

W.O. McCormick Academic Day, April 27, 2017

The *ABCs* of Cannabis



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Disclosures

No conflicts of interest to declare

- No pharmaceutical industry support
- No support from cannabis producers



Objectives

To introduce and make familiar common terms and issues that will be routinely used today related to:

- cannabis and cannabis products

- constituents

- cannabis-like “medicines”

- pharmacology

- brain systems

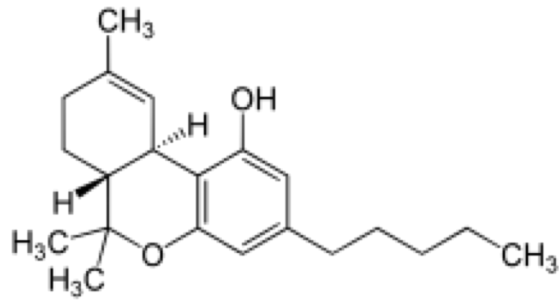
- uses

- risks

CANNABIS

~ 500 compounds, 120+ are phytocannabinoids (“terpenes”)

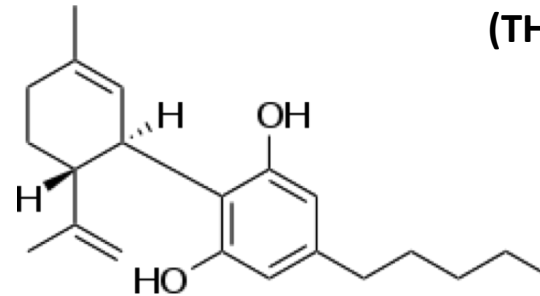
Δ 9-tetrahydrocannabinol (**THC**)



Chief psychoactive phytocannabinoid
A *partial agonist* to CB1 receptor

↑
Nervous system

Cannabidiol (**CBD**)

