



EDITORIAL

Neurosurgical priority setting during a pandemic: COVID-19

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PRiority setting (formerly known as resource allocation) refers to the process of fairly allocating resources when there are competing needs/requests. A simple illustrative example is that of the yearly equipment budget in a hospital wherein three major requests are made of the hospital's administration for neurosurgical equipment but there are only sufficient funds to purchase two of the three items requested. Which two are selected? How is a fair and ethical decision made? The modern ethical framework "the accountability for reasonableness" helps ensure fairness of decisions. The four pillars of this framework are relevance (i.e., the reasons for the decisions), transparency (i.e., ensuring the major stakeholders are privy to the reasons), appeals (i.e., ensuring the stakeholders can appeal the decision), and oversight (i.e., periodic review to make sure the system is working fairly). Research demonstrates that, in general, patients are appreciative that there is such a system in place.¹ Regarding priority setting during pandemics, we have learned some important lessons from epidemics like SARS,² and recent erudite and thoughtful reports are already emerging regarding the current COVID-19 pandemic.³

Allocating inanimate resources such as money or equipment to a group of surgeons or a hospital is challenging enough, but allocating resources that directly impact individual patients' lives demands the highest scientific and moral considerations. Having to choose one patient over another for care not only is ethically daunting but it is every physician's worst nightmare. In spite of the risk to ourselves, our nurses, and other patients, our duty to care supersedes all of these considerations. But how do we best decide which patients' needs supersede safety and resource considerations and warrant surgery during a period when surgical activity in hospitals is effectively shut down?

If our hospitals do not become overwhelmed, for patients requiring emergency life- or limb-saving surgery such as those with epidural and subdural hematomas and

selected intracerebral hematomas, the decision is relatively easy, and these cases proceed "as usual." At the other end of the spectrum are patients with symptomatic spinal stenosis or hyposymptomatic meningiomas where decision-making is also simple: these patients can safely wait many months for surgery with interval medical management of their symptoms. But what about nonemergency but urgent scenarios such as a patient with a brain tumor and progressive hemiparesis or a patient with progressive cervical spondylotic myelopathy? Kantian or deontological ethical theory simplistically advises us to do "the right thing" for each patient irrespective of the consequences, and utilitarianism or consequentialist ethical theory dictates that we do what provides the best results for the largest number of people. The latter theory generally prevails in difficult large-scale health crises like the current COVID-19 pandemic mainly because the needs of the one must be second to the needs of the many in catastrophic situations.

In the current pandemic, what exactly are the competing needs? It is not competition for operating room time, as all hospitals presently have plenty of empty operating rooms. It *might* be competition for beds, as surgical beds may fill up with medical, and specifically COVID-19, patients. However, the main competing interest is the potential deviation from the most desirable situation: to have no surgery going in order to conserve precious resources like masks, gowns, and ventilators and also minimize the safety risk to anesthetists, nurses, and surgeons. In deciding which surgeries should go forward, there are two confounding variables. The first is the biology of disease. All neurosurgeons have seen some malignant gliomas or sizable metastatic tumors progress more slowly than they initially might have thought. In other words, in any given case we do not know precisely how rapidly the disease will progress. The second is our lack of knowledge as to when the COVID-19 curtain will lift, and it will be "business as usual." If we knew things would be back to normal by a certain date, we could all plan more effectively and

make more informed decisions. In fact, we do not know this, and it will likely be several months before things are back to any semblance of normal.

So for now, every surgeon who encounters an urgent case must ask him- or herself: “Is this patient likely to be able to safely wait for things to return to normal without incurring further neurological deficit and/or progression of disease to a point where it is less amenable to treatment?” If the answer is yes, the surgeon is morally bound to not clutter up a terribly stressed system with the surgery. If the answer is no, then the surgeon is morally bound to advocate strongly for the patient and navigate the system to get the surgery done in a timely manner. In the event of multiple urgent patients with multiple prognoses being in the queue at the same time, it has been recommended that prioritization decisions should be random, as in a lottery, as opposed to “first come, first served.”³

In most if not all hospitals, surgeons will not have any dedicated operating room time during the pandemic like they previously had but will submit a case they feel needs to be done to a small committee who will decide whether the case should be done urgently or not. With respect to the accountability-for-reasonableness framework in this setting, the surgeon must clearly articulate the reasons he or she feels the patient needs an urgent operation; the decision-making must be transparent to all stakeholders, including, in an ideal world, the patient; the surgeon must feel comfortable to appeal the decision should he or she not agree with it, and there must be oversight of the process periodically during the affected epoch to ensure its efficacy and fairness.

This frightening pandemic highlights the fragility of our planet, but, amidst the chaos and fear, we must all stick to the basic principles of fairness in decision-making regarding, for example, which patients should be operated on in a time when resources are scarce and risk to the entire system is increased by having patients undergo surgery.

<https://thejns.org/doi/abs/10.3171/2020.4.JNS201031>

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Disclosures

The author reports no conflict of interest.

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Published online April 17, 2020; DOI: 10.3171/2020.4.JNS201031.