# Case 15—A Patient's Right to Treatment (and a Surgeon's Right to Refuse)

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DJ was a 55-year-old man who arrived at the emergency department of a community hospital with a high fever and altered mental status. Doctors admitted him for treatment of septic shock. He received intravenous fluids and antibiotics, as well as vasopressors to help maintain adequate blood pressure. Blood culture tests revealed polymicrobial pathogens, a combination of viruses, bacteria, fungi, and parasites. A transesophageal echocardiogram revealed vegetation on the patient's aortic valve, an indication of infective endocarditis. DJ was transferred to a tertiary care hospital to be evaluated for cardiothoracic surgery and valve replacement.

DJ's medical history revealed that a year earlier he had some dental work done "in a garage," after which he developed endocarditis and had an aortic valve replacement. Two years prior to that surgery, he had been seen in another local hospital with left lower leg cellulitis and endocarditis, for which he was prescribed a 6-week course of antibiotics. DJ discontinued taking the prescribed medication after three weeks because he started to feel better. DJ also had a history of chronic pain syndrome and fibromyalgia, which had been treated over a period of 13 years with Duragesic patches and Dilaudid dispensed from a pain management clinic, until new state legislation put the clinic out of business. DJ had also been diagnosed with bipolar disorder for which he was taking no medication. He had other surgeries on his right knee and ankle, his left wrist and hip, as well as a splenectomy (removal of one's spleen, an organ that helps fight infection and filters damaged blood cells), which was required after he had sustained a gunshot wound.

The day after DJ's admission to the hospital, he was seen by a cardiothoracic surgeon, who found a used syringe under DJ's bed. DJ admitted to using a variety of narcotics, mostly injecting heroin, in attempts to better control his pain and mood swings. The surgeon documented in DJ's chart that he believed redoing the valve replacement when DJ continued to inject heroin (thus greatly increasing the risk of reinfection and need for repeated heart valve replacements) was futile. The surgeon recommended that DJ be given a prescription for antibiotics and be discharged since he was not a good candidate for surgical intervention. The attending physician also requested a consult with an infectious disease specialist, who documented that



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the polymicrobes found in DJ's blood cultures were extremely resistant to antibiotics. The infectious disease specialist recommended a 6-week course of intravenous antibiotics, which were to be started immediately and which could be administered in a skilled nursing facility instead of the hospital.

The social worker assigned to DJ's case attempted to find an available Medicaid bed for him in a nursing home as DJ did not have health insurance. Meanwhile, he developed fungemia (the presence of fungi or yeasts in the blood) and was started on intravenous antifungal medications in addition to the intravenous antibiotics. During this time, DJ was only intermittently responsive and he appeared even more lethargic than would have been expected given the relatively modest doses of pain medication he had been receiving. More used syringes were discovered in DJ's room, along with a knife, two spoons, three empty bottles of Dilaudid, and two nearly empty bottles of vodka. "It's my girlfriend," DJ told the social worker, "she's the one who brought in the drugs and alcohol! I didn't touch anything!".

An ethics consult was called the following week by the attending physician, which was also attended by the infectious disease specialist and the cardiothoracic surgeon. The infectious disease specialist advocated strongly in favor of surgery as the best treatment for DJ, recommending that it be scheduled after three negative blood culture test results indicated an absence of infection.[1]

The surgeon again expressed reservations, stating not only his concern for the high risk of mortality and complications, but also the high risk of reinfection, were the patient to continue injecting drugs. He bolstered his position by saying that most other cardiothoracic surgeons would refuse to perform surgery on this patient under the present circumstances. He finally agreed that if the antibiotics and antifungal medications were effective, and if three consecutive negative blood cultures were obtained, he would perform the surgery, but only if DJ signed an agreement stating that he would not continue to inject heroin. The ethics committee endorsed the proposal of asking DJ to sign an agreement, stating they found no medical contraindications to the surgery.