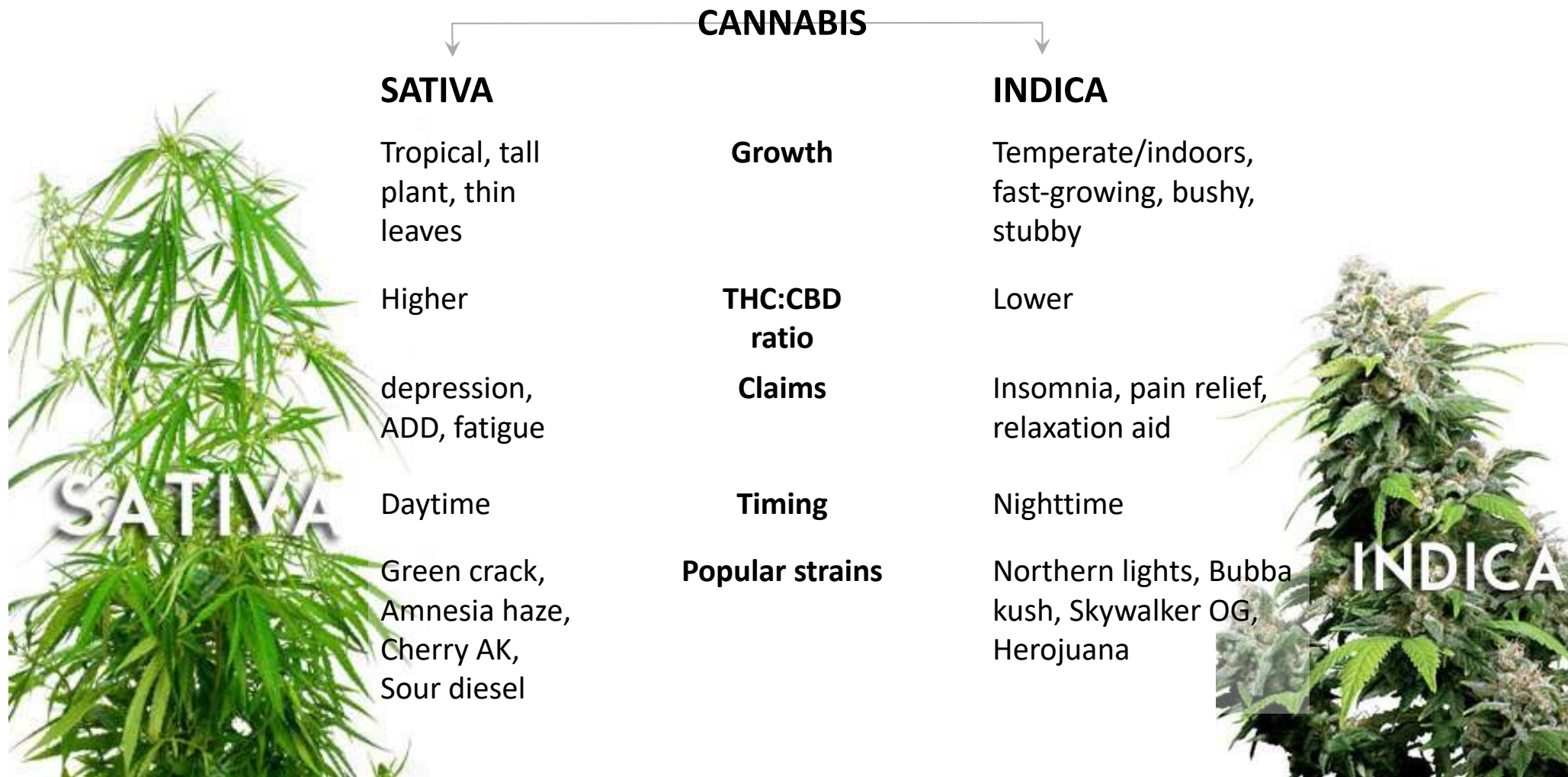


Chief non-psychoactive phytocannabinoid
An allosteric *antagonist* to CB1 & CB2 receptors

