

Canadian Society of Transplantation White Paper: Ethical and Legal Considerations for Alcohol and Cannabis Use in Solid Organ Listing and Allocation.

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arguing that the rule violates human rights laws regarding discrimination in the provision of medical services and that the rule is also unconstitutional (this challenge is still before the court). Recent legalization of cannabis use for adults in Canada has led to questions about the appropriateness of limiting transplant access based on cannabis use. The ethics committee of the Canadian Society of Transplantation was asked to provide an ethical analysis of cannabis and alcohol abstinence policies. Our conclusions were as follows: neither cannabis use nor the 6-mo abstinence rule for alcohol use should be an absolute contraindication to transplantation, and transplant could be offered to selected patients, further research should be conducted to ensure evidence-based policies; and the transplant community has a duty not to perpetuate stigma associated with alcohol and cannabis use disorders.

Substance use is common among transplant candidates, particularly those awaiting liver transplantation. 1 Alcohol-associated liver disease (ALD) accounts for 15%–30% of liver transplantation cases, 2 , 3 and urine toxicology shows substance use (including cannabis, opiate, benzodiazepine, and cocaine) in 28% of liver transplant candidates. 4 Substance use disorder (SUD) is defined by the DSM-5 as “a problematic pattern of substance use leading to clinically significant impairment or distress.” 5 , 6 Table 1 summarizes the DSM-5 criteria for SUD.

DSM-5 criteria for substance use disorder a

a Two of more criteria during a 12-mo period are necessary for the diagnosis of SUD.

Traditionally, many transplant centers have required a period of abstinence of between 6 and 12 mo before listing a transplant candidate with a history of alcohol use disorder. 7 - 9 The rationale behind the 6-mo abstinence rule for alcohol and liver transplantation is to identify patients at risk of alcohol relapse after transplantation and also to allow recovery from alcohol-related liver injury. 10 However, recent American and French studies have shown that early liver transplantation (before a 6-mo abstinence period) was associated with good outcomes in selected patients with acute alcohol-related hepatitis not responding to medical therapy. 11 - 14 Acute alcohol-related hepatitis is a clinical entity which refers to acute decompensation of liver function and it is associated with 50%–75% mortality during a 6-mo period. 15 In those studies, selected patients met the following conditions: (1) nonresponsive to medical therapy; (2) first acute decompensation; (3) had a supportive environment; (4) no psychiatric condition(s); and (5) agreement to adhere to long-term abstinence. 11 , 12 In recent years, there have been several high-profile cases in the Canadian media of patients being denied access to transplantation because they did not meet the abstinence criteria for alcohol. 16 - 25 A recent American court analysis involving liver transplantation also showed that a number of constitutional challenges were related to denial of access to liver transplantation because of failure to abstain from alcohol. 26 Recently, a meeting report from a consensus conference on liver transplantation for alcohol-associated hepatitis concluded that a strict period of abstinence before transplantation was not recommended and that liver transplantation should be considered in transplant candidates when the following conditions are met: (1) first-time liver decompensation in the absence of psychiatric or medical comorbidities and (2) a multidisciplinary evaluation with psychiatric and addiction specialists. 27

In 2018, Trillium Gift of Life Network (Ontario, Canada) launched a pilot program involving early listing and transplantation of livers for patients with end-stage ALD and acute alcohol-related hepatitis. The study offers enrollment to patients with ALD who meet strict medical and psychosocial criteria and allows transplant before 6 mo of abstinence, tracking how well their grafts do and whether there is a return to alcohol use posttransplant. 28 The University of Alberta liver transplant program has, since June 2018, started to consider liver transplantation for patients with ALD without 6 mo of abstinence when the risk of alcohol drinking posttransplantation is judged low (personal communication).

