

MCST 606 Assignment 1.1 – Treatment-related variables (30 points)

Directions: For each patient-related variable below, write two to five sentences about why it is important to assess each factor before initiating medical cannabis. Cite your sources with at least one scientific article. Each answer is worth up to 3 points. Reasonable answers, communicated clearly, will earn full credit. Incorrect or unclear answers will lose points.

Treatment-related variable	Justification for assessing this variable before initiating medical cannabis	Reference # (list full references below)
Patients who are older adults (greater than 65 years old)	Patients older than 65 years require assessment before starting medical cannabis, as there are considerations that need to be taken into account. This population tends to have physiological changes that affect how cannabis is metabolized, including decreased organ function, impaired cognitive function, and higher risk for increased side effects (MacCallum et al., 2021). This population also has a greater occurrence of polypharmacy, which increases risk for drug interactions when adding medical cannabis. Because of these factors, a comprehensive monitoring plan starting at a low dose with slow titration based on frequent check-ins is important to assess and mitigate adverse effects. If cannabis is deemed potentially beneficial, referral to an experienced cannabis clinician can provide additional support (MacCallum et al., 2021).	2.
Patients who are less than 25 years old	Patients younger than 25 years require assessment before starting medical cannabis, as this is a relative contraindication. Cannabis use in this population, particularly with high-THC products, has been associated with increased risk for neuropsychiatric conditions including anxiety, depression, psychosis, and mood disorders (MacCallum et al., 2021; Gorelick, 2023). Research also indicates that adverse childhood experiences are a robust risk factor for the same conditions, with poor self-regulation and maladaptive coping identified as underlying mechanisms (Sebalo et al., 2023). Therefore, clinicians should screen for trauma history and pre-existing mental health conditions before initiating treatment to inform a thorough risk-benefit assessment. If cannabis is deemed potentially beneficial, CBD-dominant products are recommended and referral to an experienced cannabis clinician can provide additional support (MacCallum et al., 2021).	1. 2. 4.
Patients with a personal or strong	Patients with a personal or strong family history of psychotic disorder or bipolar disorder require assessment	2. 4.

<p>family history of psychotic disorder or bipolar disorder</p>	<p>before starting medical cannabis, as this is a contraindication. Daily THC use may worsen symptoms in individuals with bipolar disorder or current psychosis, and in certain individuals with genetic predispositions, THC may induce psychosis. Research suggests genetic factors explain 69 to 84% of this link, with additional risk factors including early life stressors, early age of cannabis initiation, and regular use of high-THC products (MacCallum et al., 2021). For patients with a family history, these early life stressors may include trauma associated with growing up with an affected family member, which could also be a contributing factor to cannabis use (Sebalo et al., 2023). Given the complexity of genetic and environmental factors in this population, referral to an experienced cannabis clinician is essential if cannabis is deemed potentially beneficial to ensure a thorough risk-benefit assessment and appropriate support (MacCallum et al., 2021).</p>	
<p>Patients with a concurrent mood or anxiety disorder</p>	<p>Patients with a concurrent mood or anxiety disorder require assessment before starting medical cannabis, as precautions need to be taken into consideration. Although research has yet to determine whether the relationship between cannabis use and mental health disorders reflects correlation or causation, the existence of a relationship requires careful consideration before initiation (MacCallum et al., 2021). Higher THC doses can cause increased anxiety, panic attacks, or paranoia in some patients, which is why cannabis-induced anxiety disorder accounts for 20 to 25% of emergency department presentations with cannabis-related symptoms (Gorelick, 2023). Additionally, trauma and ACEs are contributing factors for both cannabis use and mood or anxiety disorders, making it essential to screen for trauma history to ensure the patient's treatment plan includes all necessary resources and referrals (Sebalo et al., 2023). If cannabis is deemed potentially beneficial, CBD-dominant products with more frequent monitoring are recommended, and referral to an experienced cannabis clinician can provide additional support (MacCallum et al., 2021).</p>	<ol style="list-style-type: none"> 1. 2. 4.
<p>Patients with a current or past substance use disorder</p>	<p>Patients with a current or past substance use disorder require assessment before starting medical cannabis because of the potential risk for misuse. However, it is important to recognize that adverse childhood experiences are a well-documented risk factor for substance use, and for some patients, cannabis may serve as a safer</p>	<ol style="list-style-type: none"> 2. 4.

