


Reevaluating Informed Consent: Integrating Shared Decision-Making into Spinal Surgery for Better Patient Outcomes

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Abstract

Study Design: Narrative review.

Objectives: The objectives of this study were to answer the following questions: (1) What is the quality of informed consent in spine surgery, including both neurosurgery and orthopaedic spine surgery? (2) What limitations impede the ability of surgeons to engage in effective shared decision-making (SDM) and obtain adequate informed consent? (3) What strategies and solutions may improve the quality of informed consent and SDM? (4) What factors decrease the incidence of litigation in spine surgery?

Methods: N/A.

Results: SDM is a collaborative process where patients are involved in their treatment choices through open communication about risks, alternatives, and postoperative expectations. Informed consent is a vital component of this process, ensuring that patients are fully informed and empowered to make decisions based on their values and preferences. This review highlights the current state of informed consent within the context of SDM in spine surgery and explores how enhancing this process can improve patient outcomes, reduce dissatisfaction, and decrease litigation. By emphasizing patient autonomy and improving the quality of risk communication, SDM fosters better physician-patient relationships and more positive clinical outcomes.

Conclusions: Orthopaedic surgery and neurosurgery are highly litigated specialties, with failure to obtain informed consent frequently cited in lawsuits. These legal challenges are costly and time-consuming for both physicians and patients. Integrating SDM into the informed consent process can help mitigate these issues, leading to improved patient satisfaction and fewer legal disputes.

Keywords

shared decision-making, informed consent, spine surgery, malpractice, loss of chance, patient autonomy, risk communication

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Introduction

Shared decision-making (SDM) has emerged as a key principle in patient care, ensuring that patients are actively involved in the decision-making process by receiving comprehensive information about their treatment options and outcomes. In SDM, informed consent plays a crucial role as part of a broader process that integrates the patient's values, preferences, and goals into their treatment plan. This shift is particularly significant in spine surgery, where patients must navigate diverse surgical and non-surgical options with complex trade-offs in risks, recovery, and outcomes.^{1,2}

In a study by Grauberger et al. evaluating the most common reasons for spine surgery malpractice lawsuits, 153 plaintiffs listed failure to obtain informed consent as the primary or secondary allegation out of 233 spine surgery malpractice lawsuits queried.³ This may be attributed to factors such as the time constraints of the surgeon and the patient's fear and/or hesitancy to ask questions.⁴ Moreover, the task of obtaining informed consent is often delegated to resident physicians. Among orthopaedic residents, it was reported that only a mere 4.2% disclosed all essential information needed in the informed consent process, mainly attributed to general lack of knowledge (86.3%) and only 21.4% receiving formal training in giving informed consent.⁵

Given these challenges, this review seeks to assess the current state of SDM and informed consent in spine surgery, including both neurosurgery and orthopaedics. The authors aim to answer the following questions: (1) What is the quality of informed consent in the context of SDM in spine surgery? (2) What limitations hinder the ability of surgeons to effectively engage in SDM and obtain adequate informed consent? (3) What strategies and solutions may improve the quality of SDM and informed consent? and (4) What factors reduce the incidence of litigation in spine surgery?

Informed Consent and Malpractice in Spine Surgery

A study by Akkad et al. exploring perceptions of informed consent found that 339 out of 732 patients (46%) perceived informed consent to be safeguarding the hospital while 498 out of the 732 patients (68%) saw it as a way for doctors to assume control.⁶ Only 41% of patients (n = 300) felt it effectively communicated their wishes.⁶ The current state of informed consent is contributing to more litigation and less trust in doctors, with spine surgery being significantly affected. While informed consent can strengthen the patient-physician relationship, if done improperly, it can lead to a loss of chance if the patient is not fully informed of all treatment options or result in battery if the treatment received is not the one agreed upon.⁷ However, it is increasingly recognized that informed consent is part of the larger framework of SDM, which allows patients to make decisions aligned with their values and circumstances. This process is especially important

in spine surgery, where treatment variability demands comprehensive discussion of all available options, including non-operative alternatives.