DJ remained in the hospital and received the intravenous antibiotics and antifungal medications. His room was monitored carefully, and no additional used syringes or liquor bottles were found. His mental status and lethargy improved somewhat, and three negative blood cultures were obtained after the full course of intravenous antibiotic treatment. As part of the consent process for the valve replacement surgery, DJ signed an agreement stating he would no longer inject drugs. The cardiothoracic surgeon was consulted again, and although he reinforced his earlier position that he believed DJ would be unlikely to stop injecting drugs despite the agreement, he agreed to perform the surgery.

After a complicated post-operative course, DJ was discharged to a rehabilitation facility, where he received physical and occupational therapy. He also met at least once with a substance abuse counselor on retainer at that facility, and he denied using any injectable drugs, including heroin. DJ was discharged home after 6 weeks.

Shortly thereafter, his girlfriend brought him back to the hospital's emergency department after finding him unresponsive. The work-up revealed complications from a methicillin-resistant *Staphylococcus aureus* (MRSA) endocarditis involving his new aortic valve.[1] Despite aggressive intravenous antibiotic therapy, DJ's confusion worsened and he was diagnosed with multi-system organ failure and severe sepsis. He died later that evening.

## Discussion Questions

1. Imagine that you are a member of the ethics committee. What would you recommend in this case?
2. How can physicians provide care to patients such as these, when they present with legal and social problems in addition to serious medical problems?
3. Is it ethical to require patients to sign agreements about their post-operative care?
4. When making medical decisions, are there differences between allocating scarce resources such as organs versus surgeons' time and expertise?
5. Do patients have a "right" to medical treatment? Is access to health care a privilege or a right?
6. Under what conditions might our access be rightfully limited?
7. Are there situations in which physicians should be required to provide futile care?

## A Bioethicist Responds

DJ's story contains elements regrettably found in numerous patient stories today. It is the story of a patient who has become dependent upon, if not addicted to, prescription pain medication; who was unfunded; who suffered from chronic health problems; who had undergone several, doubtless expensive, medical interventions; who had apparently failed to deal with his bipolar disorder, either because of neglect or because of inability/unwillingness to afford or tolerate appropriate medication(s) for it; and, who nevertheless continued his drug habit after hospital admission. Patients like DJ are not popular in hospitals, and few physicians are eager to have them in their charge. It may therefore not be surprising that the cardiothoracic surgeon went to the lengths he did before agreeing to perform the heart valve replacement, an agreement he made conditional upon the following: (1) DJ's completion of a course of antifungal/antibiotic treatments; (2) three consecutive negative blood cultures following this course of treatments; and, (3) DJ's signature on an agreement that he would no longer inject drugs. The sad outcome of this case aside, one would have relatively little difficulty constructing an argument in support of the surgeon's position were the defense of it to be established largely on the medical facts of the case, DJ's medical and behavioral history, and the principles of justice, nonmaleficence and beneficence (which together could be shown to outweigh DJ's demand for autonomy), especially if justice were emphasized.[2]

Approaching the case in such a manner would lend validation to the surgeon's position, particularly if efforts were made to eliminate any personal bias of DJ himself while assessing strictly the facts, history and principles mentioned above. Nonetheless, such an approach would still be unsatisfying, for at the very least nothing would have been said of the virtues, those habits of being that truly give the medical enterprise its human character. The virtues must certainly be taken into account, but an account of the virtues alone in this case might still not be acceptable to those used to a broader perspective. A narrative approach might be very useful, but it would not be sufficiently normative to this writer's mind. Should we opt for a case-based approach? Possibly, but selecting a particular "method" of analyzing this case is perhaps to pose the wrong question in the first place. I suggest that the more cogent issue has rather to do with the very question of *rights* themselves, the rights of both patient and physician, which is to say, of both DJ and the cardiothoracic surgeon.

The debates over *patient rights to refuse treatment*, *patient rights to treatment*, and *physician rights to refuse to treat* (a patient or disease) are legion. Those related to patients refusing treatment have generally focused on issues of autonomy, although questions of informed consent, which therefore raise questions of beneficence and nonmaleficence by implication, have also been common. This is such a well-known subject area that it needs no further discussion here.

