible decisions, reflecting on their own ethical stance. We contend that through this reflective moral reasoning, surgeons acquire moral insight, which works alongside their clinical knowledge—both numerical and technical—allowing them to make informed and ethically sound decisions in patient care **(Figure 1)**.

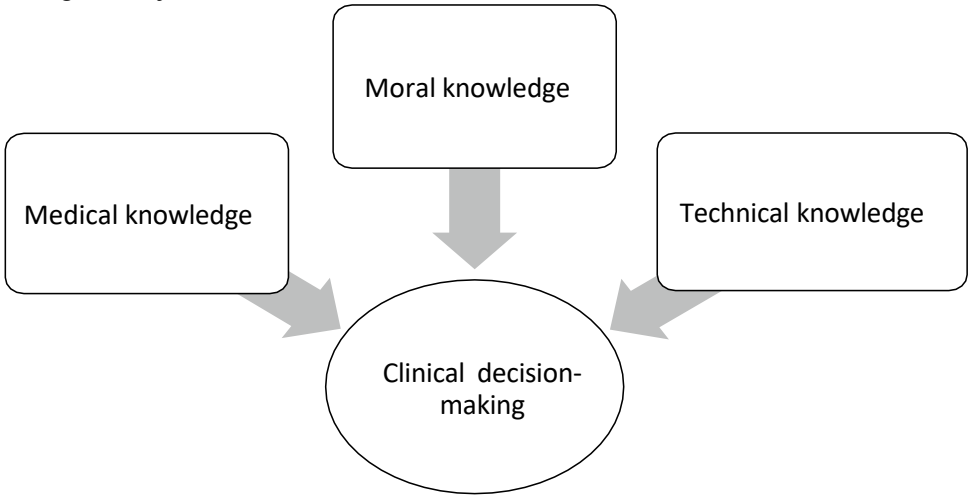

Figure 1. Sources of knowledge for clinical decision-making in vascular surgery

First, it is necessary to reflect on the findings from the perspective of ethical theory. The surgeons frequently encountered deep value tensions, which required careful navigation to progress in their decision-making. Medical ethics literature, particularly the Four Principles framework, highlights such conflicts and their significance for clinical practice [2, 47]. In this case, the opposing needs of patients reflected mid-level principles such as respecting autonomy, promoting beneficence, and preventing harm. Beneficence, although broad and sometimes debated, represents a central moral aspiration in healthcare [48]. Many of the values weighed by the vascular surgeons fell under this principle, yet they often stood in opposition to one another. For example, discussions about prophylactic surgery involved a tension between extending life and preserving the patient's current well-being, simultaneously implicating beneficence and non-maleficence. Likewise, decisions surrounding critical ischemia and amputation required balancing the patient's desire for independence and wholeness against the relief of suffering.

While the Four Principles framework captures essential ethical domains, it offers limited practical guidance when values collide, highlighting the need for more concrete tools in clinical decision-making [49]. Even though the surgeons' ethical reasoning aligns with these principles to some degree, its precise function within their clinical judgments remains unclear. One interpretation is that moral reasoning serves as a mechanism for acquiring moral knowledge, which complements medical expertise in determining what course of action is ethically appropriate for a patient.

A pivotal element in this reasoning was the surgeons' engagement with their patients. Determining the right course of action involved exploring the patient's wishes, understanding the significance of their suffering, and gauging their perception of surgical risks. Surgeons also evaluated the patient's overall health to determine how

much surgical trauma could be tolerated and whether the intervention would hold meaningful benefits in the context of the patient's life. This approach can be seen as generating moral knowledge through relational engagement. In Walker's moral epistemology, moral knowledge is embedded in social interactions and is defined as "a socially embodied medium of mutual understandings and negotiation between people over their responsibility for things open to human care and responses" [50]. Central to this concept is understanding moral responsibility and negotiating "who gets to do what to whom and who is supposed to do what for whom" [50]. From this perspective, the surgeons' consideration of what is reasonable can be interpreted as collecting relational, context-specific, and patient-centered moral knowledge. This knowledge is then integrated with medical evidence and technical expertise to guide decisions about what ought to be done for each individual patient **(Figure 1)**.