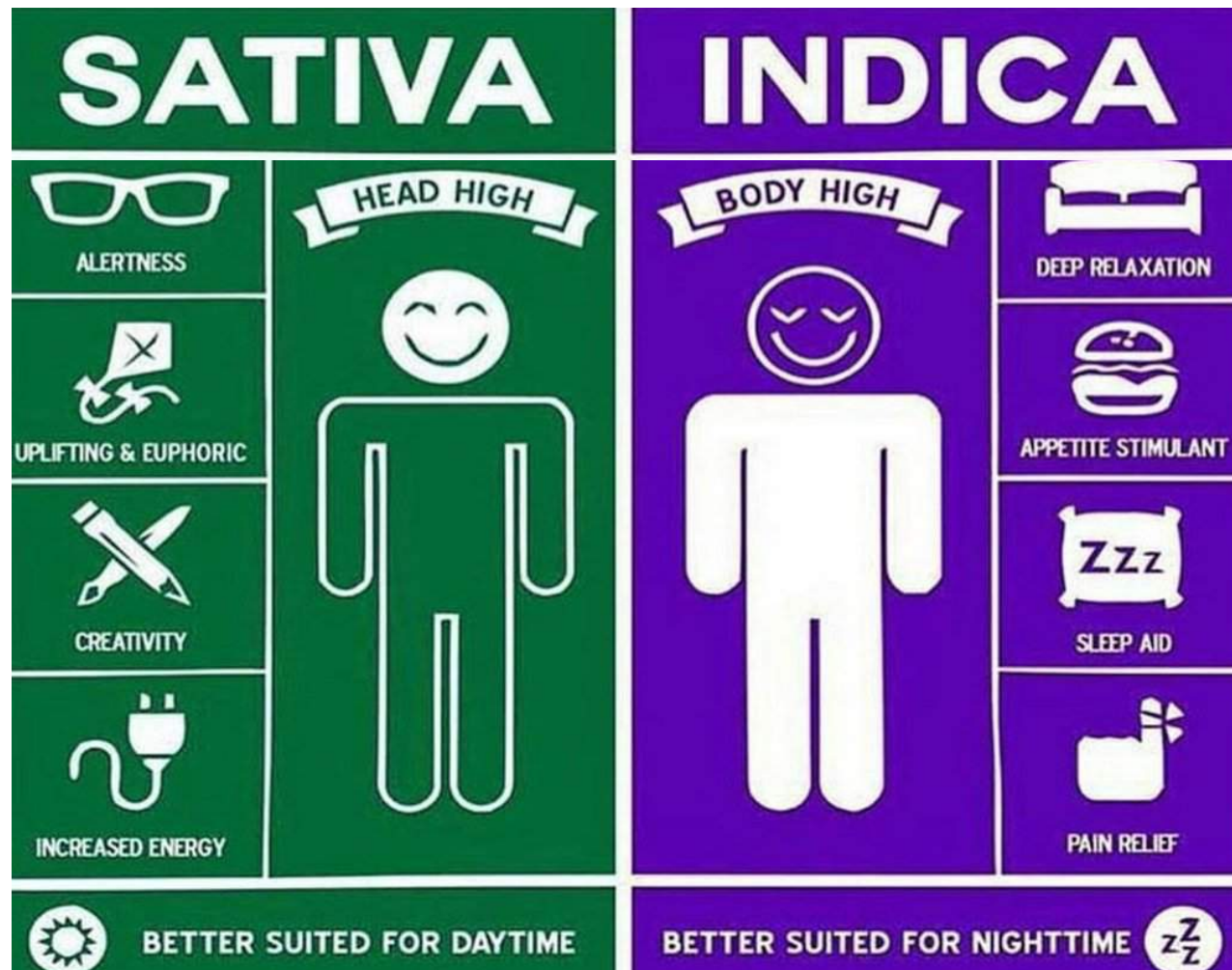
↑
Immune system

Δ 9-tetrahydrocannabivarin (**THCV**)

ABCs of Cannabis



ABCs of Cannabis



The Way We Were

Plant parts, resins, and oils

	THC %
Joint (lower leaves, stems, seeds)	0.5-5%
Hashish Dried cannabis resin Compressed flower	2-8%
Sinsemilla (flowering tops from unfertilized female plants)	7-14%
Hash oil	15-50%



The Way Things Are *Now!*

Concentrates (60-80% THC)



The Way Things Are Now!

