

October 22, 2019

NHS Patients Re: Vaping

Recently there has been a surge in reported cases of severe pulmonary illness associated with the use of vaporization devices. Cases have been reported with the use of both nicotine and THC products. Across North America, hundreds of previously healthy people have been hospitalized with serious illness, and while the majority have recovered, more than a dozen have died. Consequently, there is increased attention to the potential dangers of vaping.

While neither Health Canada nor the US Center for Disease Control have identified a definite cause of vaporization associated lung injury, a number of strong trends have emerged. Most cases have been associated with the use of concentrated cartridges in e-cigarette type devices. Lung injury appears related to the inhalation of carrier compounds in the device cartridges. A possible culprit are the carrier oils used by some manufacturers which can result in inhalation of lipids. Lipid inhalation is a known cause of inflammatory lung damage and resulting in illnesses such as bronchiolitis obliterans and lipoid pneumonia. The oral cannabis oils sold legally in Canada for ingestions are specifically NOT intended for vaporization due to known high risk of lipoid pneumonia. In addition to lipids, other possible contributors to the current vape crisis are residual chemical contaminants that can occur as a by-product of vape cartridge production.

From a medical perspective, vaporization is not always bad, and as a form of medication delivery its use is well established. Nebulizers and other forms of inhaled aerosolized medication are commonly and safely used in hospitals. Therefore, it is likely that some of the compounds being vaporized are the source of the problem rather than vaporization itself. Since the exact cause of the current crisis has not been identified and the health consequences of vaporization of concentrated nicotine or THC cartridges are not known, the use of these cartridges in e-cigarettes is currently not recommended.

Until recently in Canada, the only cannabis products legally available for inhalation have been dried whole plant flower. At the time of this writing, there have been no reported cases of severe pulmonary illness or death from the vaporization of dried cannabis flower. Vaporization of dried non-contaminated whole plant material has also been demonstrated to be significantly safer than inhalation of combusted material through traditional smoking.

The take-home message for medical patients is that vaporization of concentrated cannabis extracts in cartridges is not recommended. Currently, these are not legally available for sale in Canada but may become available in late 2019. The future use and safety of these products will depend on research and discovery of the cause of the current vape crisis.

The long-term safety of regular whole-plant cannabis vaporization has never been definitively proven, and all medicines must be taken with consideration of risks and benefits. However, users of dried flower vapes can be reassured that current evidence suggests that vaporization of dried cannabis flower is not associated with severe pulmonary illness and is also safer than smoking.

Mark H. Kimmins, MD