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# Naturopathic Treatment of Addictions

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It is clear that there is a substantial need in Canada for effective treatment of addictions. According to the Centre for Addictions and Mental Health (CAMH), “one in five people in Ontario in any given year experiences a mental health or addiction problem. About 20 percent of people with a mental disorder have a co-existing substance abuse problem. One in ten Canadians 15 years of age and over report symptoms consistent with alcohol or illicit drug dependence. Over 70 percent of mental health problems have their onset during childhood or adolescence, and young people age 15 to 24 are more likely to experience mental illness and/or substance abuse disorders than other age groups. The economic burden of mental illness and addiction in Ontario (Canada) is estimated at \$39 billion annually.”<sup>1</sup>

**D**efined, addiction refers to “the continued use of any psychoactive drug, or the repetition of a behaviour despite adverse consequences, or a neurological impairment leading to such behaviours.”<sup>2</sup> “Classic hallmarks of addiction include impaired control over substances or behaviour(s), preoccupation with substance or behaviour(s), use despite consequences, and denial.”<sup>3</sup> “Habits and patterns associated with addiction are typically characterized by immediate gratification (short-term reward), coupled with delayed deleterious effects (long-term costs).”<sup>3</sup>

The consequences of addiction impact not only the sufferer, but also extend to family members, the workplace, and our healthcare system. To date, the conventional allopathic medical system has not yet developed a substantially effective, long-term, restorative treatment method to assist individuals in recovering from substance abuse. Current methods include harm reduction, 12-step programs, in-patient and out-patient treatment centres, counselling, and pharmaceutical treatment. However, it is clear that none of these

methods alone provides clients with long-term, healthy sobriety, as on average only 25% of the people who use these methods recover and are able to maintain long-term sobriety without relapse.<sup>4</sup>

Additionally, societal misconceptions and myths regarding substance abuse (see below) can significantly hamper treatment and recovery. These myths are perpetuated by counsellors and physicians and have become the cornerstone belief of almost all traditional approaches, often being used to justify the failure of treatment strategies that have been used for over 50 years.<sup>6</sup>

Myth 1: Compulsive substance use is a sign of lack of will power, or of an underlying moral or spiritual problem.

Myth 2: Drugs and alcohol are the causes of substance abuse.

Myth 3: Chronic substance users are “victims” of a disease that can be treated as we treat other diseases with prescription drugs.

Myth 4: Once an individual has successfully stopped using drugs or alcohol, they must engage in a constant struggle not to relapse.

From a naturopathic viewpoint, conventional methods of addiction treatment do not address the root cause of disease. Whereas individuals do recover and remain in recovery using some or all of the conventional methods, there is no doubt that there is a major gap in all of these treatment methods. A naturopathic approach to treating addictions must bear in mind the principle of ‘tolle causum’ and development of a naturopathic treatment plan for individuals with addiction must adhere to the principle of ‘treating the root cause’. As the cause(s) of addiction varies between individuals, as naturopathic doctors, we must strive to treat as many of the underlying causative factors as we can determine and that are amenable to modification.

## Naturopathic Approach to Addiction

Undeniably, genetics, lifestyle, upbringing, family life, stress, nutrition, and other factors will influence the health and wellness of a patient. Whereas numerous theories surrounding addiction exist, it is essentially the result of a complex interplay between genetics, life stressors and ultimately, an imbalance in the biochemistry of the brain and neurotransmitter production at a cellular and molecular level. These changes can occur as a result of the influence of several factors including poor nutrition, exposure to toxins, stress, inherited genetic vulnerabilities, and stress in its various forms. These factors can result in imbalances that regulate mood, impulsivity, reward, control, and other emotions and feelings that we experience.



## Neurotransmitter Balance and its Role in Addiction

Under normal, healthy conditions, the brain is able to cope with the usual demands for the production of necessary chemical factors and neurotransmitters. However, stress, fatigue, trauma, or increased demand over prolonged periods of time increases the demand on tissue reserves. Unless cofactors, amino acids, vitamins, minerals, and other nutrients required to maintain and compensate for this increased demand are replaced, a deficiency may eventually develop, and manifest as symptoms of disease.

There are four main neurotransmitters involved in regulating and balancing mood, emotions, feelings, appetite, cravings, and overall feelings of well-being. These are serotonin, endorphins and enkephalins, -aminobutyric acid (GABA), and the catecholamines dopamine, epinephrine and norepinephrine (also termed adrenaline and noradrenaline respectively).