The subject of *patient rights to treatment*, strictly speaking, has received far less explicit attention over the years. In fact, it is difficult to identify much in the literature that speaks directly to a patient's "right" to treatment. In 2014, Lepping and Raveesh published an interesting piece that dealt with involuntary detention and treatment in psychiatric care, an issue that had been, as they noted, "subject to endless legislation, campaigns, criticism and ethical debate across the globe" (Lepping and Raveesh 2014, 1). Reference to an article focusing on psychiatry and involuntary detention of patients in the context of DJ's case may seem odd, but I mention it here because I believe it will serve, albeit ironically, as a kind of "inverse" support for a point I will emphasize later in the context of care, and because it leads directly into the thrust of Lepping's and Raveesh's argument, which is: "A psychiatric practice less concerned with the primacy of autonomy would more seriously consider the patient's relationships, their care needs and their long-term social contexts. It would give more importance to the opinions of significant persons in the patient's life, and consider these opinions to form a view of the patient's best interests that is not merely based on theoretical wishes and aims" (Lepping and Raveesh 2014, 2). While Lepping and Raveesh would in no way run rough shod over the autonomy of a patient, even one severely mentally ill, they would insist on taking careful account of the wider network of relationships in which the patient lives and to which he or she must ultimately return post-treatment. In other words, the patient's relationship(s) to another, not to mention to her/his broader environment, is of singular importance.

Meyerson (2015) directly addressed the question of *patient rights to treatment* and examined the claim that patients have a "right" to an innovative surgical procedure that is yet to receive full FDA approval.[3] Following considerations of

patients in both terminal and non-terminal conditions, positive and negative rights, a proportionality analysis (such as the point at which one person's rights usurp the rights of another), and competing interests of various kinds, Meyerson calls for a middle road between the conservative view, where an oversight committee could automatically deny a procedure request, if it believed an innovative procedure to be too risky (despite the patient's assessment that the risks were worth taking), and the liberal view, where a patient's wishes would always be respected. Meyerson argues her point on the basis of proportionality, noting that the choice to undergo innovative surgery is an intensely personal one that is made in an effort to preserve one's life or to protect one's health, and that the arguments for blocking access must, therefore, be sufficient to demonstrate that what is to be gained by prohibition is sufficiently important to compensate for interference with patient rights (Meyerson 2015, 350).

The subject of *physician rights to refuse to treat* could be traced into ancient and medieval history, an unnecessary exercise for present purposes, but it is worth recalling the discussions that developed as a result of widespread HIV infection. Norman Daniels emphasized some of the most important points on this specific topic regarding nosocomial risks, justice, professional obligations of physicians to patients, the concept of the virtuous physician, and the limits of a duty to treat (Daniels 1991). The central issue for Daniels, after due consideration of each of the foregoing points, was that a just society requires adequate access to treatment be available for HIV patients. He acknowledged this will mean our having to overcome certain financial, personnel and geographical barriers, which may lie at the source of physician reluctance to treat HIV patients, but he concluded by stating that, "we can best reaffirm that physicians have a duty to treat despite nosocomial risks if we show our social commitment to assure access to care in all feasible ways" (Daniels 1991, 46). Daniels' article was born of a particular set of historical circumstances, but his emphasis on the physician's duty to treat (albeit through our social commitment to assure access to care) is noteworthy.

Nonetheless, positions virtually to the contrary are espoused by many others, especially where it is felt that physicians are not ethically obligated to provide care considered to be futile, unreasonable, or simply not medically indicated (Luce 1995).

And yet, there are those who seriously challenge any suggestion that physicians should refuse to treat patients—physicians' best medical judgments, nonmaleficence, futility, concerns over resource allocation, or physician autonomy notwithstanding. Philosophical arguments have been offered to defend the position that it is competent patients who should decide whether or not they wish to have certain treatments, particularly when physicians raise futility arguments, and despite the likelihood of a treatment's success or of a patient's chances of survival (Wreen 2002). Others have argued more pointedly that the basic model for decision making should put the patient and his or her values at center stage, and that "in futility cases, short of certainty that a result desired by the patient cannot be achieved, the question of futility is not one for which HCPs (health care professionals) should be the ultimate judge" (Gampel 2006).