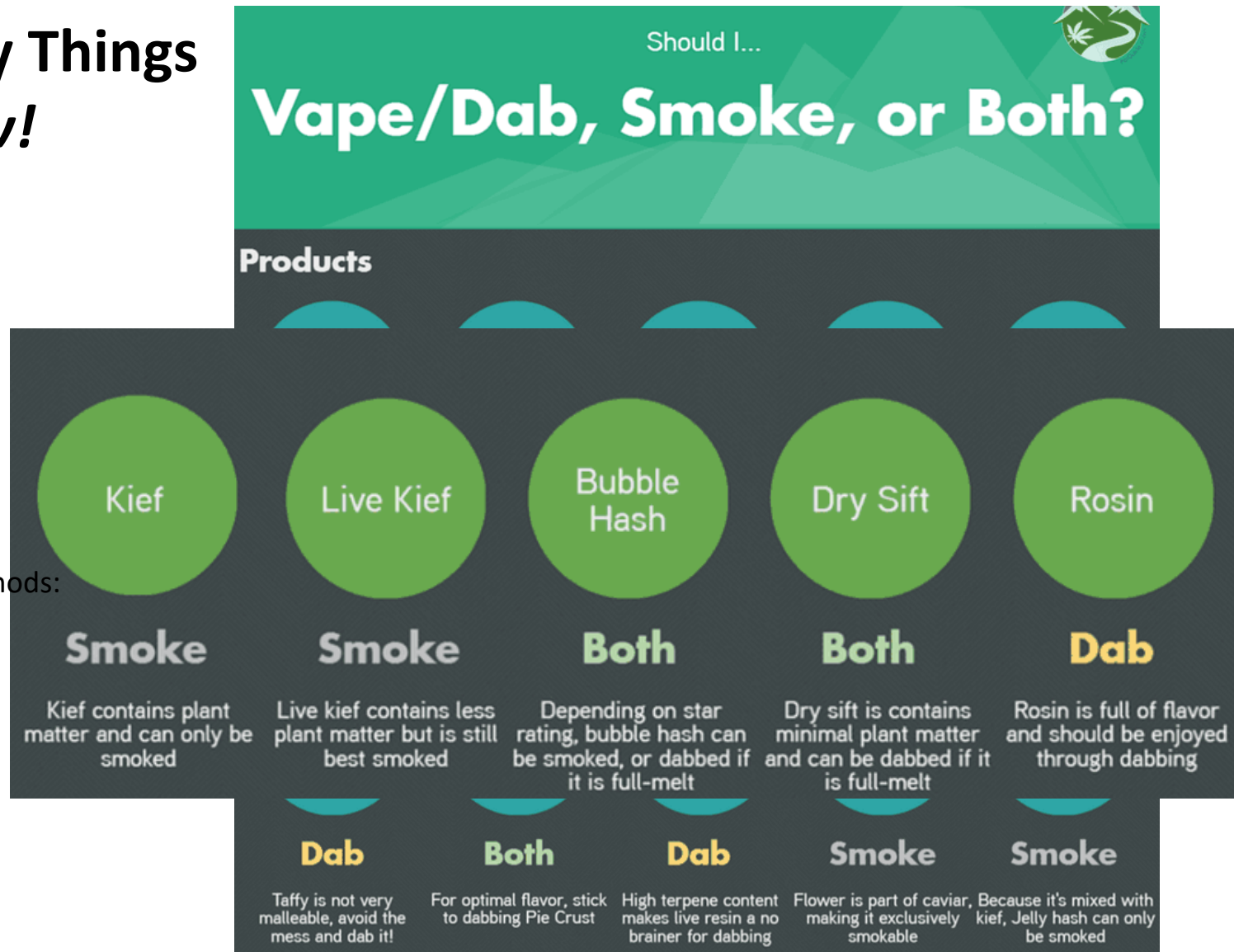
Concentrates

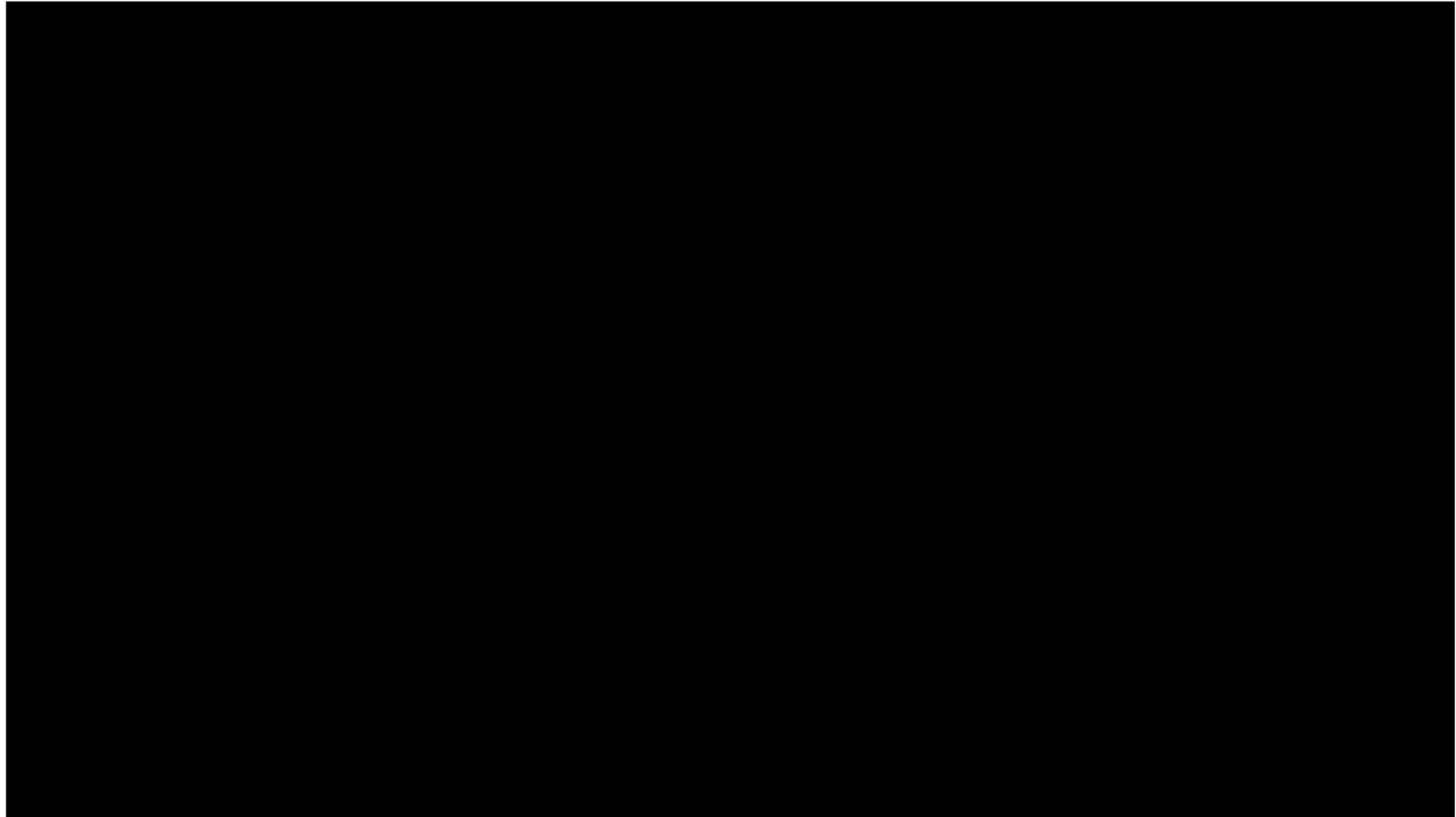
Unprocessed
concentrates

Processed
concentrates

Extraction methods:

CO2
Butane
Propane
Alcohol





Leafly[®]

Cannabis-like medicines

Health Canada Approved

Cannabinoids

Synthetic THC

Dronabinol (Marinol)

Marinol® D/C 2012 in Canada

THC-like

Nabilone

Cesamet®

THC & CBD

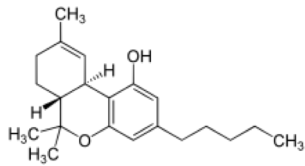
Nabiximols

Sativex®

ABCs of Cannabis

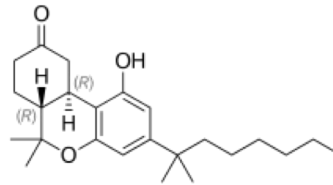
THC

Tetrahydrocannabinol



THC-like

Nabilone



Nabilone (Cesamet) tablets

Indication: severe nausea & vomiting with cancer chemotherapy

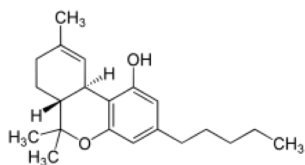
Schedule II drug (controlled drugs and substances act)



ABCs of Cannabis

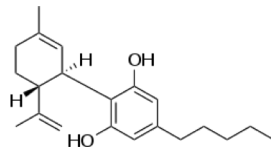
THC

Tetrahydrocannabinol



CBD

Cannabidiol



THC:CBD mixture

Nabiximols

Sativex spray

Indication: muscle spasticity, neuropathic pain of multiple sclerosis and pain of advanced cancer

Schedule II drug (controlled drugs and substances act)