Serotonin functions mainly as an inhibitory neurotransmitter, and regulates mood, sleep, emesis, sexuality, and appetite, and has been implicated in neuropsychiatric disorders such as depression, migraine, bipolar disorder, and anxiety.

Endorphins and enkephalins are primarily inhibitory neurotransmitters that are overproduced in the brain, spinal cord, and gastrointestinal tract in response to pain and physical exertion. They inhibit pain signals sent from other areas of the body and allow for the continuation of activities in the presence of inflammation or injury that may otherwise be disabling.

GABA is also an inhibitory neurotransmitter associated with mental relaxation. It is instrumental in calming racing thoughts that can interfere with sleep, and plays a role in preventing seizures, anxiety and panic attacks.<sup>6</sup>

The catecholamines dopamine, epinephrine, and norepinephrine are excitatory in nature. Dopamine regulates short-term bursts of intense concentration, feelings of euphoria, and assists in producing behaviours that need to rapidly shift to accommodate changing circumstances. Epinephrine and norepinephrine help to sustain and maintain alertness, awareness, and vigilance. During situations of prolonged stress, the stores of catecholamines can easily and quickly be depleted, resulting in fatigue, lack of motivation, difficulty concentrating, and trouble experiencing pleasure.

All of these neurotransmitters are manufactured in the neurons in the brain and other areas using certain amino acids as their primary building blocks. Specifically, serotonin is synthesized from tryptophan; dopamine, epinephrine and norepinephrine from tyrosine; GABA from glutamine via glutamate with P5P; and endorphins/enkephalins from DL-(or D-)phenylalanine. A more complete understanding of the biochemistry of neurotransmitter synthesis helps support the inclusion of naturopathic medical treatments that promote their synthesis into therapies for addiction.

## Basics of a Naturopathic Treatment protocol for the Addicted Patient

### Assessment

- 1) Adequate full history including a comprehensive mental emotional history specifically including a time line of substance use/abuse including family members, going as far back as the patient can remember; trauma history
- 2) Physical exam as appropriate
- 3) Lab work: CBC with differential, FBS, HbA1c, Ca, P, Mg, RBC folate, RBC Zn, ferritin, TSH, fT3, fT4, rT3 if possible, LFT including AST, ALT, uric acid, 25OH Vit D, K, and Na; any other labs indicated
- 4) Dietary analysis-specific focus on protein intake, sugar, caffeine, additives and preservatives that can interfere with brain function, foods that can affect thyroid function, EFA intake, vit C foods (or lack thereof), refined white flour starches and other refined foods
- 5) Any clinical reports, rehab history or other related reports from other practitioners

### Other helpful Assessment Tools

- 1) ION profile or Comprehensive Organix Profile (Metametrix) to assess amino acids, organic acids, fatty acids, vitamins, and minerals.
- 2) Drug taking confidence questionnaire: [www.camh.ca](http://www.camh.ca) has many to choose from and other tools to assist you in determining the nature and extent of the addiction
- 3) Homeopathic case (not necessary but can be helpful)

### Treatment Pillars

Dietary modification, basic supplementation, amino acids, and acupuncture (in the authors' opinion) are the best place to start in treating any addictions as these therapies likely will have the most dramatic effect both short and long-term.

#### 1) Dietary modification:

No less than 3 meals a day containing

- Protein 25-30g/meal: eggs, fish, chicken, dairy products, high quality protein powders (containing at least all of the essential amino acids)
- Low CHO vegetables (at least 4 cups a day, at least 2 cups of greens every day)
- Fats: butter, coconut oil, olive oil, nuts and seeds, avocado
- Other complex CHO foods such as fruits, beans, potatoes, yams, grains (if tolerated)
- Pure water, at least 2 litres a day

**2) Basic Supplements:**

- o High quality multivitamin/mineral
- o Vitamin C at least 2g daily divided doses

**3) Amino Acids as indicated (based on testing and clinical presentation)**

- o Refer to the amino acid chart below to assist in determining which amino acids are required, in what order, and at what dosage
- o gradually increase the dosing and frequency according to individual patient need and response or lack thereof

