



The Downside of High

**January 28, 2010 at 8 pm
CBC-TV's The Nature of Things
with David Suzuki**

Produced with the participation of the



Canadian Television Fund
Fonds canadien de télévision

created by the Government of Canada
and the Canadian Cable Industry



CBC



Press Release

Immediate

December 14, 2009

“THE DOWNSIDE OF HIGH”

PREMIERES ON CBC TV’s “THE NATURE OF THINGS” with DAVID SUZUKI

THURSDAY, JANUARY 28, 2010 at 8 P.M. (8:30 NT)

Is strong pot damaging young minds? That provocative question is at the heart of this new documentary about the science behind marijuana and mental illness.

Teenagers who start smoking marijuana before the age of sixteen are four times more likely to become schizophrenic. That’s the startling conclusion of some of the world’s top schizophrenia experts, whose research is featured in the new documentary [THE DOWNSIDE OF HIGH](#), premiering on CBC TV’s “THE NATURE OF THINGS” with DAVID SUZUKI on Thursday, January 28 at 8:00 P.M. (8:30 NT).

The scientists’ groundbreaking work on the connection between marijuana and mental illness also reveals that, for all young adults, smoking marijuana nearly doubles the risk of developing recurring psychosis, paranoia and hallucinations – the hallmarks of schizophrenia.

[THE DOWNSIDE OF HIGH](#), directed and written by Bruce Mohun, tells the stories of three young people from British Columbia who believe – along with their doctors – that their mental illness was triggered by marijuana use. All three spent months in hospital psychiatric wards, and still wage a battle with their illness. Today’s super-potent pot may be a big part of the problem. Modern growing techniques have dramatically increased the amount of THC, the psychoactive ingredient in marijuana – ramping up the threat to the developing teenage brain.

But there’s an intriguing twist to the story: in the process of cultivating more potent strains of pot, growers have also been breeding out a little-known ingredient called cannabidiol that seems to buffer the effects of THC. So

today's high-octane pot actually contains a double-whammy – more psychosis-producing THC, and less of the protective CBD or cannabidiol.

For many people, smoking marijuana is not a big deal – it is, after all, the most widely-used illegal drug in the world. [THE DOWNSIDE OF HIGH](#) provides a scientific perspective on some of the little-known and little-discussed risks of marijuana, particularly for teenagers.

[THE DOWNSIDE OF HIGH](#) is the latest documentary from the Gemini Award-winning production company Dreamfilm Productions of Vancouver. Dreamfilm's documentary Peace Warrior, about Canadian soldier Capt. Trevor Greene, won the 2009 Gemini Award for Best Biography Documentary. It follows Trevor through brain injury rehabilitation following a horrendous axe attack to the head while he was serving in Afghanistan. Other award-winning Dreamfilm documentaries include: Desperately Seeking Doctors, about the critical shortage of family physicians in Canada, directed by Sharon Bartlett and Maria LeRose; Embracing Bob's Killer, about a widow who forgives her husband's killer, directed by Helen Slinger; and Depression: Fighting the Dragon, about groundbreaking therapies for depression, directed by Sue Ridout. Upcoming Dreamfilm documentaries include Hyper Parents & Coddled Kids, about over-parenting, directed by Sharon Bartlett and Maria LeRose, and Thoroughly Modern Marriage, about whether marriage as an institution is worth saving, directed by Sue Ridout.

www.dreamfilm.ca

[THE DOWNSIDE OF HIGH](#) is directed and written by Bruce Mohun, story-produced by Maureen Palmer, and produced by Sue Ridout. It is narrated by David Suzuki. The Director of Photography is John Collins, Editor is Tim Wanlin, and the original music score is composed by Tim McCauley. For CBC, the Executive Producer, Science & Natural History Unit is Michael Allder; Senior Producer is FM Morrison.

[THE DOWNSIDE OF HIGH](#) is produced by Dreamfilm Productions Ltd. in association with the Canadian Broadcasting Corporation. Produced with the participation of the Canadian Television Fund created by the Government of Canada and the Canadian cable industry, the Province of British Columbia Film Incentive BC, and the Canadian Film or Video Production Tax Credit Program. CBC Learning distributes the program in Canada.

Photos: www.cbc.ca/imagegallery/

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Available for purchase after the broadcast from www.cbcllearning.ca

LOGLINE

Is today's strong pot damaging young minds? That provocative question is at the heart of this new documentary on recent science discoveries about marijuana and mental illness.