Neurosurgery and orthopaedic surgery experienced the highest rate of malpractice claims, 18%–19% and 15% respectively, as well as the highest average payout per claim, \$487,043 and \$283,979 respectively.^{8–10} Litigation in spine surgery due to lack of informed consent is a healthcare burden, costing upwards of 5 billion United States dollars (USD) per year, consuming surgeons' time and escalating healthcare expenses.^{10,11} A separate study by Elsamadicy et al. evaluating neurosurgery showed that there were 7 prevalent presenting medical conditions that resulted in the highest malpractice suits and 6 out of the 7 were related to spine surgery.¹² This is highlighted by Epstein et al.'s study evaluating 78 malpractice lawsuits involving cervical spine procedures, of which 12 came from orthopaedic surgery and 39 from neurosurgery.¹³ More importantly, 44 (56.4%) of these cases lacked proper informed consent.¹³ While informed consent is a notable topic of medical malpractice litigation, it is important to note that when proper informed consent was obtained it was found to be predictive of a verdict in favor of the defending surgeon.³

Current Barriers

Informed consent discussions in spine surgery have been shown to be insufficient regarding discussions of possible complications. An observational study determined that among 12 spine surgeon consultations, only 41% of patients stated they understood the risks during informed consent.¹⁴ Grauberger et al. reviewed 233 malpractice cases from patients who underwent spinal surgery and determined that insufficient risk documentation and the lack of information regarding alternative treatment options were cited to be among the most common reasons for litigation.³ Esemann et al. examined clinic letters and consent forms for 100 consecutive spine surgery cases, finding that consent forms inadequately recorded the indications and risks associated with elective spinal surgery, notably missing the risk of recurrence (62%) and sphincter disturbance (85%).¹⁵ Clinic letters exhibited similar deficiencies (less than 50%) and only half of them discussed alternative treatment options; as a loss of chance, this deprives the patient of a potentially better outcome.¹⁵ Regardless of the reason, poor communication of these risks damages the patient-surgeon relationship which ultimately increases the likelihood of litigation in the presence of an adverse outcome.³

In *Thefaut v. Johnston* (2017), a malpractice case where the ruling was in favor of the plaintiff due to the defendant not receiving proper informed consent for an elective spinal surgery, it was ruled that "[informed consent] has to be an ongoing process with adequate time and space for the patient to reflect on the advice given and to come to their own decision".¹⁶ As each procedure is unique, it is impossible to fit informed consent into a standardized time limit; however,

sufficient opportunity should be provided to allow the patient ample time to consider risks, benefits and alternatives, and answer any questions that may arise between informed consent and the procedure. It was found that surgeons spent approximately 16.1 minutes obtaining informed consent for elective orthopaedic surgeries, scoring 5.9 out of 18 on the IDM-18 scale, whereas orthopaedic surgeons who obtained complete informed consent spent 21.3 minutes scoring greater than 10 out of 18.¹⁷ Completeness was determined using an IDM-18 scale where surgeons were scored 0, 1, or 2 on 9 different criteria for informed consent, such as patient's understanding, alternatives and more. With limited time spent with discussions between patients and their surgeons, the opportunity for questions to be answered during the informed consent process may be insufficient. In fact, informed consent documentation commonly takes place the day of the surgical procedure, leaving insufficient time for the average patient to be effectively informed and engage in SDM. Due to the demanding and various responsibilities of surgeons, it can be difficult to dedicate enough time for each patient to ensure quality informed consent, and this can negatively impact a patient's expectations and ability to make an informed decision. The issue of informed consent is often left to residents who feel pressured and unprepared for the task at hand, resulting in the patient not being able to receive the full scope of informed consent and not being able to have their questions adequately answered.¹⁸ In order to resolve this, training should be standardized to comply with medical and legal standard of care protocols, with supervision from attending surgeons.¹⁹ Without proper training, a lack in confidence further heightens patient anxiety and is often associated with unfulfilled informational needs during the informed consent process.²⁰

