# Maine Medical Center Transplant Program Policies and Procedures Narcotics, Recreational Drug Use and Transplantation Policy

## **Purpose**

To define the Maine Transplant Program's position concerning the use of analgesic and recreational substances by potential transplant candidates. This includes the use of narcotics, tobacco, marijuana, alcohol, and also the use of other illicit substances such as cocaine, heroin etc.

# **Policy**

- 1. The use of *tobacco* is strongly discouraged in all transplant candidates and recipients because of the risk of premature graft failure, cardiovascular events, cancer and death.
  - a. However, persistent tobacco use may not be deemed to be a contraindication to transplantation in patients without cardiovascular or respiratory disease.
  - b. Ongoing *tobacco* use is an absolute contraindication to transplantation in diabetics and in patients with established COPD or cardiovascular disease.
- 2. The use of inhaled or vaporized *marijuana* is absolutely prohibited because of the risk of invasive sinopulmonary aspergillosis and death after transplantation (see Addendum 1 regarding Maine State Law and Addendum 2 regarding infection risk). Continued smoked or vaporized marijuana use by a candidate accordingly will exclude him/her from consideration for further evaluation and/or listing for transplantation.
- 3. The judicious use of *alcohol* after transplantation is permitted.
  - a. Binge drinking is discouraged as it may exacerbate hypertension and increase the risk of non-adherence with medications.
  - b. Active alcoholism is deemed to be a contraindication to transplantation because of the risk of non-adherence with medications leading to graft failure.
- 4. Active use of other illicit, recreational substances including but not limited to *heroin, crystal meth, cocaine, inhalants, LSD, MDM (ecstasy)* or prescription drugs purchased for recreational purposes such as *hydrocodone* or *oxycontin* is deemed to be an absolute contraindication to transplantation because of the risk of non-adherence leading to graft failure. Patients must abstain from these substances for a minimum of 6 months prior to referral to the transplant program, and for one year prior to listing.
- 5. Transplant candidates who are receiving prescribed *narcotics* may continue to do so. Maine Transplant Program does not prescribe long term narcotics. Patients requiring such ongoing treatment after transplantation will be redirected to the pretransplant prescribing provider/s.

### Procedure

- 1. Patients using prescription narcotics prior to transplant will have their medication usage verified against the Maine Prescription Monitoring Program-Office of Substance Abuse database.
- 2. It is the responsibility of the prescriber (PCP, Pain Clinic, other) to ensure adherence to the rules & guidelines of the Maine Board of Medical Licensure regarding prescription narcotic drug use. These include although are not limited to:
  - Narcotic Use Contract
  - Drug Testing
  - Pill Counts

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### Drug prescription monitoring

- 3. The Maine Transplant Program will provide appropriate analgesia for peri-operative pain for up to 14 days. Thereafter, patients with ongoing narcotic requirements will be advised to return to their primary care provider for narcotic prescriptions.
- 4. The Maine Transplant Program will not assume the responsibility for prescribing narcotics, benzodiazepines or other psychotropic medications beyond 14 days after transplantation.
- 5. The Maine Transplant Program does not prescribe medical marijuana.
- 6. Patients with a history of substance use may have their sobriety confirmed using either blood or urine testing at random intervals. Failure to disclose substance use with subsequent positive test results will preclude transplantation.

Original Date: 5/13/10

Revised Date: 2/8/12, 10/20/14, 8/15/17, 7/1/20, 1/26/23

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### Addendum 1

| LAW WITHOUT GOVERNOR'S SIGNATURE | CHAPTER        |
|----------------------------------|----------------|
|                                  |                |
| JUNE 24, 2017                    | 252 PUBLIC LAW |

STATE OF MAINE

IN THE YEAR OF OUR LORD TWO THOUSAND AND SEVENTEEN

H.P. 544 - L.D. 764

An Act To Limit the Exclusion of a Patient from Eligibility for an Organ Transplant Based on Medical Marijuana Use

Be it enacted by the People of the State of Maine as follows:

Sec. 1. 22 MRSA §2423-E, sub-§10 is enacted to read:

10. Receiving an anatomical gift. In reviewing a qualifying patient's suitability for receiving an anatomical gift, a transplant evaluator shall treat the qualifying patient's medical use of marijuana as the equivalent of the authorized use of any other medications used at the direction of a medical provider. A transplant evaluator may determine a qualifying patient to be unsuitable to receive an anatomical gift if the qualifying patient does not limit the qualifying patient's medical use of marijuana to the use of forms of prepared marijuana that are not smoked or vaporized, including, but not limited to, edible marijuana and tinctures and salves of marijuana. A transplant evaluator may require medical marijuana used by a qualifying patient to be tested for fungal contamination by a marijuana testing facility. For purposes of this subsection, "transplant evaluator" means a person responsible for determining another person's suitability for receiving an anatomical gift. For the purposes of this subsection, "anatomical gift" has the same meaning as in section 2942, subsection 2.

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## Appendix 2

# Marijuana and Sinopulmonary Aspergillosis Risk

Numerous publications have accrued since 1978 that describe the risks and outcomes of sinopulmonary fungal infections (most commonly although not exclusively, aspergillus species in immunocompromized individuals due to marijuana use (1-26). This is a serious infection that can lead to prolonged hospitalization, transplant loss, and death. Maine Transplant Program has experienced 2 cases of sinopulmonary Aspergillosis consequent on Marijuana inhalation that were associated with bad outcomes.