There is recent research to support the contention that graft outcome for end-stage ALD without 6 mo of abstinence is similar to that for other indications. 29 There is no conclusive evidence to support the abstinence rule. 30 , 31 Due to the controversy surrounding the abstinence rule, some

transplant centers have now removed it as a listing criterion. 15 , 32 This rule is also inconsistently applied among transplant centers. 33 A recent survey conducted in the United States showed that 43% of liver transplant programs required a specific period of abstinence from alcohol varying between 3 and 6 mo in cases of ALD. For patients with acute alcohol-related hepatitis, 71% of liver transplant programs would waive the 6-mo abstinence requirement. 33 However, the timeline for abstinence varied across centers, and very few transplant centers used validated instruments to assess the risk of alcohol relapse after transplantation. There is some question about whether a single use of alcohol during the abstinence period would disqualify a patient for a liver transplantation. Recently, the American Association for the Study of Liver Disease published their recommendations on ALD, in which they reiterate the importance of abstinence and state that patients with ALD who are being considered for liver transplantation should have “favorable” psychosocial profiles (the recommendations do not define “favorable”). A fixed period of abstinence before listing is not among the recommendations. 34

Since October 17, 2018, nonmedical and medical use of cannabis has been legal in Canada. 35 The issue of cannabis use and transplantation is particularly topical. Legalization could make cannabis more socially acceptable and may result in more users, but not all will develop cannabis use disorder. 36 , 37 It is currently unclear if cannabis legalization is associated with a population-level increase in people who use cannabis and cannabis use disorder. 36 , 38 , 39 Some use cannabis to treat medical conditions or perceived symptoms of illness, while others use it recreationally. However, the distinction between medical and nonmedical use is hazy and there is an overlap between medical and recreational users of cannabis. 40 Currently, adverse effects of cannabis in transplant recipients have been reported, including interactions with immunosuppressive drugs, 41 infection, neuropsychiatric disorders, and nonadherence. Also, it is also well documented that cannabis affects cognitive functions such as memory, attention, and learning and could therefore predispose to nonadherence behaviors. 42 However, some studies show that cannabis use does not impact transplant patients' survival. 9 , 43 - 45 A recent retrospective study conducted in the United States showed that 0.5% of kidney transplant recipients had cannabis use disorder in the year pretransplant and 0.3% had cannabis use disorder in the year posttransplant. Pretransplant cannabis use disorder was not associated with adverse graft outcomes, but it was associated with increased rates of psychosocial issues such as alcohol use disorder, other drug use disorder, noncompliance, or psychiatric disorder. For patients with cannabis use disorder in the first year posttransplant, there was an increased incidence of graft failure and death in the subsequent 2 y posttransplant. 46 Another retrospective study conducted in the United States looked at the impact of nonmedical use of cannabis based on patient's self-report or toxicologic screens. Within their cohort of 1225 kidney transplant patients, 4.5% were nonmedical cannabis users. There was no difference between nonmedical cannabis users and nonusers in terms of 1-y patient and graft survival. 45 Stark et al 47 documented that among the 2067 kidney transplant candidates who underwent evaluation at their center, 3% had cannabis use disorder. Among the patients with cannabis use disorder, 89% achieved abstinence to be listed and 21% received a transplant at the end of the study. Patients with cannabis use disorder were more likely to have other psychiatric comorbidities, familial history of addiction, and other SUD. The likelihood of being listed for transplantation was inversely associated with the severity of cannabis use disorder. This study did not look at the impact of cannabis use disorder and graft and patient outcomes. 47 A recent study looked at the impact of current and former use of cannabis among liver transplant patients and found no statistical difference in terms of patient 5-y survival between current/former cannabis users and nonusers. 48

There is no consensus among transplant professionals on the correct approach to adopt with transplant candidates who use cannabis. 49 , 50 Some transplant centers have a zero tolerance policy and refuse to list a patient with any current use of cannabis, and other centers deny access to transplantation for patients diagnosed with cannabis use disorder. 9 , 33 , 51 , 52 Also, in 2014, the International Lung and Heart Transplant Society viewed SUD, including cannabis use disorder, as an absolute contraindication to lung transplantation. 53 For heart transplantation, the Canadian Cardiovascular Society in their position statement on patient eligibility and selection for heart transplantation recommended a 6-mo period of abstinence (smoking, vaping, or inhaling) for

cannabis users before listing for heart transplantation. 54 In the United States, some states (Arizona, California, Delaware, Illinois, Minnesota, New Hampshire, and Washington) have a law prohibiting transplant centers from denying access to organ transplantation to people who use medical marijuana based solely on their marijuana use. 51