Another hurdle that must be overcome is the discrepancy between the informed consent information being released by the surgeon/resident to the patient and the details sought out by the patient. Due to the limited time and lack of a standardized protocol for obtaining informed consent, inconsistencies arise as the surgeons' details of choice for informed consent can become influenced by the surgeon's preconceived notions about a patient's values and desire for informed consent.¹⁴ From a patient standpoint, a patient's values, beliefs, and perspectives on health may impact whether they skim through their informed consent forms or want to know every detail.²¹ One study demonstrated that about 40% of patients underwent spine surgery without reading the informed consent document or being fully aware of the risks posed by the procedure, while 16% felt they needed more information than supplied and used external resources, such as the internet.²¹ Notably, this 16% were younger patients and those with higher education.²¹ Perhaps this can be explained by the fact that the knowledge gap about a given procedure has great variability between surgeon and patient. Patients with higher education therefore have greater informational demands regarding their procedure. It is the surgeon's duty to bridge this knowledge

gap and fulfill a patient's informational needs regarding their surgery. It is important to consider that informed consent is an individualized process, which contributes to the difficulty in standardizing the process. To navigate this individualized process, SDM can be implemented by exploring the patient's goals of treatment. Once the patient's goals are determined, the surgeon can better present treatment options and fully disclose the risks and benefits of each.

Unstandardized informed consent protocols along with limited time to obtain it, further complicate patient education and expectations, inciting anxiety and adversely impacting patient-physician rapport. With the current obstacles present in obtaining informed consent for spine surgeries, careful attention should be made to ensure that the patient is fully informed about the procedure they are about to undergo, in a format most suitable for their understanding. With clear discussion about a patient's role, context and reasoning for surgery, alternatives, risks and benefits, understanding, preference, and need for additional information, ensuring all topics are met, this can set realistic expectations for patients, satisfying their need for informed consent. While this may add time to the process, the time lost is greatly outweighed by the gain in patient understanding and trust towards patient-physician relationship. Moreover, providing patients additional time to reflect on their decision after the initial informed consent process has been shown to enhance patient satisfaction and engagement in SDM. This reflection period allows patients to process the information received and make more considered decisions, particularly in complex procedures, where the decisions involve a range of intricate options, significant risks, and long-term implications for the patient's quality of life. By allowing time for reflection, the decision-making process can unfold more thoughtfully, following a structured progression. Patients' decision-making processes typically consist of four key steps: first contact, informal decision-making, gathering relevant information, and formal decision-making.²² Allowing adequate time for reflection within these stages ensures patients make more informed decisions tailored to their individual circumstances.

Proper informed consent aids in strengthening the patient-physician relationship through SDM. This aligns the treatment received with the desired outcome from the patient's perspective, leading to higher patient satisfaction. This also reduces costs, as those who truly do not desire treatment are less likely to undergo elective surgery when their preferences are fully understood and all non-operative options are presented to them. SDM is often done in either a paternalistic way, where the surgeon directs the patient toward what they think is the desired treatment, an informed model, where the surgeon only presents unbiased information, or some combination of the two.

Proposed Solutions

Where the current informed consent process is lacking, SDM offers a framework to improve this process by ensuring that

patients are actively involved in their treatment choices. SDM helps alleviate patient anxiety by providing clear communication about both surgical and non-surgical options, allowing for informed choices that align with patient goals. Additionally, the global healthcare landscape has increasingly emphasized SDM as a way to improve patient satisfaction and outcomes, while reducing litigation risks. This is especially true in countries across Europe, where litigation often stems from patients not being fully informed about non-surgical or alternative treatments that could have prevented complications.²³

A study by Deme et al. highlights key insights into the gaps in SDM between patients and surgeons when considering surgery for adult spinal deformity.²⁴ Patients often viewed surgery as their only option, mentally committing to the procedure before meeting their surgeon and focusing more on the potential benefits while minimizing the risks.²⁴ On the other hand, surgeons faced challenges in aligning their goals with those of patients, as patients prioritized complete pain relief, while surgeons focused more on functional improvements.²⁴ Additionally, surgeons varied substantially in their interpretations of SDM, and often felt that patient expectations had to be recalibrated during consultations.