CBD 25 mg/ml

THC 27 mg/ml

Extracted from Cannabis sativa

Manufacturer



Cambridgeshire,
England

Canadian distributor



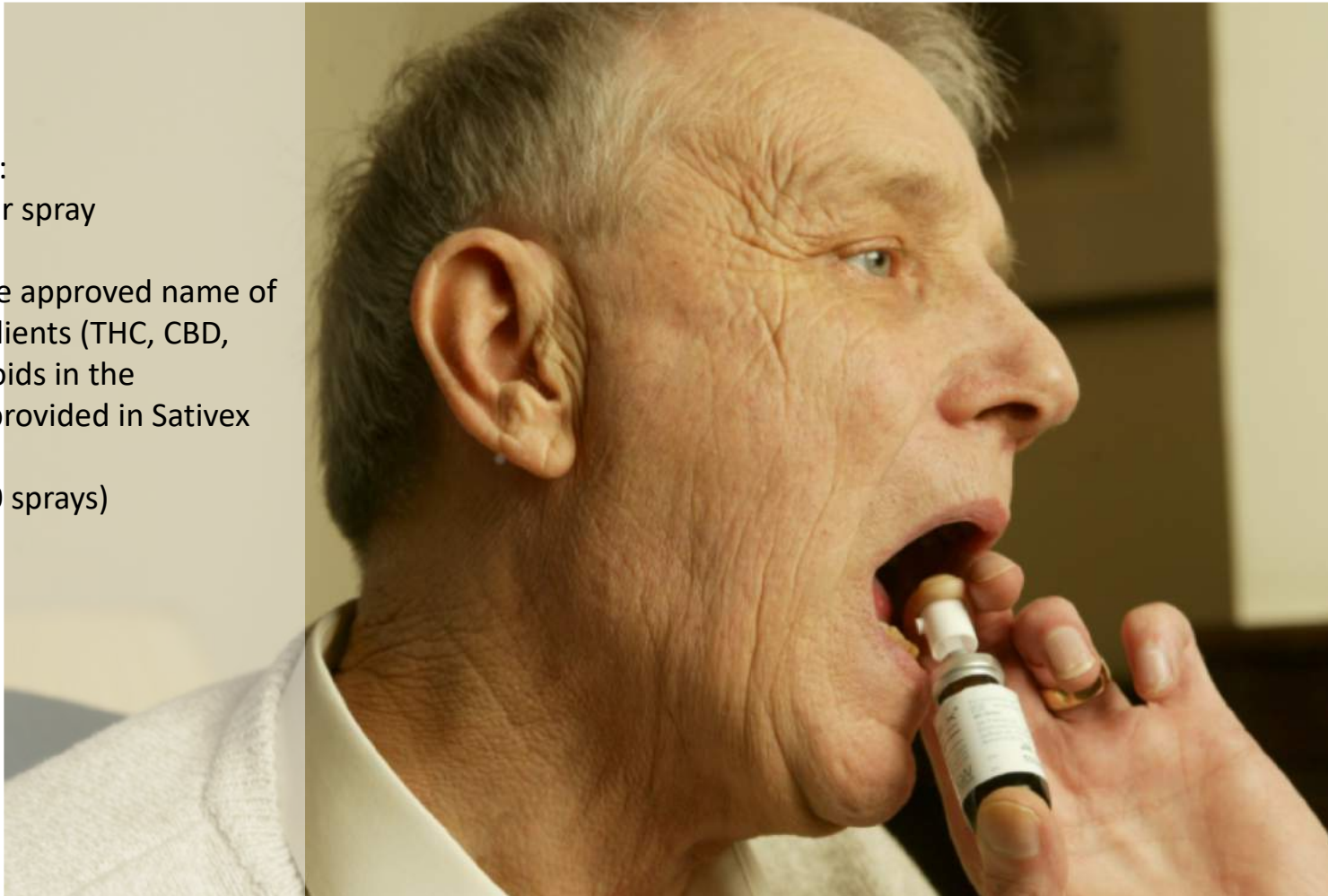
Sativex

Buccal spray

Nabiximols dose:
2.5mg/2.7mg per spray

Nabiximols is the approved name of the active ingredients (THC, CBD, minor cannabinoids in the concentrations provided in Sativex

\$250 per vial (90 sprays)



Medical Cannabis

Health Canada Regulated

Cannabinoids

**97 companies licensed in
Canda**

**NS: 3
NB: 2
PEI: 1
NL: 0**

**Approved to sell to eligible
persons:**
dried or fresh marijuana, cannabis
oil, or starting materials

Example:



~1000 mg THC per bottle

\$90

2.5 mg THC per drop

Oral

Example:



~1000 mg CBD per bottle

\$90

2.5 mg CBD per drop
<0.2 mg THC

Oral

Example:



Edibles & Drinkables

Will be legal soon, maybe

Cannabinoids

Example:



Uses of cannabinoids

Accepted uses	Insufficient evidence	Psychiatric condition:
<ul style="list-style-type: none">• Neuropathic pain:<ul style="list-style-type: none">• MS• HIV• Cancer• Spasticity<ul style="list-style-type: none">• MS• Chorea<ul style="list-style-type: none">• Huntington's disease• Seizures<ul style="list-style-type: none">• Severe, refractory in children• Nausea and vomiting<ul style="list-style-type: none">• Chemotherapy		

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Risks of cannabinoid use

Acute	Chronic
Psychological anxiety, dysphoria, paranoia, agitation, psychosis	
Cognitive impairments concentration, short-term memory, information processing, disorientation, confusion	
Psychomotor impairments reaction time, ataxia, fatigue	
Other Increased heart rate, ↑ or ↓ blood pressure, syncope	

Risks of cannabinoid use

Acute	Chronic	
Psychological anxiety, dysphoria, paranoia, agitation, psychosis	MH&A Psychosis/schizophrenia mood disorders rebound insomnia cannabis use disorder	CV decreased heart rate, reduced blood pressure, or orthostatic hypotension
Cognitive impairments concentration, short-term memory, information processing, disorientation, confusion	Cognitive neurocognitive deficits	Ongoing uncertainties gynecomastia in males infertility in men and women cancer
Psychomotor impairments reaction time, ataxia, fatigue	GI cannabinoid hyperemesis syndrome (CHS)	
Other Increased heart rate, ↑ or ↓ blood pressure, syncope		

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Announcements

Canadian Coalition for Seniors Mental Health (CCSMH)

- National Guidelines on Substance Disorders in Older Adults
 - Opioids
 - Benzodiazepines
 - Alcohol
 - **Cannabis**
- Dr. David Conn, Baycrest Hospital, Toronto
 - DoP University Rounds, May 9

Oct 11-13:

- Canadian Academy of Geriatric Psychiatry & CCSMH annual conference
 - Harbourfront Marriot, Halifax