The objective of this article is to offer ethical guidance to Canadian transplant healthcare professionals when they are considering listing patients who are using cannabis and/or alcohol and who are not meeting the 6-mo abstinence rule. Access to organ transplantation for patients with SUD is controversial and topical. Deciding who should have access to a scarce resource such as organs is difficult. For instance, at the end of 2018, >4300 patients were waiting for an organ in Canada, and 223 patients died waiting for an organ during the same period. 2 This document was developed under the leadership of the Canadian Society of Transplantation and is based on a review of the literature on the most recent studies on SUD and organ transplantation as well as an ethical analysis. We present here the recommendations and deliberations of an ad hoc committee composed of transplant physicians (A.G., D.L., N.S., and M.-C.F.), pharmacists (M.L.), addiction specialists (M.-J.L. and B.L.F.), psychiatrists (M.-J.L. and B.L.F.), legal scholars (J.C. and V.G.), ethicists (R.G., S.A., and D.Z.B.), and 2 patients (S.D. and S.H.). The document was also circulated among the entire Canadian Society of Transplantation membership to gather their comments, which are incorporated in the final version. It is beyond the scope of this article to look at all substances that may be relevant to transplantation outcomes. Cannabis and alcohol have been selected because of recent public and media attention around alcohol and the legalization of cannabis. These recommendations will change over time as our understanding and knowledge of SUD and organ transplantation evolves. The recommendations are provided for the purposes of informing healthcare professionals and fostering reflection and are not intended to establish a “standard of care” for Canadian healthcare professionals.

This white paper is meant to offer a general framework for evaluating the relevance of the 6-mo abstinence rule for alcohol and cannabis use in transplant candidacy. As with any transplant candidacy evaluation, the process is complex and includes a multidisciplinary work-up that entails medical and psychosocial assessments in which numerous factors are evaluated. Important clinical characteristics to assess include whether the patient meets the criteria for an SUD, the patient's motivation for change with respect to their substance use, the quality of their social support system, as well as the presence of any psychiatric comorbidity that is likely to impact posttransplant prognosis. For patients who meet the criteria for an alcohol or cannabis use disorder, SUD treatment should be recommended and they should demonstrate clinical response to the treatment to reduce the risk that it will negatively impact posttransplant outcomes. Each case should be evaluated on its own merits and individual circumstances considered on a case-by-case basis. This evaluation process is of paramount importance in ensuring that transplantation will be beneficial to the patient and will represent an appropriate use of a scarce resource.

As with any other health encounter, transplant professionals ought to respect the autonomy of each patient to live life according to their values, even when some choices could be detrimental to the patient's health. 55 , 56 Every capable patient should be allowed to determine what is a “good life” according to their values, even when certain personal choices could conflict with health professionals' values. It is worth noting, however, the challenging relationship between SUD and autonomy given the challenge of resisting cravings and the experience of withdrawal. Despite this, there are many circumstances under which it is reasonable to apply certain limits or expectations on patients, regardless of the patient's stated values or preferences and the difficulty of managing compulsive behaviors (eg, lifestyle modification before bariatric surgery). The transplant candidacy workup process routinely requires significant adherence on the part of the patient (attending medical appointments, vaccination, submitting to medical tests, etc).