### References

- 1. Ahmed SA, Ross SA, Slade D, Radwan MM, Zulfiqar F, Matsumoto RR, et al. Cannabinoid ester constituents from high-potency Cannabis sativa. J Nat Prod. 2008;71(4):536-42.
- 2. Bal A, Agarwal AN, Das A, Suri V, Varma SC. Chronic necrotising pulmonary aspergillosis in a marijuana addict: a new cause of amyloidosis. Pathology. 2010;42(2):197-200.
- 3. Cescon DW, Page AV, Richardson S, Moore MJ, Boerner S, Gold WL. Invasive pulmonary aspergillosis associated with marijuana use in a man with colorectal cancer. J Clin Oncol. 2008;26(13):2214-5.
- 4. Chusid MJ, Gelfand JA, Nutter C, Fauci AS. Letter: Pulmonary aspergillosis, inhalation of contaminated marijuana smoke, chronic granulomatous disease. Ann Intern Med. 1975;82(5):682-3.
- 5. Denning DW, Follansbee SE, Scolaro M, Norris S, Edelstein H, Stevens DA. Pulmonary aspergillosis in the acquired immunodeficiency syndrome. N Engl J Med. 1991;324(10):654-62.
- 6. Dimitrov M, Ivanova-Dzhubrilova S, Nikolcheva M, Drenska E. [The mycotoxicological and dust contamination of the air in plants for the preliminary processing of cotton and hemp]. Probl Khig. 1990;15:121-7.
- 7. Hamadeh R, Ardehali A, Locksley RM, York MK. Fatal aspergillosis associated with smoking contaminated marijuana, in a marrow transplant recipient. Chest. 1988;94(2):432-3.
- 8. Johnson TE, Casiano RR, Kronish JW, Tse DT, Meldrum M, Chang W. Sino-orbital aspergillosis in acquired immunodeficiency syndrome. Arch Ophthalmol. 1999;117(1):57-64.
- 9. Kagen SL. Aspergillus: an inhalable contaminant of marihuana. N Engl J Med. 1981;304(8):483-4.
- 10. Kagen SL, Kurup VP, Sohnle PG, Fink JN. Marijuana smoking and fungal sensitization. J Allergy Clin Immunol. 1983;71(4):389-93.
- 11. Kiziewicz B, Zdrojkowska E, Gajo B, Godlewska A, Muszynska E, Mazalska B. Occurrence of fungi and fungus-like organisms in the Horodnianka River in the vicinity of Bialystok, Poland. Wiad Parazytol. 2011;57(3):159-64.
- 12. Kurup VP, Resnick A, Kagen SL, Cohen SH, Fink JN. Allergenic fungi and actinomycetes in smoking materials and their health implications. Mycopathologia. 1983;82(1):61-4.
- 13. Llamas R, Hart DR, Schneider NS. Allergic bronchopulmonary aspergillosis associated with smoking moldy marihuana. Chest. 1978;73(6):871-2.
- 14. Llewellyn GC, O'Rear CE. Examination of fungal growth and aflatoxin production on marihuana. Mycopathologia. 1977;62(2):109-12.
- 15. Marks WH, Florence L, Lieberman J, Chapman P, Howard D, Roberts P, et al. Successfully treated invasive pulmonary aspergillosis associated with smoking marijuana in a renal transplant recipient. Transplantation. 1996;61(12):1771-4.
- 16. McKernan K, Spangler J, Helbert Y, Lynch RC, Devitt-Lee A, Zhang L, et al. Metagenomic analysis of medicinal Cannabis samples; pathogenic bacteria, toxigenic fungi, and beneficial microbes grow in culture-based yeast and mold tests. F1000Res. 2016;5:2471.
- 17. McKernan K, Spangler J, Zhang L, Tadigotla V, Helbert Y, Foss T, et al. Cannabis microbiome sequencing reveals several mycotoxic fungi native to dispensary grade Cannabis flowers. F1000Res. 2015;4:1422.
- 18. Pfeifer AK, Lange P. [Pulmonary consequences of marijuana smoking]. Ugeskr Laeger. 2006;168(18):1743-6.

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- 19. Prasad R, Verma SK, Dua R, Kant S, Kushwaha RA, Agarwal SP. A study of skin sensitivity to various allergens by skin prick test in patients of nasobronchial allergy. Lung India. 2009;26(3):70-3.
- 20. Radwan MM, Elsohly MA, Slade D, Ahmed SA, Khan IA, Ross SA. Biologically active cannabinoids from high-potency Cannabis sativa. J Nat Prod. 2009;72(5):906-11.
- 21. Ruchlemer R, Amit-Kohn M, Raveh D, Hanus L. Inhaled medicinal cannabis and the immunocompromised patient. Support Care Cancer. 2015;23(3):819-22.
- 22. Schwartz IS. Non-Aspergillus sinusitis and marijuana use. Am J Clin Pathol. 1992;97(4):601-2.
- 23. Spiewak R, Gora A, Dutkiewicz J. Work-related skin symptoms and type I allergy among eastern-Polish farmers growing hops and other crops. Ann Agric Environ Med. 2001;8(1):51-6.
- 24. Szyper-Kravitz M, Lang R, Manor Y, Lahav M. Early invasive pulmonary aspergillosis in a leukemia patient linked to aspergillus contaminated marijuana smoking. Leuk Lymphoma. 2001;42(6):1433-7.
- 25. Wallace JM, Lim R, Browdy BL, Hopewell PC, Glassroth J, Rosen MJ, et al. Risk factors and outcomes associated with identification of Aspergillus in respiratory specimens from persons with HIV disease. Pulmonary Complications of HIV Infection Study Group. Chest. 1998;114(1):131-7.
- 26. Yadav S, Yadav PK, Yadav D, Yadav KD. Purification and characterization of pectin lyase produced by Aspergillus terricola and its application in retting of natural fibers. Appl Biochem Biotechnol. 2009;159(1):270-83.