

# Cannabis and the lungs

FACT SHEET prepared by the Asthma and Respiratory Foundation NZ

**Cannabis is the most widely used illegal drug worldwide. New Zealand has a strong culture of cannabis use. About half the adult population admit to having smoked cannabis at some stage in their lives and 25% have used it in the last year. Long-term use of cannabis is known to cause chronic bronchitis and airflow obstruction and increases the risk of lung cancer in young people.**

## **What's the difference between cigarette smoke and marijuana smoke?**

Burning marijuana leaves produce smoke and gases similar to those produced by tobacco. Tobacco smoke contains nicotine; cannabis smoke contains tetrahydrocannabinol as its "active" ingredient, which affects the brain as well as the lungs. Both marijuana and tobacco smoke contain carcinogens (substances which cause cancer).

## **What are the risks of smoking marijuana?**

A high level of risk comes from factors such as how cannabis is smoked and the increasingly younger age at which New Zealanders are starting to smoke it. The depth of breath in and the length of time the breath is held are usually greater when smoking marijuana than when smoking cigarettes. This means exposure to the chemicals in the smoke is greater for marijuana than for cigarettes, even though the frequency of smoking may be less.

Cannabis smokers end up with five times more carbon monoxide in their blood stream than tobacco smokers. A recent study by Professor Richard Beasley, Director of the Medical Research Institute of New Zealand shows that the risk from smoking one joint of marijuana is equivalent to the risk of smoking twenty cigarettes in terms of lung cancer risk.

## **What happens in my lungs?**

Studies indicate that acute inflammation (redness and swelling) occurs in the airways of marijuana smokers after six to eight weeks of regular use. The same sort of inflammation occurs as a result of smoking tobacco. This would explain why young cannabis-smoking New Zealanders have been found to have more respiratory symptoms such as wheeziness, shortness of breath on exercise, and phlegm production, than young people who don't smoke tobacco or cannabis. For measures of airflow obstruction, one cannabis joint has a similar effect to 2.5 to 5 cigarettes.

In addition, marijuana smoke, like tobacco smoke, can trigger asthma symptoms in some people when inhaled either directly or in the form of second-hand smoke.

Research has shown that marijuana does damage the lungs and stop them from working properly. The drug decreases the number of small fine airways, which carry oxygen and waste products to and from the blood vessels. In addition, marijuana damages the large airways,

blocking airflow and making the lungs work harder. The amount of damage is directly related to the number of joints smoked, with more marijuana associated with more lung damage.

The Asthma and Respiratory Foundation NZ strongly advises against both tobacco and marijuana smoking.

### **The Asthma and Respiratory Foundation NZ can help you**

The Asthma and Respiratory Foundation NZ is New Zealand's not-for-profit sector authority on asthma and other respiratory illnesses. We advocate to government and raise awareness of respiratory illnesses, fund research for better treatments and educate on best practice.

Check out our comprehensive website at [asthmaandrespiratory.org.nz](http://asthmaandrespiratory.org.nz)

### **References**

Hall W, Johnston L, Donnelly N. Epidemiology of cannabis use and its consequences.

In: Kalant, Corrigall, Hall, Smart (editors).

The health effects of cannabis. Pages 71-126. Toronto.

Centre for Addiction and Mental Health.

Sherrill et al. Respiratory effects of non-tobacco cigarettes: a longitudinal study in the general population.

International Journal of Epidemiology 1991; 20: 132-137.

Taylor et al. The respiratory effects of cannabis dependence in young adults.

Addiction 2000; 95 (11): 1669-1677.

S. Aldington, M. Harwood, B. Cox, M. Weatherall, L. Beckert, A. Hansell, A. Pritchard, G.

Robinson, R. Beasley on behalf of the Cannabis and Respiratory Disease Research Group.

Cannabis use and risk of lung cancer: a case-control study. <http://erj.ersjournals.com>