Organ allocation systems are designed to maximize medical utility by maximizing graft and patient survival given the shortage of organs. Utility is served when an organ is preferentially allocated to a patient whose expected life span will be longest (eg, 1 of the justifications for pediatric priority). 55 Diseases expected to recur posttransplant may limit expected longevity; it might therefore be

reasonable to not list individuals whose disease is highly likely to recur. In the case of ALD, relapse of alcohol use disorder after the transplant is associated with recurrent alcohol related cirrhosis and cirrhosis associated death. 57 Historically, this has served as a justification for the alcohol abstinence rule: it was assumed that those actively using alcohol would both be nonadherent with treatment and continue to consume alcohol posttransplant, which could potentially lead to cirrhosis recurrence in the transplanted liver. However, as addressed earlier, recent evidence shows the importance of the 6-mo abstinence rule may be overemphasized, as patients with ALD who have not met the 6-mo abstinence rule may still have good patient and graft survival when they are carefully selected, have appropriate social support, have insight into the cause of their liver disease, and are connected to addiction specialists. 15

For cannabis, the evidence is even more scant. There is little evidence that medical or nonmedical use has significant negative effects on most recipients, though there is some evidence that those suffering from cannabis use disorder may have more negative health outcomes. 31 , 43 While assessment of future prognosis is an important part of maximizing utility, this assessment must be made on solid evidence; otherwise, policies may unfairly eliminate potential recipients. In the case of alcohol or cannabis use disorder, the lack of strong evidence emphasizes the importance of a multidisciplinary (including addiction specialists such as psychiatrists, social workers, psychologists, and community healthcare providers such as family physicians) and thorough assessment of the transplant candidate, with the potential involvement of an addiction specialist. For instance, a recent study showed that a multidisciplinary approach with the inclusion of addiction specialists for patients with ALD reduced the rate of alcohol relapse after liver transplantation from 33% in their historic group to 8.7%. 58 This rate of alcohol relapse is also lower than the rate of 14% alcohol relapse in patients with alcohol-related hepatitis as determined in a recent systematic review and meta-analysis. 59

Justice is an important principle in organ allocation. There are 3 common conceptions of justice. The first one refers to treating similar cases similarly and making distinctions between cases only when there are morally relevant differences. 55 , 60 Some have argued that SUD is a morally relevant criterion upon which to deny transplant, because it assumes that the patient had some culpability in their disease and that others suffering from end-organ failure do not. 61 - 64 There are many diseases for which individual behaviors contribute to or cause a disease (eg, poor dietary habits in relation to diabetes or hypertension); however, the healthcare system does not deny patients healthcare based on perceived individual contribution to their disease. Additionally, alcohol and cannabis use disorder are complex illnesses that are multifactorial and may stem from genetic, psychological, and social structural factors. 65 Placing blame on a patient for making a “bad” choice is overly simplistic. Moreover, it has long been held that it is unfair and unethical to consider social worth in organ allocation policy. 55 A system that discriminates against those with SUD may be doing just that.

A second conception of justice involves offering equality of opportunities. This concept could entail taking into account how social determinants of health, which include poverty, housing, education, gender, and racism are associated with the risk of developing an SUD and sequelae like ALD. 66 Transplant professionals should be aware of these associations and avoid decisions that may exacerbate health inequities. For instance, Alhamad et al 46 have shown that there were more Black people among cannabis users. Refusing to assess all cannabis users for a kidney transplantation could exacerbate structural inequities for Black patients in their access to kidney transplantation. 67 , 68 Currently, only a very small proportion of patients with ALD are referred for liver transplantation. 30 Also, past history of SUD could delay listing for organ transplantation and could negatively impact patients' health. Eliminating health-related inequalities also includes having a consistent policy among transplant programs to offer the same opportunities to all Canadian patients with SUD. To avoid regional inequalities, all Canadian liver transplant programs should use the same policies regarding SUD for listing patients.

A third and final conception of justice entails not further disadvantaging the most disadvantaged. If transplant professionals give lower priority to patients with past or current alcohol or cannabis use

disorder, this could further disadvantage already disadvantaged patients. 55 All potential transplant candidates should be assessed to determine their suitability for transplant, even if they are known to have cannabis or alcohol use disorder, to identify barriers that could be overcome through, for example, successful addictions counseling and access to rehabilitation programs. This view of justice suggests that transplant policy should not discriminate already disadvantaged populations, such as patients with alcohol or cannabis use disorder, who are likely to experience various intersecting axes of inequality.