In the context of lumbar spinal stenosis (LSS), Asthana et al.'s scoping review emphasized that LSS is a preference-sensitive condition, where multiple treatment options exist, each with trade-offs in cost, recovery time, and quality of life.²⁵ This makes SDM especially crucial in ensuring patients understand the potential risks and benefits of both conservative and surgical interventions. Asthana et al. also noted that decision aids have been used in some studies to facilitate the SDM process, but their effectiveness in improving patient understanding remains unclear.²⁵ Further research is needed to explore how SDM and decision aids can enhance patient education and satisfaction in LSS care.

Supplemental patient education materials, such as decision aids, can also support SDM by helping patients understand their treatment options and the associated risks and benefits. Tools like the spinal neurosurgery question prompt list (SN-QPL) have shown promise in increasing patient engagement and comprehension by guiding discussions on key topics, such as postoperative deficits and surgical safety.⁵ These tools can help ensure that patient preferences are integrated into the decision-making process, aligning with the principles of SDM.

By integrating these findings into the informed consent process, surgeons can be more proactive in addressing patient expectations early in the decision-making process. This ensures that patients not only understand the full range of treatment options but also have realistic expectations about the outcomes of surgery. Tools that facilitate more effective SDM are needed to better prepare patients for surgery, helping them weigh risks and benefits more comprehensively. Implementing this approach ensures that patients' individual circumstances, such as their age, health status, and personal goals, are

fully considered, resulting in better patient satisfaction and reduced litigation.

With adequate time and proper communication, patients can better understand the risks, benefits, and alternatives to surgery, thereby improving their overall satisfaction.²⁵ By fostering SDM, surgeons can ensure that treatment plans align with patient priorities, such as managing pain or improving function, while also minimizing the risk of dissatisfaction and litigation. This patient-centered approach leads to better outcomes and reduces unnecessary surgeries, as patients may opt for non-operative treatments when fully informed about all their options.

To address time constraints in the informed consent process, two adjustments can be made: allocating dedicated time for the consent process at pre-operative clinics, and prioritizing resident education on SDM.^{5,19} By effectively communicating risks, benefits, and expectations, and involving patients in SDM, surgeons can alleviate patient anxiety, enhance patient care, and further reduce the risk of lawsuits.¹⁵ Since residents are often tasked with obtaining informed consent in academic settings, they must be properly trained in how to guide patients through SDM to ensure patients understand their choices fully.²⁶ Educational programs have shown that training residents on the informed consent process improves their ability to explain risks, benefits, and alternative treatments effectively.²⁷

Regarding the presentation of these changes to the process, simplifying medical terminology in consent documentation, using short sentences, diagrams, and visual aids, also enhances patient comprehension.²⁸ Techniques like the teach-back method can ensure that patients grasp the information being communicated. For non-native English speakers, informed consent documents must be available in their native languages, and certified translators should be utilized. Collectively, these strategies improve patient comprehension, satisfaction, and commitment to treatment, reducing the likelihood of legal claims.⁴

By shifting the focus from informed consent in isolation to a more holistic SDM approach, patient care in spine surgery can be significantly improved. Patients will be better informed, more involved in their care, and better equipped to make decisions aligned with their individual preferences and health status. This ultimately strengthens the patient-surgeon relationship, improves outcomes, and reduces the likelihood of litigation moving forward.

Conclusion

Although the informed consent process plays a critical role in addressing malpractice suits against spine surgeons, its primary goal is to enhance patient care by fulfilling ethical and legal obligations. However, the modern shift toward SDM goes beyond the traditional scope of informed consent, ensuring that patients are actively involved in their treatment decisions. Factors such as inadequate resident training,

insufficient time for discussions, and variable health literacy continue to inhibit the effectiveness of informed consent. To overcome these barriers, surgeons and residents must be trained not only in delivering information but also in engaging patients through SDM, which incorporates the patient's preferences, values, and individual circumstances into the decision-making process. This approach leads to better patient understanding, stronger patient-surgeon relationships, and a reduction in unnecessary procedures and litigation. By focusing on SDM, we can improve the quality of care in spine surgery and address the root causes of dissatisfaction and legal disputes.

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