It could be contended that the surgeons also gathered purely objective or clinical information during patient encounters, which could in itself inform the ethical question of what actions were appropriate. Yet, this process occurred within a relational and dialogical context, where the information relevant to moral decision-making extended well beyond the patient's medical condition. The surgeons viewed meeting the patient before making a decision as essential, reflecting the need to obtain moral insight unique to each encounter, while fostering a sense of security for both surgeon and patient. Through dialogue and mutual exchange, the surgeons grounded their authority to proceed with surgery, which can be interpreted as a way to moderate the inherent imbalance of power in the physician-patient relationship. Walker emphasizes that moral knowledge is neither abstract nor purely objective; rather, it is shaped by who we are, our self-understanding, and our social and cultural context [50]. Such knowledge emerges dynamically within specific spaces and interactions, often influenced by existing hierarchies and power relations. The surgeons were acutely aware of their position in this hierarchy and recognized that their professional authority could, if misapplied, compromise responsible decision-making and the patient's welfare.

The concept of shared decision-making (SDM) has become central in situations where patient preferences are particularly important. Surgeons' narratives frequently highlighted clinical scenarios where patient values significantly influenced the decision process [51]. SDM involves presenting the patient with available options, including risks and benefits, and eliciting their values and preferences before reaching a decision [52]. Cases that are preference-sensitive, involve equipoise, or require patient engagement for successful implementation are especially suited for SDM [53]. The surgeons' reflections on how dialogue validated their authority to act surgically can be viewed as engagement with the decisional phase described in SDM [52]. However, the data do not indicate that surgeons actually shared the ultimate decision-making responsibility with patients. Ultimately, they retained the responsibility to judge whether a surgical intervention was ethically and professionally justified, particularly for frail patients or complex procedures. Part of this moral reasoning involved deliberately restraining the exercise of their authority, a reflection that may be necessary to fully consider the patient's perspectives and values. Nevertheless, limited patient capacity for participation and poor general health remained significant barriers to SDM [54]. Empirical studies in the Netherlands have shown that SDM in vascular surgery is often limited; analyses of audio-recorded consultations using the Option-5 instrument revealed low patient support in exploring options [55, 56].

The moral reasoning employed by surgeons likely influenced their clinical decisions, and variations in reasoning may help explain regional differences in the frequency of vascular procedures observed in Sweden [29]. How surgeons determine what is reasonable, navigate the patient relationship, reconcile value conflicts, and modulate their professional authority may contribute to these variations [29]. Performing vascular surgery involves far more than the application of clinical knowledge and guidelines; it is fundamentally a moral and interpretative endeavor that must be acknowledged when considering what constitutes good, equitable healthcare.

Methodological considerations

Only three of the seven hospitals invited chose to participate, which may have affected the study's validity and limited the transferability of the findings. The clinics that declined participation cited two primary reasons: insufficient time and lack of interest (n = 3), and concerns related to research ethics regarding sensitive patient information (n = 1). Additional unreported factors could include unfamiliarity with the research methods or

apprehension about being scrutinized. It is possible that the surgeons at participating clinics were more attuned to ethical considerations in everyday practice than vascular surgeons generally. Likewise, these clinics may have fostered a culture that encouraged open dialogue. Nonetheless, at two of the participating hospitals, all surgeons agreed to be interviewed, suggesting that the sample was not limited solely to individuals with heightened moral sensitivity. Including three separate clinics also allowed for the capture of social diversity, enhancing the credibility of the results. Interviewing surgeons about patients they had met on the same day generated timely and rich data, reducing the risk of recall bias or socially desirable responses. However, focusing on real-time patient encounters, rather than general questions about ethical experiences, limited the study's ability to examine structural factors—such as time constraints—or the decision-making process for acute cases.

Conclusion

Determining what is ethically appropriate for a patient extends well beyond following clinical guidelines or applying medical knowledge. The moral reasoning demonstrated by vascular surgeons highlights that ethics are deeply integrated into everyday clinical practice, shaping patient care through ongoing professional judgment. In their deliberations about what ought to be done, surgeons navigate questions of reasonableness, balancing the relief of suffering with the avoidance of harm. Performing vascular surgery requires not only medical and technical expertise but also moral knowledge, which, in these findings, is embedded in the interplay of patient relationships, value conflicts, and the moral character of the surgeon. Applying this moral knowledge in practice underscores the need for forums where ethical considerations can be openly discussed and for the continued cultivation of moral character in clinical settings.

Acknowledgments: None

Conflict of Interest: None

Financial Support: None

Ethics Statement: None

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