Stigma occurs when 1 societal group judges a characteristic of a less powerful individual or group as undesirable and is associated with shame and discrimination. 69 , 70 Stigma could prevent a person from seeking medical care or help and could therefore worsen health inequities faced by stigmatized groups. Stigma could negatively impact the clinical care received by stigmatized patients. There is also a high level of stigma among healthcare professionals toward patients with SUD. 71 Transplant professionals should be aware of the stigma associated with alcohol and cannabis use disorder, and they have a duty to not perpetuate the stigma through the enactment of unjust listing policies. Education on stigma and its associated effects, acknowledging unconscious biases, and frequent contact and collaboration with stigmatized populations could be ways to help healthcare professionals to not entrench stigma in the delivery of transplant services. 72 , 73

Transplant healthcare professionals are stewards of an absolutely scarce and precious resource. They are expected to make their patient's needs the first priority, but are also expected to consider the needs of the community and the healthcare system. They have to ensure that for transplant candidates the benefits of transplantation outweighs the risks, and that justification for preventing access to the list is based on the best available medical evidence.

Transplant professionals have a fiduciary duty to their patients—patients are reliant on their transplant professionals and may be vulnerable. 74 These professionals have a moral obligation to act in their patients' best interests.

Transplant professionals have a duty to not cause harm to their patients. One of the rationales of the 6-mo abstinence rule is that patients with ALD could spontaneously recover from their liver disease and the liver transplantation would no longer be indicated. Knowing that 1-y mortality for liver transplantation is 10%, 75 performing liver transplantation on a patient who could potentially have recovered could cause harm to the patient.

Transplant professionals have a duty to thoroughly assess all transplant candidates, including patients who use cannabis and alcohol and those with SUD. For those with SUD, some have proposed the inclusion of addiction specialists as part of a thorough assessment process. 15 , 29 , 58 This assessment should be made with the goal of assessing the severity of the SUD and of identifying opportunities to support the patient to increase the likelihood of favorable posttransplant outcomes.

Transplant teams have a responsibility to enable their patients to be waitlisted and to refer them to the resources necessary to support personal recovery from their cannabis or alcohol use disorder. Patients should receive assistance to access services that can improve posttransplant adherence (including addictions treatment and counseling). 76 , 77 Also, given the potential risk of relapse after the transplantation, it is important that patients have access to addiction services to reduce this risk. However, not all Canadian transplant programs currently have the resources and expertise to support and assess patients with cannabis and alcohol use disorder. In the United States, a recent survey showed that only 37.4% of transplant centers offered chemical dependency services (including 38% of all liver transplant programs). 78 It will be important to continue to advocate to rectify this critical gap in service delivery and to provide more resources to support these patients.

Transplant professionals are also autonomous moral agents who make choices and act on the basis of their medical knowledge and expertise. 79 - 81 Their ethical duties require them to exercise

their autonomy to offer patients options that will be beneficial and not harmful. This explains why in certain circumstances healthcare professionals could refuse to perform interventions requested by patients, such as giving antibiotics for a viral infection. In the case of transplantation and SUD, transplant professionals have to balance the risks and benefits of transplantation, and when the risks of transplantation outweigh the benefits or when there is an absolute contraindication, the transplant professional can decide to not list a patient. SUD is a factor to take into account when deciding transplant eligibility. That being said, the decision-making process should be transparent, and transplant professionals have a duty to refer a patient who requests a second opinion to another transplant program.

Given the paucity of data on the outcomes and the best intervention for transplant candidates with cannabis and alcohol use disorder, transplant professionals have a duty to conduct research and collect data to better inform future practices.

Rules for being listed for an organ transplant should be made transparent by organ donation organizations and transplant programs to allow patients to adhere to them and to be accountable to the public. The definition of SUD, the methods for determining substance use (such as random drug testing) and the consequences of cannabis or alcohol use while on the waiting list should be clearly explained to patients in advance. Finally, transplant programs and organ donation organizations should be transparent about the rationale behind policies regarding whether or not patients with alcohol and cannabis use should be waitlisted.

