



IT'S TIME TO FEEL GOOD AGAIN

THIS WEEK'S TOPIC

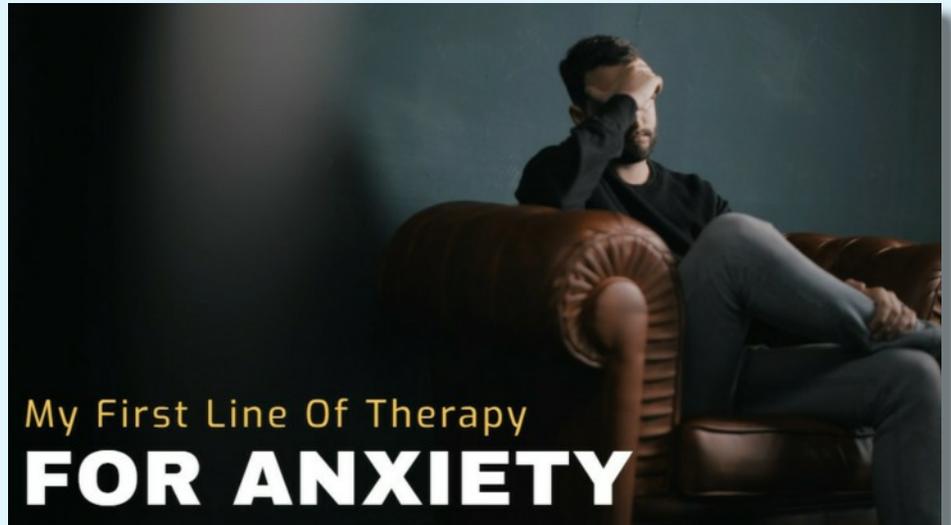
# Therapy For Anxiety

“COVID has produced more **anxiety** and **depression** than anyone ever predicted... So let's consider factors that have been found to reduce anxiety and systematically apply them to our patients.”

COVID has produced more anxiety and depression than anyone ever predicted. Some patients tend to run a little hot anyway, but if you add the stress factors of a so called pandemic even simple decisions can tip the scales and create a state of anxiety. So let's consider factors that have been found to reduce anxiety and systematically apply them to our patients.

In a perfect world the sympathetic nervous system and the parasympathetic nervous system should be in balance. Anxiety creates over-stimulation and “sympathetic dominance”. How can we reduce or calm sympathetic dominance? One of the major things we can do is to reduce stimulants. Caffeine is the “big dog” on the block. Caffeine increases and prolongs the effects of the neurotransmitter norepinephrine.

Norepinephrine is part of the fight or flight response increasing heart rate, triggering the release of glucose from energy stores, and increasing blood flow to skeletal muscle. So it is easy to see how caffeine can



intensify anxiety. Other dietary neurotransmitters to limit are aspartic acid and glutamic acid. So Nutri-sweet and MSG foods have got to go as well.

Knowing that inflammation is another source of internal stress; anti-inflammatory diets like the one we use for the NutriClear Plus program have produced profound results in patients that just can't afford to do a detox and yet feel like they are going to pop out of their skin. I like the NutriClear Plus diet because it offers a systematic way to reduce the sugars, allergens, food additives, caffeine, etc. I tell patients to follow the diet as close as you can, nobody's

perfect but the closer you follow it the better you will feel.

Also, the NutriClear Plus diet will reduce insulin levels which are a physiological or internal stressor. The diet also reduces allergen foods and can eliminate many of the factors that “precipitate feelings of anxiety.” I have some other lifestyle modifications listed on the link to the right but let's move on to supplementation and recommendations that will help the immediate symptoms.

My favorite is a product called De-Stress. It is based on the same deca-peptides that are in mother's milk. We used to kid about breast milk being

liquid valium because it had such dramatic anti-anxiety properties. I look at De-Stress as an emergency measure because it works so consistently.

What else can we do to create balance?

Neurotransmitters carry the messages through the nervous system and it takes 3-8 vitamin or mineral co-factors to get from the Amino acid state to the active Neurotransmitter. So a full spectrum multiple like ProMulti-Plus is a great asset to cover foundational vitamin/mineral deficiencies and assure patients have the cofactors they need to make other essential neurotransmitters like GABA, Acetylcholine, Dopamine etc.

Research has shown a variety of nutrients reduce anxiety beyond a hi-potency multiple. I always want to increase B6 to the point where the patient remembers their dreams. Omega 3 fatty acids have been shown to reduce anxiety at a dose of 3 grams a day. Recently, a team of Japanese researchers shared data about L-theanine, an amino acid found in green tea. Results of the test showed that highly anxious students receiving 200 mg L-theanine displayed a slowing of their heart rate, improved attention and better reaction times, compared to members of the same group receiving placebo.

L-theanine appears to work by changing the electrical activity in the brain by increasing alpha waves, measured by EEG. Interestingly, Biotics Research released a product for sleep called Alpha Theta PM. Deep sleep as we now recognize is essential for repair and to restore physiology. Alpha Theta PM contains a therapeutic dose of L-theanine as well as other anti-anxiolytics. 2 capsules contain 350 mg of L-theanine, 10 mg of Vitamin B6 (as pyridoxal-5-phosphate), 300 mg Baikal Skullcap 250 mg Lemon Balm 250 mg Passionflower and 150 mg of 5-HTP, start with 2 at bedtime.

Let me share my first round of therapy for anxiety. First, changes in lifestyle to reduce global stimulating factors. Next; one teaspoon of Bio-Mega 3 Liquid twice a day to reduce systemic inflammation, leaky gut and support

cell membrane function. Provide foundational support with a high potency multiple like ProMulti-Plus at 3 bid. Use 2 Alpha Theta PM at night for restorative sleep. Finally, I suggest De-Stress as needed up to 8 per day, 1 or 2 at a time depending on the size of the patient.