**4) Acupuncture-suggested points (7) in the acute phase of recovery (as indicated by TCM diagnosis)**

- Alcohol: ear points - brain, Liver, Ki, SP, ST; ST 6/8/36/37, GV20/26, GB 20/34, BL 10/54, LI 4/11/18, Lu7, SP1/4/6, Ki 1/3/7, CV 4/22, Ht7
- Tobacco: ear points - lower jaw, Shenmen, Lung, Pharynx, Abdomen, Ki, Internal nose; H7, CV6, GV24, Lu4/5/7, LI4/13, ST36/40, SP8
- Drugs (non-specific): ear points - brain, lung, liver, abdomen; LI4, ST8/15/25/40, CV10/12/13/14, GV20, GB20/34, Ki1, CV6/7, SP1/6, H7, Lu7, TH5/6

**5) Far infrared sauna** is helpful for relaxation and initiating detoxification if patient can tolerate it; start at 42C for 10 minutes and work up gradually in temperature and time (max. 55C 1 hour session)

**6) Massage therapy** can also be helpful for inducing relaxation and a parasympathetic response

**7) Hydrotherapy:** gentle constitutional treatments can be helpful in detoxification if indicated and tolerated by patient

**8) Intravenous therapy:** there are several very specific naturopathic IV protocols available that are helpful for patients suffering from acute or chronic withdrawal symptoms. Protocols are specific for alcohol, benzodiazepines, and opiates (see IVT course notes, Dr. V. Osborne 2010, 2011, 2012) and can also help to improve a patient's nutritional status.

**9) Counselling, psychological and/or psychiatric care as indicated;** Emotional Freedom Technique (EFT), Eye Movement Desensitization and Reprocessing (EMDR), any other technique that will help to reveal and heal the emotional drivers of the addiction; Tai Chi, Reiki, yoga, and meditation techniques can also prove invaluable.

**10) Any detoxification strategies or protocols that are indicated using botanicals, nutraceuticals, and homeopathics.**

- o Be mindful that patients in acute withdrawal can become very ill very quickly, even as a result of minor changes in nutritional supplementation or medication alterations
- o Gentle detoxification may be appropriate but it will be a clinical decision based on the patient's presentation, their stage of recovery, and level of toxicity
- o Changes in any pharmaceutical medications need to be made in conjunction with the prescribing medical doctor

**11) Alcoholics Anonymous (AA), Narcotics Anonymous (NA), Cocaine Anonymous (CA), Adult Children of Alcoholics (ACOA)** and other support groups can be invaluable as part of a comprehensive addiction recovery program; support for family members is important as well and Al-Alon can be useful for families and friends of the addicted person.

**Cautions and Additional Considerations**

**Concomitant conditions: Many other conditions can commonly occur in conjunction with addiction and need to be taken into consideration when developing a holistic treatment plan.**

- 1) Thyroid, especially hypothyroidism
- 2) Adrenal fatigue
- 3) Hypoglycemia
- 4) Other mood disorders or psychiatric conditions including anxiety, depression, self-image and self-esteem issues and bipolar disorder.
- 5) Other accompanying medical conditions needing concurrent treatment<sup>8</sup>

**Avoid or be cautious when using amino acids with these conditions:**

- 1) Hypertension: tyrosine, GABA, DLPA
- 2) Hypotension: GABA
- 3) Migraine: tyrosine, L-phenylalanine, DLPA
- 4) Manic depression or bipolar disorder: L-phenylalanine, tyrosine, DLPA, glutamine
- 5) Severe depression: melatonin
- 6) Asthma: tryptophan, 5HTP, melatonin
- 7) Carcinoid tumor: tryptophan, 5HTP
- 8) Hyperthyroidism: tyrosine, phenylalanine, DLPA
- 9) Hypercortisolemia: 5HTP
- 10) Melanoma: tyrosine, L-phenylalanine, DLPA<sup>9</sup>

**Relative contraindications for amino acid therapy:**

- 1) Patient reacts to supplements, foods, medications negatively in any way
- 2) Serious physical illness particularly cancer
- 3) Severe liver or kidney disease
- 4) Gastric ulcer (amino acids are slightly acidic)
- 5) Pregnancy/nursing
- 6) Schizophrenia or other mental illness
- 7) PKU (phenylketonuria)
- 8) MAO inhibitors or SSRIs (more than one)
- 9) In 50% of bipolar patients, glutamine can trigger mania; in some patients low doses can relieve bipolar depression without triggering mania
- 10) Additionally, SAME, St John's Wort, excess amounts of flax or fish oil, and bright therapeutic lights can also trigger mania<sup>10</sup>
  - If patients experience any discomfort with any of the amino acids, they should be stopped immediately
  - A dose of 2g of vitamin C can be given immediately upon any reaction with an amino to help counteract its action