In my view, none of these approaches offers much help with respect to the case of DJ, for none takes sufficiently into account the relationship between physician and patient that is absolutely central to the fact of illness and the practice of medicine, not to mention the concept of "beneficence-in-trust" that must ground the physician-patient relationship (Pellegrino and Thomasma 1988). Readers will also find a very useful, albeit short, treatment of this concept in Sulmasy's *Forward* to a 2001 collection of some of Pellegrino's seminal writings (Bulger and McGovern 2001). Central to beneficence-in-trust, and to a possible understanding of DJ's situation, is what Pellegrino and Thomasma mean by the term itself: "By beneficence-in-trust we mean that physicians and patients hold "in trust" (Latin, *fiducia*) the goal of acting in the best interests of one another in the relationship" (Pellegrino and Thomasma 1988, 54). What this ultimately means is that the physician and the patient have responsibilities not only toward one another, but that the patient also has responsibilities for her/his own health; it is not the physician alone who is responsible for the best (health) interests of the patient. Pellegrino and Thomasma do indeed make clear that beneficence-in-trust is their attempt to describe a middle road between paternalism and autonomy, but they also make it clear that, "since one cannot heal by neglecting or overriding patient wishes, physicians must be stewards of patient values and preferences whenever possible" (Pellegrino and Thomasma 1988, 202).

The problem for DJ's physicians, however, and most especially for the surgeon asked to perform the valve replacement, is that there is no evidence that any of them developed a relationship with DJ sufficient to where they could possibly have become adequate stewards of his values and preferences. What little any of the health care professionals in the hospital knew of DJ was that he had proven himself to be unreliable; moreover, the surgeon had stated early on that he felt doing the valve replacement would be futile as long as DJ continued to inject drugs. I doubt even Pellegrino would have disagreed with the surgeon on this point, and yet the surgeon appears to have given into pressure from the infectious disease specialist. That action alone is cause for ethical concern, as it calls into question either the strength of the surgeon's own convictions or the motivations for his first refusal. But, of even greater ethical concern is his insistence on the agreement DJ had to sign as a condition for the valve replacement.

This case ends tragically, if we use the term in its Classical sense, where it signifies not just death (real and/or symbolic), but also a separation, a tearing apart of the social fabric or its equivalent. There is the obvious, unfortunate end here to DJ's life story, a life story that is hardly a happy one by any definition, and that may be seen as tragic for any number of reasons; but that is only a part of what I mean by this case ending tragically. It is all the more tragic in that the surgeon chose not to adhere to his own values and best medical judgment, and which could, in fact, have been justified on the basis of doing little good, risking significant harm and in no way supporting this patient's interests and values, particularly insofar as these last were clearly unknown. Another tragedy is that the surgeon has lost his ethical compass. The ethical fabric, wherein he ought to function, and wherein he can function truly beneficently and wisely, has been torn because of his infidelity to his own values and

medical judgment. Had he refused to perform the surgery, he would certainly have acted in a paternalistic manner. Some, perhaps many, would judge such an act to be one of strong paternalism, though I would not. I would assess a refusal to treat here as soft paternalism, for given the particular circumstances of this case a refusal to perform a valve replacement might have been the most beneficent act the surgeon could have performed. His insistence on the agreement as a condition for surgery was quite another thing, however. It was not only completely foolish in that it was unrealistic on its face, but it was an unconscionable violation of patient autonomy. Furthermore, inasmuch as this agreement would have had to be part of the informed consent process and document, it effectively rendered the surgical consent invalid by virtue of the coercion that it played in the process.

## A Health Communication Scholar Responds

DJ's case resembles a case recently discussed by Hull and Jadbabai about a patient they named Mr. X (2014). Mr. X was an intravenous heroin user who presented with bacterial endocarditis requiring mitral valve replacement; his situation was exacerbated by multiple strokes and the fact that he signed himself out of the hospital against medical advice. Six months later he returned to the same hospital with severe sepsis and prosthetic fungal endocarditis, which required another surgical valve replacement. Three consultations with three different cardiothoracic surgeons agreed that Mr. X's continued injection drug use was a contra-indication for repeat valve replacement. Like DJ, Mr. X did ultimately have a second valve replacement (Mr. X needed a new mitral valve, DJ needed an aortic valve) and had a similarly difficult post-operative course and then died when his family implemented a do-not-resuscitate order. Unfortunately, the increased incidence of heroin use in the U.S. means that these ethically troubling cases may soon be ubiquitous.