	<p>alternative to more harmful substances (Sebalo et al., 2023). In this population, a rigid approach can be counterproductive, as stigmatizing patients often leads to disengagement from care. Instead, an individualized risk-benefit assessment should be completed that considers the patient's history, current circumstances, and treatment goals. Frequent check-ins to monitor progress are essential, and referral to an experienced cannabis clinician can help ensure appropriate support and oversight (MacCallum et al., 2021).</p>	
<p>Patients who are pregnant, planning to become pregnant, or breastfeeding</p>	<p>Assessment before initiating medical cannabis is especially important for patients who are pregnant, planning to become pregnant, or breastfeeding, as this is an extremely controversial and sensitive topic. MacCallum et al. (2021) and the American College of Obstetricians and Gynecologists recommend against cannabis use in this population due to research supporting associations with adverse neonatal outcomes such as low birth weight and NICU admission (Gorelick, 2023). However, the underlying evidence has significant methodological limitations, including failure to control for polysubstance use, reliance on self-reporting in stigmatized settings, and confounding factors such as trauma history and socioeconomic status that independently affect outcomes (Pack et al., 2022). Basing rigid recommendations on limited evidence can be harmful, as stigmatizing patients often leads to worse outcomes than a safe, collaborative relationship with a provider. MacCallum et al. (2021) recommend specialist referral when cannabis is deemed potentially beneficial despite contraindication status, supporting clinical judgment over blanket restrictions.</p>	<ol style="list-style-type: none"> 1. 2. 3.
<p>Patients who have lung diseases like asthma or chronic obstructive pulmonary disorder (COPD)</p>	<p>Before considering medical cannabis for patients with lung diseases like asthma or COPD, it is important to note that smoking cannabis is classified as a contraindication due to the harmful chemicals released during combustion, including carbon monoxide and carcinogens (MacCallum et al., 2021). However, this contraindication is specific to the route of administration, not cannabis. For this population, it is safer to explore oral forms than risk irritating or worsening current respiratory symptoms. An experienced cannabis clinician can provide an individual risk-benefit assessment and guidance on appropriate non-inhalation formulations (MacCallum et al., 2021).</p>	<ol style="list-style-type: none"> 2.
<p>Patients with unstable heart disease (acute</p>	<p>Before considering medical cannabis for patients with unstable heart disease, it is important to note that these</p>	<ol style="list-style-type: none"> 1. 2.

congestive heart failure, critical aortic stenosis, poorly controlled coronary artery disease, poorly controlled atrial fibrillation)	types of conditions are classified as a contraindication because THC can cause acute cardiovascular effects such as tachycardia, postural hypotension, and transient cardiac arrhythmias (MacCallum et al., 2021; Gorelick, 2023). For patients with stable cardiovascular disease, an individual risk-benefit assessment should be completed before considering medical cannabis. Once stable, CBD-dominant products can be considered but it is always best to consult an experienced cannabis clinician (MacCallum et al., 2021).	
Patients who are on multiple medications or substances that are sedating or cause cognitive impairment.	Patients who are on multiple medications or substances that are sedating or cause cognitive impairment require assessment before starting medical cannabis. MacCallum et al. (2021) classify polypharmacy as a consideration and sedating medications as a precaution. Common depressants such as alcohol, opioids, antipsychotics, and benzodiazepines may worsen sedation and cognitive impairment when co-ingested with cannabis. Additionally, because cannabis is metabolized by CYP450 enzymes, patients who are taking medications metabolized by the same enzymes may experience drug interactions, making a thorough medication review essential before initiation (MacCallum et al., 2021).	2.
Patients with driving or safety-sensitive occupations	For patients with driving or safety-sensitive occupations, precautions need to be taken into consideration before starting medical cannabis. Because cannabis, especially THC, can lead to impairment in neurocognitive and psychomotor functions, patients in this category need to be advised to refrain from driving or engaging in any safety-sensitive activities for at least four hours post-inhalation, six hours post-oral ingestion, or eight hours if euphoria is experienced (MacCallum et al., 2021). Recent cannabis use has been shown to increase the risk of motor vehicle crashes by 30 to 40% (Gorelick, 2023). It is also recommended that these patients wait to start cannabis when they do not have to drive or perform safety-sensitive activities until the absence of impairment has been established (MacCallum et al., 2021).	1. 2.

References (each reference here should correlate to a reference number in the table above). (3 points)

1. Gorelick, D. A. (2023). Cannabis-related disorders and toxic effects. *New England Journal of Medicine*, 389(24), 2267-2275. <https://doi.org/10.1056/NEJMra2212152>
2. MacCallum, C. A., Lo, L. A., & Boivin, M. (2021). "Is medical cannabis safe for my patients?" A practical review of cannabis safety considerations. *European Journal of Internal Medicine*, 89, 10-18. <https://doi.org/10.1016/j.ejim.2021.05.002>

3. Pack, R., Hilton, G., Garcia-Bournissen, F., & Taylor, T. (2022). Transforming possible risk into certain harm: A critical interpretive synthesis of the literature on perinatal cannabis use. *International Quarterly of Community Health Education*.
<https://doi.org/10.1177/00914509221126549>
4. Sebalo, I., Poslt Königová, M., Sebalo Vňuková, M., Anders, M., & Ptáček, R. (2023). The associations of adverse childhood experiences (ACEs) with substance use in young adults: A systematic review. *Substance Use: Research and Treatment*, 17, 11782218231193914.
<https://doi.org/10.1177/11782218231193914>