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**TABLE 1 – Amino Acid Therapy for Reversing Neurotransmitter Depletion**With thanks to Julia Ross, author of *The Mood Cure* in conjunction with the Alliance for Addiction Solutions.<sup>11</sup>

COLUMN A	COLUMN B	COLUMN C	COLUMN D
<b>Low Serotonin</b> ___Afternoon or evening cravings ___Negativity, depression ___Winter blues, SAD, worry, anxiety ___Low self-esteem, guilt, irritability ___Perfectionistic ___Obsessive thoughts or behaviours ___Rage ___Panic attacks, phobias, fear of heights, etc. ___Hyperactivity ___Suicidal thoughts/feelings ___Dislike hot weather ___Headache, TMJ, FM ___Nervous stomach, other GI problems ___Insomnia, disturbed sleep ___Night owl, hard to get to sleep <b>TOTAL</b> ___	<b>Substances That Relieve Sx</b> Antidepressants___ Pot___ Ecstasy___ Prozac, Zoloft, other SSRIs___ Trazadone___ Sweets and starches___ Other sleep medications___	<b>Amino Acid solutions</b> <b>5HTP</b> 50-200mg Mid-PM, eve by 10pm, or L-Tryptophan 500-2000mg mid PM, eve by 10pm.  *eve doses needed if sleep is a problem or if symptoms persist into eve or are very severe)  <b>Melatonin</b> 0.5-5mg or more as tolerated if 5HTP or Trp don't suffice	<b>Serotonin Sufficiency</b> Emotional stability Self confidence Positive outlook Emotional flexibility Sense of humour  <b>Melatonin</b> (which is normally converted from serotonin); 8 hours of deep, restful sleep
<b>Low Catecholamines</b> ___Apathetic, depression ___Lack of energy ___Lack of drive, motivation ___Easily bored ___Lack of focus/concentration ___Thrill seeker ___ADD <b>TOTAL</b> ___	<b>Stimulants</b> Cocaine___ Meth___ Caffeine___ Alcohol___ Tobacco___ Opiates___ Wellbutrin___ Ritalin___ Adderall___ Pot___	<b>L-tyrosine</b> 500-2000mg AM, mid AM, mid PM by 3pm if sleep is a problem or L-phenylalanine 500-2000mg AM, mid AM, mid PM	<b>Catecholamine sufficiency:</b> Alertness Energy Focus Drive Enthusiasm
<b>Low GABA</b> ___Stiff tense or painful muscles ___Overstressed and burned out ___Unable to relax/loosen up/sleep ___Often feels easily overwhelmed ___Hard to get to sleep <b>TOTAL</b> ___	<b>Tranquillizers</b> Alcohol___ Pot___ Benzodiazepines___ Tobacco___	<b>Amino Acid Solutions</b> <b>GABA:</b> 100-500mg qid; more during benzodiazepine and ETOH detox as needed. Add Taurine and Glycine 500mg each or more prn as indicated.	<b>Neurotransmitter sufficiency</b> <b>GABA:</b> Calmness Relaxation Stress tolerance
<b>Low Endorphins</b> ___Crave comfort, reward ___Numbing from drugs, ETOH, ___Foods, or behaviours ___Very sensitive to emotional or ___Physical pain ___Cry/tear up easily ___History of chronic pain <b>TOTAL</b> ___	<b>Opiates</b> Oxycontin___ Heroin___ ETOH___ Pot___ Chocolate___ Sweets and starches___ Exercise___ Tobacco___ Caffeine___	<b>DL-phenylalanine</b> 500-1500mg AM, mid PM by 3pm (Add free form amino blend 700mg tid before meals)	<b>Endorphin Sufficiency:</b> Pain relief (physical And emotional) Pleasure Reward Loving feelings Numbness
<b>Brain Hypoglycemia</b> ___Cravings for sugar, starch or Sweets ___ETOH ___Irritable ___Shaky ___Headaches, especially if going too long between meals <b>TOTAL</b> ___	<b>Blood sugar raisers</b> Any carbs___ Alcohol___ Caffeine___	<b>L-glutamine</b> 500-1500mg AM, mid AM, mid PM. Add Cr 200-300mcg tid prn.	<b>Fuel sources for brain cells:</b> Sense of stability Groundedness Blood sugar balance

Patients must be closely monitored for symptoms of withdrawal from their addictive substance, as well as for improvements. Changes in amino acid dosing regimes will be necessary as improvements are seen.