Patients should understand the process of transplant assessment and listing to maximize informed consent. The requirement for informed consent is rooted in the principles of autonomy and bodily integrity.^{82, 83} To ensure consent is informed, patients should be advised if random drug testing is used, the rationale for this type of surveillance, and should be made aware of the consequences of substance use while on the waitlist. This includes the risks and benefits of being transplanted and the risks associated with relapse of substance use after transplantation.

The organ donation system depends largely on public trust. Mistrust in the system or the perception that the organ donation and transplantation system is unfair could negatively impact the public's willingness to donate organs.⁸⁴ Past studies have shown a negative public attitude toward allocating organs to ALD patients or patients with SUD.^{85 - 87} However, a recent survey conducted in the United States showed that 81.5% of participants were neutral to the idea of a transplant program performing liver transplantation for patients with alcohol use disorder.⁸⁸ While public opinion ought not to be the sole measure of ethical behavior in the transplant community, it is important to take into account this perspective and to be transparent about the rationales behind any policies, as our publicly funded healthcare system is ultimately accountable to the public. Taking into account, public perspectives could also inform how to frame the message and the education around new policies. The media coverage of high profile cases of patients denied access to transplantation because of past SUD could also undermine public trust in organ donation if current policies appear discriminatory. Donor rates may suffer if potential donors feel that their "gift" will not be allocated in the best possible way such as transplantation for alcohol-related liver disease without the 6-mo abstinence rule. Further studies are needed to better assess public perspectives on allocating organs to patients suffering from SUD. It might be possible to mitigate negative public perceptions by presenting the rationale behind the policy and clear data on the outcomes of organ transplantation in patients with SUD.

Following this ethical analysis and review of current literature, our working committee has formulated the following suggestions. These suggestions will likely change over time as our understanding and knowledge of SUD and organ transplantation evolves. They are offered for the purposes of informing healthcare professionals and fostering reflection and are not intended to establish a "standard of care" for Canadian healthcare professionals.

Past history of alcohol and cannabis use and disorder should not be an absolute contraindication to listing for transplantation and a fixed period of abstinence is not required. This recommendation is

based on the principles of justice and nondiscrimination, as well as current empirical evidence. This recommendation is in agreement with other statements. 27 , 34

Transplant professionals should adopt a compassionate attitude and acknowledge the stigma and discrimination associated with alcohol and cannabis use disorder and how stigma intensifies health-related inequities. Transplant professionals have a duty to not perpetuate stigma and to decrease health inequities.

Transplant professionals should always act competently, with goodwill, and in their patients' best interest. They should always balance risks and benefits related to listing a patient. The decision-making process to list a patient with SUD should be transparent and based on clinical information, the best evidence, and a consideration of the relevant ethical principles. When the decision is made to not list a patient for a transplant because transplant professionals consider that the risks outweigh the benefits, they have a duty to offer to refer the patient for a second opinion to another transplant program.

All transplant candidates should be screened for alcohol and cannabis use during medical history, and candidates should be informed that this screening is part of the evaluation process. When there is evidence suggesting alcohol or cannabis use disorder, the transplant candidate should be referred to addiction specialists to be adequately assessed and supported.

Criteria required to list a patient with an SUD, such as a supportive social environment and the patient's agreement to be abstinent, should be made transparent to patients, transplant professionals and the public. These conditions should be informed by the current evidence-based medical literature.

Transplant programs should have the necessary resources to assess and adequately support patients with SUD before and after transplantation.

Transplant professionals should pursue research and collect data relevant to SUD and organ transplantation to better inform future evidence-based policies.

Multidisciplinary approaches and interventions should be developed to better support transplant candidates and transplant patients with SUD.

To ensure fair access for Canadian patients who have alcohol and cannabis use disorder, a consistent approach across Canadian transplant programs should be adopted to not create inequities among patients in different geographic locations.

Transplant professionals should educate the public about alcohol and cannabis use disorder and organ allocation.

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