

Breakthroughs in medicinal marijuana for chronic pain control

By Brian D. MacLean

Every morning, Brian Carlisle awakes and immediately smokes his medical cannabis. His wife, Shannon, does the same. They are among approximately 3000 patients holding federal exemptions for medical marijuana. Amongst other things, Brian and Shannon smoke their cannabis to manage chronic pain. "I must get up several times during the night to medicate," says Brian. Shannon sleeps better but, like Brian, must medicate first thing in the morning. Brian's routine is starting to change, however.

After a recent trip to the Green Cross Society, a compassion club in East Vancouver, he has been ingesting his medical marijuana by eating specially prepared cannabis capsules obtained there. "The capsules and other edible cannabis products mean I do not have to smoke nearly as much during the day," explains Brian. "I sleep better at night and do not have to get up nearly as often."

Brian and Shannon are not alone in their use of cannabis for medical purposes. A spate of recent legal decisions have determined that 'medical marijuana' supplied by Health Canada does not represent appropriate access to a legal supply of the medi-

cine. For this reason, virtually every major Canadian city has a 'Compassion Club' whose purpose is to supply marijuana to patients with legitimate medical needs. Larger cities like Toronto and Vancouver have several clubs. Given the number and membership sizes of these clubs, 100,000 members using cannabis for medical purposes in Canada would be a conservative estimate. This is in addition to federal license holders. While all 103,000 people have had their physicians prescribe marijuana, there is an even larger number who would claim to 'self-medicate' without medical supervision.

Much of this use is to control chronic pain. While opiates and opioids may have considerable efficacy for 'relief' of acute pain, there are many problems with using these drugs. The high profile cases of Cindy McCain and Rush Limbaugh illustrate the key problem of long-term opiate usage: dependency and abuse that is hard to break. Additionally, many arthritis patients report a lack of efficacy with these drugs for bone and joint pain. Consequently, the search for alternative medications has been ongoing. Pain management specialist, Dr. Rene Russo, equates chronic pain with the beating

of a drum: marijuana ingestion keeps that beating at a distance so patients can function in their everyday lives.

The medical value of marijuana for pain management and other medical symptoms can no longer be denied. Recent research suggests that cannabidiol (one of the biochemicals that provide the medical benefits) helps control breast cancer in women. Despite such medical efficacy, the medical community has been slow to universalize its support of this medication. The largest impediment is that the inhaled particulates of smoke are respiratory irritants that can promote respiratory and cardiovascular illnesses.

Sitting behind his desk in his lab, Hedron Analytical Inc., Dr. Paul Hornby, Scientific Advisor to the Green Cross Society, explains the biochemical science behind the medical properties of cannabis. A soft-spoken and considerate man, he clearly has superior expertise in this field. He holds a doctorate in Human Pathology and a Master of Science in biochemistry. He has conducted medical research on three continents. His studies of oral cancer and the potential role of Vitamin A and other dietary supplements in treating and preventing it make him a highly knowledgeable specialist in herbal sciences and medicine. "I have been analyzing herbal medicines for over 30 years."

Dr. Hornby explains, "One of the most significant medical discoveries of the past half century was the identification in the early 1990s of the receptor in the human brain for the active medical substance of cannabis, THC (tetrahydrocannabinol)." What started as a slow trickle of publication has rapidly become a torrent of literature on the human Endocannabinoid system. The fact it is present at all suggests a host of medical possibilities. Much to his dismay, the illegal stature of marijuana means that pharmaceutical companies can potentially profit greatly from the synthesis of drugs that mimic or approximate the natural molecules. For Dr. Hornby, "Synthetics do not belong in the human body."

This growing body of research has identified in cannabis other substances with medical benefits. What is

referred to as the 'Cannabinoid Profile' consists of three main substances: THC, CBD (Cannabidiol), and CBN (Cannabinol). What makes these substances unique is their ability to bind themselves chemically to human receptors. In order for this to occur, a chemical reaction to the molecules occurs when heated which forces some of the molecule to break off in the form of CO₂. The remainder is able to attach itself to the receptors and the medical effect is then realized. Called 'decarboxylation,' this process occurs with heat, which is why smoking is necessary to achieve the desired medical effect.

"We have over 4000 members and about 70 per cent of those are using cannabis for chronic pain management," explains Hornby. The THC, CBD, and CBN profiles work in different ways on different patients to manage specific medical symptoms. "We have the highest levels of efficacy with pain management," Dr. Hornby observes.

Dr. Hornby regularly analyzes medicines Green Cross offers its members. Using High Pressure Liquid Chromatography (HPLC), "We can identify and quantify the Cannabinoid Profiles." He also arranges for tests of heavy metals and other contaminants. Green Cross members can be assured of quality.

A more important result is that Dr. Hornby produces "Cannacaps," gelatin capsules filled with specific quantities of decarboxylated cannabis which are taken orally. Normally, eating marijuana has no effect. The capsules work well because the cannabis has been decarboxylated. Different cannacaps with different profiles and strengths can be measured and their effects identified and recorded. Calculating dosage then becomes a matter of refining the medicinal profile to improve the efficacy.

The importance of the cannacaps and other edible cannabis products is that the high levels of efficacy offered by medicinal cannabis can now be realized without the negative side effects of inhaling particulates.

Dr. Hornby and the Green Cross Society are trying desperately to construct databases for research reporting purposes.

One paper is currently being peer-reviewed by a professional Journal in England. However sparse the research reports, there is no shortage of anecdotal evidence to confirm the medical benefits. "I broke my back in a car accident and it was the only thing that helped." Another member recalls, "Dr. Hornby's cannacaps got me off narcotics. I was taking 2 oxies (oxycontin 80 mgs) every day. Now I don't take any and I can do more of the things I have to do." Dr. Hornby notes: "We've treated people who were on as many as 8 (oxycontin) per day."

Busy as he is with his quality control and member consultations, Dr. Hornby argues that more published work is necessary. He intends to organize a public education program and seminars on the subject for physicians. "Health Canada did things wrong and they don't even recognize the medical importance of member access to different strains."

Dr. Hornby and others would like to see a "Ministry of Wellness" with a different mandate than Health Canada. "Let them deal with the pharmaceuticals while the new ministry regulates herbal medicines and remedies like cannabis." He wants to be able to grow about 12 different strains ongoing into the future so that he can produce medicines with profiles that are consistent and refined to high levels of efficacy for member symptomatology.

Meanwhile, whenever he can, Brian Carlisle ingests his medicinal marijuana. "I just wish I could afford to travel to Vancouver and buy those caps more often."

For Dr. Paul Hornby "all of our prices are determined by the black market. That's the annoying part. After all it is a plant grown from the ground."

How nice it would be for Brian, Shannon, Compassion Clubs and their roughly 70,000 patients in Canada using marijuana for pain management to be freed from black market pricing and to achieve a higher quality of life.

Dr. Brian D. MacLean is a commonwealth scholar doing research on medical cannabis. He is a medical cannabis user holding a federal permit from Health Canada.

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