The tables in this article are available for download from the Member's Only site at [cand.ca](http://cand.ca)

TABLE 2<sup>12, 13</sup> – Withdrawal Symptoms

Mild to moderate (mental)	Mild to moderate (physical)	Severe
<b>ALCOHOL:</b>		
Feeling of jumpiness or nervousness Feeling of shakiness Anxiety Irritability or easily excited Emotional volatility, rapid emotional changes Depression Fatigue Difficulty with thinking clearly	Headache (general/pulsating) Sweating, especially the palms of the hands or the face Nausea and vomiting Loss of appetite Insomnia, sleeping difficulty Paleness Rapid heart rate (palpitations) Eyes, pupils different size (enlarged, dilated pupils) Skin, clammy Abnormal movements Tremor of the hands Involuntary, abnormal movements of the eyelids	A state of confusion and hallucinations (visual, known as delirium tremens or “the DTs”) Agitation Fever Convulsions “Black outs” (when the person forgets what happened during the drinking episode)
<b>OPIATES:</b>		
Dysphoria Malaise Cravings Anxiety/Panic Attacks Paranoia Insomnia Dizziness Nausea Depression	Tremors Cramps Muscle and bone pain Chills Perspiration (sweating) Priapism Tachycardia (rapid heartbeat) Itch Restless legs syndrome Flu-like symptoms Rhinitis (runny, inflamed nose) Yawning Sneezing Vomiting Diarrhea Weakness Akathisia (a profoundly uncomfortable feeling of inner restlessness)	Cardiac arrhythmias Strokes Seizures Dehydration Suicide attempts
<b>BENZODIAZEPINES:</b>		
Aches and pains Agitation and restlessness Anxiety, possible terror and panic attacks Blurred vision Chest pain Depersonalization Depression (can be severe), possible suicidal ideation Derealisation (feelings of unreality) Dilated pupils Dizziness Dry mouth Dysphoria Electric shock sensations Elevation in blood pressure Fatigue and weakness Flu-like symptoms Gastrointestinal problems (irritable bowel syndrome) Hearing impairment Headache Hot and cold flushes Hyperosmia Hypertension Hypnagogia (hallucinations) Hypochondriasis Increased sensitivity to touch Increased sensitivity to sound Increased urinary frequency	Indecision Insomnia Impaired concentration Impaired memory and concentration Loss of appetite and weight loss Metallic taste Mild to moderate Aphasia Mood swings Muscular spasms, cramps or fasciculations Nausea and vomiting Nightmares Numbness and tingling Obsessive compulsive disorder Paraesthesia Paranoia Perception that stationary objects are moving Perspiration Photophobia Postural hypotension REM sleep rebound Restless legs syndrome Sounds louder than usual Stiffness Taste and smell disturbances Tachycardia Tinnitus Tremor Visual disturbances	Attempted suicide Catatonia, which may result in death Confusion Convulsions, which may result in death Coma (rare) Delirium tremens Delusions Hyperthermia Homicide ideations Mania Neuroleptic malignant syndrome-like event (rare) Organic brain syndrome Post-traumatic stress disorder Psychosis Self-harm Suicidal ideation Suicide Urges to shout, throw, break things or harm someone Violence

**Post-acute-withdrawal syndrome (PAWS)**, or the terms **post-withdrawal syndrome**, **protracted withdrawal syndrome**, **prolonged withdrawal syndromes** describe a set of persistent impairments that occur after withdrawal from alcohol, opiates, benzodiazepines, antidepressants and other substances. Infants born to mothers who used substances of dependence during pregnancy may also experience a post acute withdrawal syndrome. PAWS affects many aspects of recovery and everyday life, including the ability to keep a job and interact with family and friends. Symptoms occur in over 90% of people withdrawing from a long-term opioid (such as heroin habit), 75% of persons recovering from long-term use of alcohol, methamphetamine, or benzodiazepines and to a lesser degree other psychotropic drugs.<sup>14</sup> PAWS as a result of GABA-agonist (benzodiazepine, barbiturate, ethanol) dependence and opioid dependence can last from a year to several decades, or indefinitely, with the symptoms entering into periods of relative remission between periods of instability. Symptoms include mood swings resembling an affective disorder, anhedonia (the inability to feel pleasure from anything beyond use of the drug), insomnia, extreme drug craving and obsession, anxiety and panic attacks, depression, suicidal ideation and suicide and general cognitive impairment.