Intravenous drug use is increasing rapidly in the United States. Injecting heroin has become the drug of choice among addicts since around 2012, when many states passed legislation regulating pain clinics and restricting the ability of physicians to dispense prescription pain medications from their offices (Ferraris and Sekela 2016). This legislation resulted in heroin becoming less expensive and easier to obtain than prescription opioids; heroin use almost doubled in the U.S. between 2006 and 2013 to 681,000 active users, with an estimated 169,000 starting use of the drug in 2013 (Substance Abuse and Mental Health Services Administration 2014). Heroin is now the most common illegal injected drug worldwide. The majority of people who inject drugs (PWID)[4] used to be young adults, although Wurcel and colleagues noted a recent trend toward a bimodal age distribution with peaks in the 21–35 year-old age group and the 46–60 year-old age group (Wurcel et al. 2016). The incidence of heroin-related deaths has surged as well, with nearly 6000 deaths in 2013, triple the number in 2006.[5]

The growing population of PWIDs in the U.S. has led to a growing number of people who are at risk for infective endocarditis that may require repeated surgical intervention. A recently released study of 436 patients undergoing surgery for active infective endocarditis revealed that 18% were current PWIDs (Kim et al.

2016). Overall the proportion of PWIDs who had infective endocarditis increased from 15% in 2002 to 26% in 2014. Kim and colleagues also found that PWIDs were younger and had fewer cardiovascular risk factors than people who did not inject drugs, but PWIDs had higher rates of valve-related complications, principally due to the higher rates of reinfection. Of the many medical complications of injection drug use, infective endocarditis is particularly challenging given the significant risk of operative mortality (estimated at between 8 and 37%), and social factors such as late recidivism and reinfection.

Patients who develop infective endocarditis due to intravenous drug use are not a favorite population for cardiothoracic surgeons to manage. They have a high recidivism rate, require intensive surgical interventions, and tend to rely on publicly funded medical insurance, which requires considerable resource expenditures on the part of acute care hospitals. Poor outcomes are related to drug resistance, delays in surgical treatment, the presence of concomitant risk factors and multiple organ dysfunction, acute congestive heart failure, prosthetic valve reinfection, and severity of valve injury (Ferraris and Sekela 2016; Kim et al. 2016; Wallace et al. 2002; Yamaguchi and Eishi 2007; Yankah et al. 2002).

Cardiothoracic surgeons, like the one in DJ's case, are frequently faced with the decision of whether they should perform repeat operations on a patient who has acquired infective endocarditis on a native or prosthetic valve resulting from continuing intravenous drug use. Surgeons are sharply divided on this issue (DiMaio et al. 2009). Some believe that patients should have one surgery, and if continued injection of drugs causes reinfection, the patient should only be offered antibiotic therapy. Surgeons in this camp believe there is no principled reason to do a second, or third surgery, and that spending time, energy and resources on a patient who has chosen to do him- or herself continued harm does not serve the greater good.

Others believe that claims of stewardship on the part of surgeons should be directed to the well-being of individual patients, rather than the distribution of medical resources overall. Surgeons on this side of the divide point to the fact that the primary problem for patients such as DJ is drug use, and that medical professionals must recognize drug addiction as a complex but potentially treatable disease. Asking patients like DJ to sign an agreement promising not to inject drugs, but offering no options for drug abuse treatment, counseling, or ongoing support is akin to punishment. Perhaps most persuasive is that one of the greatest risk factors for developing infective endocarditis is a previous heart operation for endocarditis, along with other factors such as poor dental hygiene. This certainly describes our patient: DJ developed infective endocarditis and had his first surgical valve replacement after he resorted to having dental work done in a garage (before which he probably should have had prophylactic antibiotics) (Nishimura et al. 2008). We do not know whether DJ was an active intravenous drug user when the second surgery was being considered. The used syringes in his hospital room and his level of lethargy unrelated to prescribed pain medication indicate the strong possibility of continued intravenous drug use, but the case narrative does not indicate whether any drug screens were conducted to confirm the health care team's suspicions. Recurrent endocarditis may result from problems unrelated to drug use and

addiction, even if the patient remains engaged in injection drug use. Those in favor of repeated surgeries claim that surgeons unwilling to operate should transfer the patient to another surgeon or facility where the operation can take place. After all, physicians confront human frailty every day—lung cancer patients who cannot or will not stop smoking, obese patients who continue to overeat, or patients like DJ who may continue to inject drugs despite the negative consequences of doing so (which along with intense drug craving, defines addiction).