SHORT SYNOPSIS

Teenagers who start smoking marijuana before the age of sixteen are *four times more likely to become schizophrenic*. That's the startling conclusion of some of the world's top schizophrenia experts, whose research is featured in the new documentary [THE DOWNSIDE OF HIGH](#). The scientists' groundbreaking work on the connection between marijuana and mental illness also reveals that, for all young adults, smoking marijuana nearly doubles the risk of developing recurring psychosis, paranoia and hallucinations – the hallmarks of schizophrenia.

The documentary tells the stories of three young people from British Columbia who believe – along with their doctors – that their mental illness was triggered by marijuana use. All three spent months in hospital psychiatric wards, and still wage a battle with their illness. Today's super-potent pot may be a big part of the problem. Modern growing techniques have dramatically increased the amount of THC, the psychoactive ingredient in marijuana – ramping up the threat to the developing teenage brain.

OUR SUBJECTS

TYLER

Tyler was 14 years old when he first started experiencing psychotic episodes. He had been a top student until then, but his illness became so severe he couldn't continue his education. Doctors struggled to find the right medications to control his hallucinations, and he was in and out of hospitals and group homes in B.C.'s Lower Mainland for three years. Now 23 years old, Tyler lives with his mother in suburban Vancouver and is taking high school English and Math courses. He's gradually



TYLER

being taken off his medications and is an avid practitioner of yoga. Tyler is the nephew by marriage of the director of [THE DOWNSIDE OF HIGH](#), Bruce Mohun.

BEN

Ben lives with his parents on a Gulf Island in British Columbia. He was first introduced to marijuana while at the island's school, and continued the habit at a high school on the

mainland. His increasingly psychotic behaviour led his parents to be concerned about possible suicidal tendencies, so Ben was hospitalized for over a year. Now 23 years old, he is studying English and Math at Capilano University and continues to practice piano, a lifelong pastime.

MELANIE

Melanie's experience with marijuana-induced psychosis didn't start until she was 19, but it was very intense and ended with a three-month stay in hospital. She was diagnosed with bi-polar disorder, but now has it under control. Melanie is 23 years old and has a job, an apartment and a boyfriend. She hopes to become a nurse's assistant.



BEN

THE EXPERTS

ROBIN MURRAY

Dr. Robin Murray is one of the world's leading experts on schizophrenia, and Professor of Psychiatric Research at the Institute of Psychiatry in London, England. His particular interest is in understanding the causes of psychosis. His work has helped to reveal that environmental factors such as obstetric events, heavy cannabis use and migration all increase the risk of developing schizophrenia-like psychoses. He is one of the most frequently cited schizophrenia researchers in the world.

JIM VAN OS

Dr. Jim van Os is Professor of Psychiatric Epidemiology and Chairman of the Department of Psychiatry and Psychology at Maastricht University in The Netherlands. He is also a Visiting Professor of Psychiatric Epidemiology at the Institute of Psychiatry, London. He is on the editorial board of several

European and US psychiatric journals and is one of the world's leading experts on the epidemiology of schizophrenia.

JEAN ADDINGTON

Dr. Jean Addington is Professor of Psychiatry at the University of Calgary, where she holds the Alberta Centennial Mental Health Research Chair and the Novartis Chair for Schizophrenia Research. She also holds an adjunct professor appointment at the University of Toronto and at the Centre for Addiction and Mental Health in Toronto where, from 2002 – 2008, she was responsible for developing research on the prodromal phase of schizophrenia. She is currently President of the International Early Psychosis Association. Her current work focuses on predictors of psychosis and psychological treatments for those at clinical high risk of psychosis.

JAMES KENNEDY

Dr. James L. Kennedy is Director of the Neuroscience Research Department at the Centre for Addiction and Mental Health in Toronto, and Professor in the Department of Psychiatry and Institute of Medical Science at the University of Toronto. His research has been dedicated to finding genes involved in the cause of mental illness. He has published pioneering findings relating gene variants in the dopamine, serotonin, and neurodevelopment systems to psychiatric disorders, and to treatment response.

STATISTICS ABOUT MARIJUANA AND MENTAL ILLNESS

Marijuana is the most widely used illegal drug in the world.

UN Drug Report, 2009

More than 31 million North Americans use marijuana at least once a year. That's about 10% of the population between the ages of 15 and 64. The comparable figure for Europe is only 5.2%.

UN Drug Report, 2009

The highest level of marijuana use in Canada is in British Columbia, at 16.8% of the population over the age of 15. That compares with a Canadian average of 14.1%.

UN Drug Report, 2009

The psychoactive ingredient in the cannabis plant is Tetrahydrocannabinol, or THC. Health Canada found an average THC level of 4.8% in marijuana confiscated in 1988, and an average level of 11.1% in 2008.

RCMP

If you use marijuana regularly, your chances of becoming schizophrenic are twice as great as someone who does not smoke marijuana. If you use marijuana before the age of 16, you are four times as likely to become schizophrenic.

