Ethical Considerations in Multiple Valve Replacement for Infective Endocarditis Secondary to IV Drug Use

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Best Practices:*

1. Emphasize the individual dignity and worth of every patient with a substance use disorder to members of the healthcare team.
2. Offer patients with infective endocarditis secondary to IV drug use repeat valve replacement/s, unless they are determined not to be a surgical candidate based upon medical risks.
3. Address the concerns of healthcare professionals who feel that repeat valve replacement is medically inappropriate and/or that by participating in such surgery, they are enabling the patient's IV drug use.
4. Connect patients to appropriate chemical dependency and substance use disorder treatment, including in-hospital, inpatient, post-surgical, and outpatient resources.
5. Treat patients using an interdisciplinary approach to address the multiple medical and psychosocial factors that may influence successful outcomes (e.g., social work, psychiatry, infectious disease, cardiology, cardiothoracic surgery, spiritual care, nurses with addiction expertise, recovery coaches, clinical pharmacists, and others).
6. Provide patients who are not deemed to be surgical candidates based upon medical risks with appropriate medical treatment and supportive resources (e.g., palliative care, spiritual care, social work, and other services).
7. Consider whether individualized plans of care or behavioral agreements are appropriate for a particular patient.
8. It is the institution's responsibility to provide education regarding substance use disorders and appropriate treatment for patients with infective endocarditis secondary to IV drug use.

* These best practices are intended to guide the primary treatment team caring for a patient; this can be a surgical and/or medical team.

Best Practice	Rationale	Barriers	Possible Action Steps
1. Emphasize the individual dignity and worth of every patient with a substance use disorder to members of the healthcare team.	· Patients with substance use disorders are often stigmatized and reduced to their status as addicts. Emphasizing their dignity reminds healthcare teams that	· Deep prejudices will be difficult to overcome. Some team members may continue to see patients with substance use disorders as irresponsible	· Emphasizing the individual dignity and worth of each patient can be done through educational opportunities, in-person communication with healthcare

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	they are persons of inherent value who are more than their addiction, leading to more unbiased and better care (fairness/justice).	members of the community, deserving of the consequences of their actions.	teams, and ethics consultation chart notes. Chart notes often reach a wide range of team members for whom it may be impractical to reach individually and who may care for other patients with substance use disorders in the future.
2. Offer patients with infective endocarditis secondary to IV drug use repeat valve replacement/s, unless they are determined not to be a surgical candidate based upon medical risks.	• Valve replacement is life-saving for the patient, and healthcare professionals have an ethical obligation to promote the patient's best interests and minimize harm to the patient (beneficence and non-maleficence). • Valves are not a scarce resource (although OR time and institutional resources can be relatively scarce), so analogies to the transplant context in which resource allocation is an integral consideration are inappropriate. • Healthcare professionals do not limit other medical or surgical treatments based upon social factors (sometimes referred to as lifestyle choices) or repeat occurrences. For example, patients who smoke are offered treatment for cardiovascular disease, skiers who are injured are offered orthopedic surgery, and individuals who suffer repeat gunshot wounds are not denied	• While waiting for assessment, some patients may become too sick for surgery. • Healthcare professionals may still decline to perform surgery based upon perceived inappropriateness (i.e., likelihood of relapse and reinfection) or conscience grounds (i.e., feeling complicit/enabling harmful behavior).	• Set up educational opportunities for staff regarding the ethical issues surrounding repeat valve replacement surgery. • If a healthcare professional declines to perform repeat valve replacement surgery, seek a second opinion from within the same institution or another institution.

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	life-saving surgery (fairness/justice).		
3. Address the concerns of healthcare professionals who feel that repeat valve replacement is medically inappropriate and/or that by participating in such surgery, they are enabling the patient's IV drug use.	• Even for patients who have relapsed and whose heart valves have become reinfected, it cannot be known whether the patient will relapse again, especially if they are appropriately connected to chemical dependency and substance use disorder resources. • Addiction is a disease and the behavior of a person with substance use disorder is not entirely volitional. The disease should be treated rather than stigmatized or moralized.	• As above, healthcare professionals may still decline to perform surgery based upon perceived medical inappropriateness or conscience grounds. • Addiction treatment may be unavailable or financially prohibitive for patients. • Insurance may not cover treatments for substance use.	• As above (and as with other instances of conscientious objection), seek another healthcare professional willing to perform the surgery.
4. Connect patients to appropriate chemical dependency and substance use disorder treatment, including in-hospital, inpatient, post-surgical, and outpatient resources.	• Substance use disorder is a disease that should be treated. Treatment reduces the likelihood of relapse and reinfection post-surgery (beneficence and non-maleficence).	• Many institutions lack in-hospital chemical dependency/substance use disorder consultation services as well as robust outpatient substance use disorder rehabilitation. • A patient's insurance may not cover outpatient substance use disorder rehabilitation or such facilities may not exist in the community.	• Assess what in-hospital and outpatient chemical dependency and substance use disorder rehabilitation resources exist within the institution and community. • Coordinate with leaders in social work, care management, psychiatry, infectious disease, cardiology, cardiothoracic surgery, advocacy, nursing, and others to ensure appropriate access to these services. • Gain knowledge of substance use disorder treatment facilities and