Surgeons on both sides of this divisive issue tend to focus on the immediate needs of the patient in front of them—should I operate (again) or not?—without necessarily considering the bigger picture. One could argue that DJ's problem was his injection drug use, not his heart. One thing surgeons could do is to insist that patients such as DJ meet with drug counselors and rehabilitation specialists while surgery is being considered. Patients with infective endocarditis spend 4–6 weeks in the hospital for intravenous antibiotic therapy, which provides ample time for surgeons and other physicians to gain their trust and at least introduce the idea of drug treatment along with surgery and other medical treatment and rehabilitation (Ferraris and Sekela 2016). The case narrative states that DJ did meet with a substance abuse counselor while he resided in a rehabilitation facility after his second valve replacement surgery. We know nothing about their conversation or what, if any, on-going support was offered, nor do we know whether DJ wanted to stop using drugs, or had in fact already done so. We do know that recovery from addiction requires a high level of on-going support, and that recovery may be interrupted with relapses, sometimes after long periods of abstinence (DiMaio et al. 2009).

Another thing surgeons who are concerned about the issue of repeated surgeries can do is to advocate for needle and syringe programs (NSPs) in their communities. Dirty needles and failure to disinfect the skin at the injection site greatly increase the risk of infection (Tookes et al. 2015). NSPs provide free sterile syringes and alcohol wipes, appropriately dispose of used syringes, and make a variety of health and supportive services, including on-site medical care, referrals for addiction treatment, screening and counseling for HIV, hepatitis C and other sexually transmitted infections available to injection drug users. They also may distribute condoms, food, and clothing, and provide referrals to other community resources. Such programs have been proven to reduce the spread of HIV and other serious infections, save money, encourage the safe disposal of syringes, minimize the risk of needle-stick injuries to law enforcement officials, and help link chemically dependent individuals to vital drug treatment services. Economic modeling of syringe exchange programs for prevention of HIV infection has found this strategy to be cost-effective and cost saving (Tookes et al. 2015). Given the substantial cost of severe bacterial and fungal infections and the need for repeated surgical intervention in many of these cases, estimates that consider only the cost and health impact of HIV and hepatitis C (although substantial in and of themselves) underestimate the potential benefits of these programs. For example, the annual estimated cost to operate a pilot NSP in Miami-Dade county was $202,451, less than the cost of treatment of only 6 injection drug users (estimating the median cost of treatment to be $39,896) (Tookes et al. 2015).

The Institute of Medicine has released data that show NSPs do not increase drug use, and participants in needle exchange programs are five times more likely to enter drug treatment programs (Hagan et al. 2000; Institute of Medicine 2006). There is also evidence that intravenous drug users are willing to participate in NSPs; at least one study found that 90% of syringes distributed through needle exchange programs were returned for safe disposal (Ksobiech 2004). Tookes and colleagues conducted visual inspection walkthroughs in a random sample of the top-quartile drug-affected neighborhoods in San Francisco (a city with needle and syringe exchange programs) and Miami (a city without such programs) and interviewed 600 injection drug users in San Francisco and 450 in Miami (Tookes et al. 2012). They found 44 syringes per 1000 census blocks in San Francisco and 371 syringes per 1000 census blocks in Miami. Thirteen percent of syringes injection drug users in San Francisco reported using in the 30 days prior to the study interviews were disposed of improperly, versus 95% of syringes in Miami.