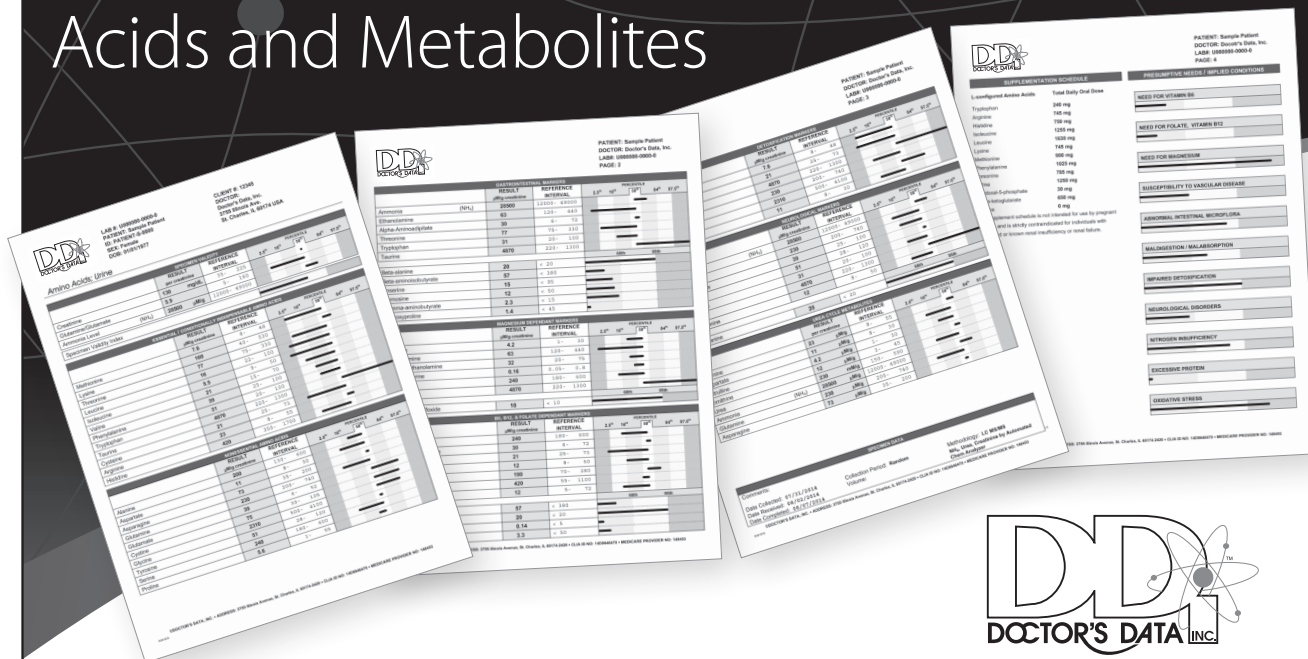
Treatment of PAWS from a naturopathic standpoint involves continuation (often in some patients indefinitely) of supplementation

with the appropriate amino acids and other nutraceuticals, continued prudence with dietary modifications (with special attention given to adequate protein intake), as well as appropriate counselling or psychiatric care. Many patients will recover completely over time and not require ongoing use of any of the supplements or aminos. Of course, there will also be those patients who, from time to time, will require short courses of aminos to maintain or increase their levels as they cope with the stresses of everyday life.

As naturopathic doctors, we have great opportunity to positively impact the lives of our patients affected by addictions because we are able to offer them a holistic, patient-centred approach that can be individualized and customized for each person. Many patients using these methods, well supervised by their ND as part of their recovery team, can experience long-term, healthy recovery without relapse, and many will be able to wean off their pharmaceutical medications for good. Nutritional approaches to addiction have been utilized for approximately two decades and statistics show a remarkable success rate; with of 5 out of 6 people recovering, both in North America and the UK.<sup>15</sup> When we remember the principle of “tolle causum” especially with regard to addictions, we can have a significant, positive, and long lasting effect on the lives of our patients suffering from addictions. 🌱

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