

The “High” Road to Bronchodilation

By John R. Goodman BS RRT

At the time of this writing (March 2014) 20 states plus the District of Columbia have passed medical marijuana acts, and another 14 are considering passage. In fact, Colorado and Washington have passed legislation that makes small amounts of marijuana legal for recreational use. While we can argue the many non-medical sides of the marijuana coin until we are literally blue in the face, the well known medical effects of marijuana cannot be denied. A partial list of conditions believed to be helped by marijuana numbers somewhere around 200.

Marijuana (*Cannabis sativa*) has been used continuously since around 10,000 BCE. Hemp fibers have been used to make clothes, rope, bow strings, and even paper. China has a long history of cultivating marijuana for its additional medicinal properties, which they referred to as “Ma.” By the second century AD, “Ma” was being used to treat gout, rheumatism, constipation, and providing anesthetic pain control. One very interesting observation here, over nearly 4,000 years of usage, the Chinese made almost no mention of its psychoactive properties. It wasn’t until Cannabis use spread to India that it started to be used as a widespread religious and medicinal intoxicant.

While there isn’t enough time or space to list all 200 conditions that may be helped by taking marijuana, the following medical conditions have all been proven to have positive medical effects with results published in peer reviewed literature.

Alzheimer’s disease
Epilepsy
Multiple sclerosis
Glaucoma
Arthritis

Depression
Anxiety
Hepatitis C
Morning sickness
Chemotherapy patients

While Cannabis doesn’t actually cure any of the above conditions, it does mollify or lessen the severity of the symptoms making it much easier to get through the activities of daily living (ADL). Better symptom control results in a better quality of life for patients suffering from these debilitating medical conditions.

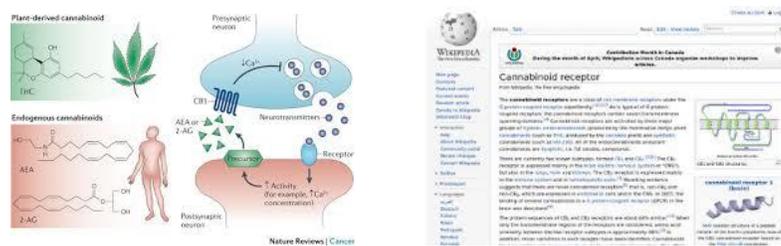
This may be a good time to mention that in 10,000 years of Cannabis use, and in 5,000 years of recorded history, there has never been a single death attributed to marijuana. By comparison, prescription drugs kill over 100,000 people worldwide every year. But what effect, if any does marijuana have on the respiratory system? We tend to think of marijuana almost exclusively as a drug that is smoked much like a cigarette. It would logically follow that any smoke inhaled into the lungs would have negative effects. This would probably be the case if smoking were the

only way to get the drug into the system. However, today there are devices known as vaporizers that essentially eliminate the smoke component from the drug, and of course, marijuana may be ingested in a number of ways that completely bypass the lungs themselves. In fact for many thousands of years the preferred method of taking Cannabis was in the form of a tea or edible extract. Many edible forms of Cannabis are available today as well. Smoking Cannabis is a relatively modern phenomenon.

Cannabis has been used to treat asthma for many, many years. In fact, the Chinese emperor Shen Nung was said to have used marijuana in just this way back in 2,700 BC. There is historical evidence from the time of the ancient Egyptians using marijuana for both asthma and glaucoma in 1213 BC. And in fact smoking marijuana (actually inhaling the smoke) for a variety of breathing problems and especially asthma, was common all the way up till the 1930's



Shen Nung



Cannabinoid receptors are located within the airways

Marijuana stimulates certain cannabinoid receptors located in the lungs with the net result being bronchodilation. Additionally, you get the relaxation and calming of mind to help eliminate or diminish the anxiety that is often seen in a breathing attack. The “Landmark” study was done by Dr. David Tashkin in 1975. He took 10 men and 10 women with known asthma. He induced bronchospasm in all of them, and then he gave them either a placebo, a known asthma inhaler, or marijuana. His results showed that the group that received the marijuana had a near immediate relief of their airway constriction, and the effect lasted much longer than those patients who took the asthma inhaler.



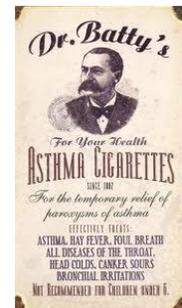
Whether inhaled



Boiled into tea
Or made into brownies



Taken by nebulizer



What could
be easier

So, since asthma and COPD have many similar symptoms, can we make the leap to using Cannabis to treat COPD? Well...yes and no. If a COPD patient has a

significant bronchodilator response, or has an actual asthmatic component, than Cannabis may indeed help with some symptoms. The problem of course is that Cannabis is not yet legal in all 50 states, and more important, better targeted (legal) medications are readily available for patients to treat the broad spectrum of symptoms exhibited by COPD patients that might not be so prevalent in patients with asthma only.

We know there are a large number of anti-drug organizations that argue against the use of medical marijuana even with overwhelming evidence of its efficacy. Almost every day a new poll comes out regarding the legalization of medical marijuana. (Currently 62% of Americans favor legalization.) Overall, it seems society's opinion on the use of medical marijuana is changing rapidly. Only time will tell.

For a new drug to be approved by the FDA there must be "substantial evidence" of its efficacy. This must be based on well controlled clinical evaluations, plus evidence that the drug is safe when prescribed in therapeutic doses. It is interesting to note that politics, and not necessarily medical science has been the chief barrier to getting marijuana approved as a legal medicant. Hopefully, in the upcoming years more and better studies on the use of marijuana will be conducted. With several thousand years of acknowledged usage in a variety of clinical settings, we can only hope that someday our pulmonary patients will be able to take "the high road to bronchodilation" by whatever route (or routes) works best for them.