The United States Congress approved the use of federal funds for needle and syringe programs in late 2009. The North American Syringe Exchange Network reported that as of 2015, there are approximately 200 needle-exchange programs in 33 states and the District of Columbia.[6] Harm reduction remains a controversial issue in medicine and politics. While cardiothoracic surgeons, because of their training, personalities and experience, may not see activism, prevention, or public health as within their primary domains of concern, they may be the most appropriate group to bring attention to the need to prevent, rather than react to, the projected epidemic level of surgical intervention needed in the coming years to treat infective endocarditis in people who inject heroin.

**Notes**

[1]Rabkin and colleagues reviewed the institutional policies of the Division of Cardiac Surgery at the University of Washington Medical Center, where their policy is to perform immediate surgery if patients have had septic cerebral emboli (like the patient Mr. X described in Hull and Jadbabai's case study; see #2 below) or active infection (like DJ). Had DJ been treated elsewhere, perhaps his surgery would not have been delayed, although Rabkin et al. concluded that it was unclear whether patients have better outcomes when they receive prompt surgical intervention in the setting of active infection. Their study also found a higher incidence of methicillin-resistant *Staphylococcus aureus* (MRSA) infection in intravenous drug users after valve replacement surgery, which was second only to older age at the time of surgery as independent predictors of diminished survival; DJ had both.

For more information see: Rabkin, David G., Nahush A. Mokadam, Donald W. Miller, Raymond R. Goetz, Edward E. Verrier, and Gabriel S. Aldea, G. S. 2012. Long-term outcome for the surgical treatment of infective endocarditis with a focus on intravenous drug users. *Annals of Thoracic Surgery* 93: 51–58.

[2]Justice is the last ethical principle typically applied to bioethical dilemmas concerned with patient treatment decisions. A host of pertinent issues such as allocation of scarce medical resources, the rights of persons to have access to health care, accelerating medical costs, etc. are often ignored when determining right action in the case of a particular patient. Health care reform remains a contentious issue in the United States, but ignoring issues pertaining to justice does not make problematic cases such as DJ's either less common nor easier to navigate.

For diverse accounts of justice in biomedical ethics, see Norman Daniels, *Just Health Care* (New York: Cambridge University Press, 1985); Daniels, *Just Health* (New York: Cambridge University Press, 2006); Madison Powers and Ruth Faden, *Social Justice: The Moral Foundations of Public Health and Health Policy* (New York: Oxford University Press, 2006); Allen Buchanan, "Health-Care Delivery and Resource Allocation," in *Medical Ethics*, ed. Robert Veatch, 2nd edition (Boston: Jones and Bartlett Publishers, 1997); Allen Buchanan, Dan Brock, Normal Daniels, and Daniel Wikler, From Change to Choice: Genetics and Justice (New York: Cambridge University Press, 2000); Kevin E. Hodges and Daniel P. Sulmasy, "Moral Status, Justice, and the Common Morality: Challenges for the Principlist Account of Moral Change," *Kennedy Institute of Ethics Journal* 23: 275–296.

[3]In examining the claim that patients have a "right" to an innovative surgical procedure that is yet to receive full FDA approval, Meyerson begins with the following assumptions: that all other known and/or reasonable therapeutic options have been tried; that patients agree to fund the costs entirely by themselves; that fully informed consent is obtained beforehand; that no coercion or subterfuge comes into play; and that Phase I trials of the new procedure have been completed, with no safety issues having been noted. See Meyerson, Denise. 2015. Is there a right to access innovative surgery? Bioethics 29: 342–352. Doi:https://doi.org/10.1111/bioe.12111.

[4]Terminlogy used to refer to the population of individuals who are injection drug users varies. I prefer the less judgmental PWID (people who inject drugs) favored by those in the harm reduction community. Articles published in medical journals tend to refer to either IVDUs (intravenous drug users) or the damning IVDAs (intravenous drug abusers). Similarly, heroin and other narcotics are often described as "illicit drugs." I agree with medical evidence that defines drug addiction as a disease and see nothing to be gained by using pejorative language to describe these patients.

[5]For more information see Centers for Disease Control and Prevention. Trends in drug-poisoning deaths involving opioid analgesics and heroin: United States, 1999–2012. Available at: http://www.cdc.gov/nchs/data/hestat/drug_poisoning/drug_poisoning.htm. Accessed October 21, 2016.

[6]See https://nasen.org/ for more information.

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