

Minimizing harm via psychological intervention: Response to Glannon

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ABSTRACT

In a recent discussion, Walter Glannon discusses a number of ways we might try to minimize harm to patients who experience intraoperative awareness. In this response I direct attention to a possibility that deserves further attention. It might be that a kind of psychological intervention – namely, informing patients of the possibility of intraoperative awareness and of what to expect in such a case – would constitute a unique way to respect patient autonomy, as well as minimize the harm that typically follows intraoperative awareness events.

In spite of advances in the science and techniques of anaesthetics, intraoperative awareness during general anaesthesia remains a troubling feature of surgical practice. It is estimated that roughly 1-2 out of every 1000 patients who undergo general anaesthesia not only become aware during surgery, but have recall of doing so. In North America alone, roughly 21 million patients undergo general anaesthesia each year,[1] yielding a possible 31,500 cases of intraoperative awareness. This might be an understatement. As Errando and Aldecoa note, including lost cases and those categorized as possible cases of intraoperative awareness might double or triple this number.[2] What is troubling about this is the propensity of intraoperative awareness to harm patients. Episodes of intraoperative awareness – especially in those undergoing high-risk surgeries – are associated with acute negative emotions and pain during surgery, as well as negative psychological symptoms long after surgery, including post traumatic stress disorder.[3,4]

In a recent discussion, Walter Glannon discusses a number of ways we might try to minimize harm to these patients.[5] Some of these constitute what we might call neurochemical interventions. These involve the targeted use of drugs such as midazolam or propranolol to either minimize patient anxiety during or after intraoperative awareness episodes, or to disrupt memory consolidation surrounding such episodes. Briefly, however, Glannon mentions a kind of intervention that is psychological in nature. He does so while discussing surgeries that might involve expected awareness. The tactic is simple to understand: the anaesthetist tells the patient about the drugs she will receive, and perhaps something about how they will work. Here is Glannon:

The risk of panic could be minimised if the anaesthetist preoperatively informed the patient that he would receive a paralysing drug, provided that he formed and retained a memory of this information. This could be a necessary component of the patient's informed consent to surgery . . . In expected awareness, fear and panic systems in the amygdale and brainstem

might be primed for the experience and not be activated to the same degree as they would be in a case of unintended and unexpected awareness.[5] (p. 3)

Although Glannon does not explicitly consider it, this tactic could also be used before surgeries in which no awareness is expected. More specifically, it is possible to inform patients not only about the drugs they will receive, but also about the small possibility of intraoperative awareness. It is also possible to give patients some idea of what to expect in the occurrence of such an event, and it is perhaps possible to offer advice concerning how best to mentally cope with such an event.

Might informing the patient minimize the harmfulness of unexpected intraoperative awareness? The issue is empirical: it is possible to study the influence of information delivery and resulting patient beliefs and expectations on the harmfulness of intraoperative awareness experiences. Moreover, there is some reason to expect that providing patients with information about the possibility of intraoperative awareness, coupled with information about the surgery and what their experiences may well be like, could minimize the harm of these experiences. Consider, for example, evidence from work on how and why childbirth sometimes leads to PTSD in mothers (a recent national survey in the US put the rate of PTSD after birth at between 2 and 9 percent). Among factors leading to a more positive birth experience, and to lower rates of PTSD, are the expectations mothers have going into the birth experience, and the amount of control they perceive themselves to have throughout the experience.[6-9] Of course, it is not clear whether data drawn from traumatic birth experiences will transfer to traumatic intraoperative awareness experiences: there are important differences between cases. Unlike intraoperative awareness, labour is expected (though certain complications with labour might not be). And women in labour often have access to support and retain abilities that paralyzed but aware intraoperative patients do not. Even so, the possibility that informing patients beforehand of the possibility could contribute to a greater sense of control over how intraoperative awareness experiences go for the patient, and thereby reduce the harm such patients undergo, certainly deserves further attention.

A full-information approach might also work well with the kind of therapeutic follow-up that should happen in any case of intraoperative awareness. It is well-known, for example, that (a) patients in intensive care often go on to develop PTSD because of experiences there, but also that (b) the use of intensive care diaries, in which caregivers and sometimes family describe details of the patient's treatment and experience for the patient, significantly lower rates of PTSD. Jones et al. hypothesize that the use of such diaries works in part by helping patients reconstruct their essentially gappy memories of the relevant events, as well as helping them place harmful or delusional beliefs into context.[10] It is a promising thought that such an approach might work well for patients who experience intraoperative awareness as well. Informing patients of the possibilities beforehand, and following up with patients who actually experience intraoperative awareness, seems a non-invasive, low cost and potentially effective method for reducing the harm such patients undergo.

Glannon considers whether anaesthetists should inform patients of the possibility of intraoperative awareness, and construes the issue as largely dependent on interpretations of respect for autonomy and informed consent. A strong interpretation would favour informing the

patient, while a weak interpretation would not favour the opposite. This is perhaps right, but in my view if the use of a psychological intervention like the one suggested here is effective, the issue becomes more complicated. It is possible that by informing the patient of the possibility of intraoperative awareness, one gives the patient a chance to exercise control over how their intraoperative experience might go. Rather than experiencing the event as something going horribly wrong, patients might be able to locate the experience in a broader context, and take steps to control the negative emotions and the pain that often accompany such an experience. If this is right, then respect for patient autonomy might offer an additional reason to inform patients. As I said above, whether or how much this approach works is an empirical matter. In this response I wish primarily to direct attention to its potential importance.

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References

1. Orser BA. Depth-of-anaesthesia monitor and the frequency of intraoperative awareness. *N Eng J Med* 2008;358:1189-1191.
2. Errando CL, Aldecoa C. Awareness with explicit recall during general anaesthesia: Current status and issues. *Brit J Anaesthesia* 2014;112:1-4.
3. Samuelsson P, Brudin L and Sandin RH. Late psychological symptoms after awareness among consecutively included surgical patients. *Anaesthesiology* 2007;106:26-32.
4. Mashour GA. Posttraumatic stress disorder after intraoperative awareness and high-risk surgery. *Anaesth & Analg* 2010;110:668-670.
5. Glannon W. Anesthesia, amnesia, and harm. *J Med Ethics* 2014;0:1-7.
6. Crowe K, Baeyer C. Predictors of a positive childbirth experience. *Birth* 1989;16:59-63.
7. Waldenström U, Hildingsson I, Rubertsson, C *et al.* A negative birth experience: prevalence and risk factors in a national sample. *Birth* 2004;31:17-27.
8. Maggioni C, Margola D and Filippi F. PTSD, risk factors, and expectations among women having a baby: a two-wave longitudinal study. *J Psychosomatic Obst & Gyn* 2006;27:81-90.
9. Beck CT, Gable RK, Sakala C *et al.* Posttraumatic stress disorder in new mothers: Results from a two-stage US national survey. *Birth* 2011;38:216-227
10. Jones C, Backman C, Capuzzo M *et al.* Intensive care diaries reduce new onset post traumatic stress disorder following critical illness: a randomised, controlled trial. *Crit Care* 2010;14:R168.