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			programs in your region and their ability to accommodate the needs of post-surgical patients, such as those with PICC lines.
5. Treat patients using an interdisciplinary approach to address the multiple medical and psychosocial factors that may influence successful outcomes (e.g., social work, psychiatry, infectious disease, cardiology, cardiothoracic surgery, spiritual care, nurses with addiction expertise, recovery coaches, clinical pharmacists, and others).	• Given that infective endocarditis in the setting of IV drug use has a multifactorial etiology and disease process, an interdisciplinary approach is recommended for best outcomes.	• An interdisciplinary team may not exist at every institution. In particular, many institutions may lack specialists in substance use disorder recovery.	• Assess what resources do exist (recommend consulting social work and psychiatry for addiction recovery resources). • Schedule meetings with key institutional and departmental leaders to create opportunities/cultivate institutional support for chemical dependency consultation resources. • Create opportunities for all types of healthcare professionals (e.g., physician assistants, nurse practitioners) to receive education and skills training specific to treating substance use disorders.
6. Provide patients who are not deemed to be surgical candidates based upon medical risks with appropriate medical treatment and supportive resources (e.g., palliative care, spiritual care, social work, and other services).	• Regardless of surgical candidacy, patients should still be offered appropriate medical interventions that align with their values, preferences, and goals of care (e.g., symptom management, prolonging life, focusing on comfort, etc.). Healthcare teams should also continue to meet the patient's spiritual and existential needs.	• Some bias or prejudice may exist against patients with infective endocarditis due to IV drug use, leading to feelings that these patients do not deserve these resources and services.	• Create educational opportunities for staff regarding biases and prejudices against patients with substance use disorders.

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7. Consider whether individualized plans of care or behavioral agreements are appropriate for a particular patient.	• Patients who have a history of treatment non-adherence and frequent readmissions often benefit from consistent treatment plans. Individualized plans of care are typically developed in collaboration with the patient, empowering the patient to take an active role in his or her care and strengthening the therapeutic alliance between patients and care teams. • In the authors' experience, behavioral agreements for patients needing repeat valve replacement for infective endocarditis secondary to IV drug use generally do little to effectively enhance a patient's treatment plan and may be detrimental to the therapeutic alliance. Proponents assert that these agreements promote communication and mutual understanding, and may offer a benevolent nudge for patients to participate in rehabilitation. In our view, these agreements can be coercive (what choice does a patient have to say no if their life-saving surgery depends on saying yes?) and may set patients up to fail given that drug use cessation can be challenging. Other ways of cultivating patient buy-in and	• Patients may not have frequent enough readmissions to trigger the individualized plan of care process. • Individualized plans of care may not be easily accessed in electronic medical records, and healthcare professionals may need to search through a patient's prior admissions to find a previously constructed plan of care. This lack of visibility may diminish the impact of individualized plans of care.	• Work with institutional leaders and IT services to create an easily accessible individualized plan of care. Educate staff, including ED staff and care managers, on the importance of individualized plans of care and where to find them. • Meaningfully collaborate with patients on their individualized plans of care so that they are more likely to buy into them and can remind staff of their plan when they return to the hospital.

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	collaboration with care teams may be more effective.		
8. It is the institution's responsibility to provide education regarding substance use disorders and appropriate treatment for patients with infective endocarditis secondary to IV drug use.	• Given the dearth of education on substance use disorders in medical and nursing education, institutions should meet this educational gap in order to enhance the care of patients with these disorders.	• Institutions or relevant departments may not see a need for this education or may view other educational gaps as more important given limited time or personnel resources, and bias against patients with substance use disorders may stymie educational efforts.	• Find advocates among institutional and educational leadership to champion these educational efforts and emphasize among all leadership the benefits of these efforts, including the provision of ethically sound care to patients. • Target education in high-impact settings such as with residents, nursing, and other relevant staff.