Dr. Jim Van Os

One in a hundred people will become schizophrenic in their lifetime. There are over 230,000 people in Canada with schizophrenia.

Schizophrenia in Canada: a National Report (Schizophrenia Society of Canada)



INFORMATION HIGHLIGHTS **FROM *THE DOWNSIDE OF HIGH***

Marijuana gives most people a pleasant “buzz” or high, while others develop paranoia and sometimes psychosis, involving a frightening break from reality, heightened anxiety and hallucinations - symptoms of schizophrenia.

THC triggers an increase in a brain chemical called dopamine, which controls mood. An increase in dopamine makes us more aware, and that heightened awareness can lead to the hallucinations associated with schizophrenia.

Marijuana cannot cause mental illness on its own. It is one of a number of risk factors, which include: 1) a family history of mental illness, 2) a “psychosis-prone” personality, 3) a history of childhood trauma, 4) where you live, since urban dwellers have a higher rate of schizophrenia.

Scientists liken a teen’s brain to his or her messy bedroom. It’s a tangled jumble of circuits and it needs to go through a streamlining process to work more efficiently – a process called ‘neural pruning’. Scientists believe any substance, like marijuana, that interferes with that untangling of the brain can produce long-lasting and potentially devastating psychological effects.

One question facing researchers is the ‘chicken & egg’ scenario: is it possible that marijuana use could be an attempt to ease the earliest or ‘prodromal’ symptoms of mental illness? The weight of evidence suggests that marijuana use precedes the illness, but self-medication for pre-existing mental instability is part of the research considerations.

What if there was a simple genetic test that could tell us exactly which kids are at risk for marijuana-induced psychosis? There may be one soon. A gene called COMT, discovered in 2002, regulates dopamine levels. There are two variants of COMT, and your susceptibility to marijuana-induced psychosis depends on which combination of variants you have.

Another, little-known ingredient in marijuana could actually reduce pot’s psychotic tendencies. In the 1960s, marijuana not only had less THC but more of a chemical known to actually buffer psychotic effects. That ingredient, cannabidiol (or CBD), has been effectively bred out of today’s high-octane pot. In creating strains of marijuana with higher THC levels, pot growers have engineered a drug that delivers a double whammy – more psychotic-producing THC and less protective CBD.

Cannabidiol was first discovered in the 1930s, but it wasn't until the 1970s that studies showed it could reduce convulsions in rats. Recent research suggests that cannabidiol could eventually be used to treat schizophrenia. So the "pot paradox" is that the plant contains both a substance that can trigger psychosis, and another substance that could treat it.

A final thought from Dr. Robin Murray: "The problem with cannabis is that you have those on the one hand that say it's a sacred herb, and on the other extreme you have people that say cannabis is the work of the devil. But neither of these extremes is practical. What we need is a situation where people know that if you smoke cannabis heavily, particularly if you smoke the potent brands of cannabis, then you're more likely to go psychotic."



THE CREATIVE TEAM

BRUCE MOHUN, Director and Writer

Bruce Mohun is a science journalist who has produced, directed, hosted and written hundreds of hours of television. His programs have aired on Discovery Channel, Knowledge, TVOntario, Access, CBC and SCN. His program on the world's fastest bicycle won the Leo Award for Best Science and Technology documentary, and his documentary on dyslexia won two Freddie Awards in the U.S. He is the recipient of both the Eve Savory Award for Science Communication (Science Council of BC) and the Gordin Kaplan Award for Science Communication (Canadian Federation of Biological Societies).

SUE RIDOUT, Producer

Sue is a Gemini Award-winning broadcast journalist, director and producer. She started her career at CTV at "Live It Up" and "W5", then was a producer and executive producer at the CBC in News & Current Affairs, and finally became an independent producer in 2001, when she founded Dreamfilm Productions. Since then she has produced, written and directed documentaries for CTV, CBC, History Television, and Knowledge. In the fall of 2009 she won the Gemini Award for Best Biography Documentary for her film about the rehabilitation of Capt. Trevor Greene, a Canadian soldier who was badly injured in Afghanistan. Sue first became aware of the connection between marijuana and mental illness when her nephew, Tyler, started experiencing psychotic episodes as a young teenager.

MAUREEN PALMER, Story Producer

Maureen worked for the CBC for two decades, in senior producer positions in both radio and television, before leaving in January 2000 to become an independent producer. She has written, directed, story-edited and series-produced for North America's major networks. She directed "How to Divorce & Not Wreck the Kids" for CBC's Doc Zone (January 2009) and is currently directing a documentary about cats, also for Doc Zone.