Two other products that have anti-anxiety and adaptogenic properties are Bio-Ashwagandha and Hemp oil. You can learn more about these products to the right. Personally I don't see life slowing down anytime soon. Helping our patients find that perfect balance is really what wellness is all about optimal performance. So if we can recognize anxiety characteristics in our patients and implement baseline nutritional support we can help them maintain their edge without burning out. Stimulation is a good thing however over-stimulation will take anyone out sooner or later. Thanks for watching, I look forward to being with you again next Tuesday.

## Anxiety Checklist & Treatment Options

Here are some of the symptoms of GAD, general anxiety disorder. You'll notice many of them are things we treat every day without the title GAD.

- Excessive anxiety about everyday things
  - Inability to control your constant worries
  - Free floating anxiety
  - Distress or worry that you feel is disproportionate to the situation
  - Inability to relax
  - Difficulty concentrating
  - Feeling on edge and startling easily
  - Trouble falling asleep or staying asleep
  - Fatigue
  - Tendency to worry about or jump to the worst possible conclusion
  - Headaches, stomach aches, muscle aches, or other unexplained pains
  - Difficulty swallowing
  - Shakiness or twitching
  - Irritability
  - Profuse sweating
  - Light-headedness and/or breathlessness
  - Frequent need to urinate
- 1) Reduce sympathetic overdrive: by reducing stimulants: caffeine, MSG, NutriSweet, sugar, refined carbohydrates, see Dr. Blaylock's work on excitotoxins. Neurotransmitters to limit are aspartic acid and glutamic acid.
  - 2) Enhance parasympathetic system by developing regular practices of prayer, exercise, meditation, rhythmic deep abdominal breathing, etc. etc.
  - 3) Drops in blood sugar; cause compensatory increases in epinephrine and norepinephrine which although will raise blood sugar will cause fight or flight reactions which can manifest as anxiety, palpitations, sweating, hunger and irritability. Some authors feel this is the ultimate cause of anxiety. Smaller more frequent meals that have both protein and healthy fats as part of the meal and nutrients that support blood sugar regulation should be considered if anxiety is worse or centers around the absence or the delay of a meal. Uses **Bio-Glycozyme Fore**, 2- 3 tid between meals if possible.
  - 4) Assure proper sleep consider **Alpha-Theta Ultra PM**, 2 capsules at night.
  - 5) Reduce Inflammation;
    - a. **NutriClear Plus**, 2 weeks.
    - b. **Biomega-3 Liquid**, 1 tablespoon for two months or **Biomega-1000**, 3-6 per day and then switch to a balanced form like **Optimal EFAs Caps** or **EFA-Sirt Supreme**. Research suggests 2.5-3 grams.
    - c. Look for leaky gut and test for food sensitivities.
    - d. Full spectrum multivitamin, **ProMulti-Plus** or **Bio-Trophic Plus**, 3 bid to provide vitamin mineral cofactors to facilitate the conversion of amino acids to neurotransmitters, i.e. GABA, acetylcholine, dopamine.

- 6) **Neuro-5-HTP Forte**, 2 bid, provides L-Theanine and 5-HTP and the cofactors to make neurotransmitters. Take on an empty stomach whenever possible due to the theanine. 5-HTP can be taken with food.
- 7) **De-Stress**, 1-2 capsules as needed to reduce symptoms. My clinical experience is that this is necessary short term up to 8 per day. See [Tuesday Minute #358](#) for more information on De-Stress.
- 8) Make sure B6 is increased until patients remember their dreams, whether their multiple or individual supplementation. Consider the P-5-P form as in **B6 Phosphate**, 20 mg per tablet.
- 9) Consider using the attached neurotransmitter questionnaire to assess baseline anxiety. Replete with nutrients as discussed above and retest after 60 days of treatment. If results are not satisfying to the patient, redo the questionnaire and add the supplementation to the above based on the neurotransmitters that appear deficient.
- 10) Other nutrients to consider based on Dr. Alan Gaby's Nutritional Medicine Textbook, Fritz Perlberg Publishing, Concord, NH. pages 1011-1015.
  - a. Niacinamide or **Niacin 100 mg**, bid to 1000 mg tid.
  - b. Magnesium to bowel tolerance.
  - c. B12, folate.
  - d. **DHEA-5**, 5-15 mg for women; 10-20 mg for men. A therapeutic trial may be efficacious; however, periodic lab testing to monitor levels should be a part of the therapeutic regimen.

### Summaries of Articles that pertain to discussion

*"n-3 Polyunsaturated Fatty Acids Decrease Anxiety Feelings in a Population of Substance Abusers," Buydens-Branchey L, Branchey M, J Clin Psychopharmacol., 2006; 26(6): 661-665. (Address: New York Harbor Healthcare System, Brooklyn Campus, Brooklyn, NY, USA).*

Summary: In a randomized, double-blind, placebo-controlled study involving 24 subjects with substance use and anxiety disorders, supplementation with omega-3 polyunsaturated fatty acids (n-3 PUFAs) was found to decrease feelings of anxiety. The subjects were randomized to one of two groups for 3 months: (1) PUFA group (n=13) receiving 3 g of omega-3 PUFAs (eicosapentaenoic acid + docosahexaenoic acid) daily; (2) placebo group (n=11) receiving placebo daily. Subjects in the PUFA group showed a progressive decline in anxiety scores (anxiety feelings were assessed on a scale), with no decline observed in the placebo group. After intervention end, in a 3-month follow-up of 6 subjects from the PUFA group and 8 subjects from the placebo group, anxiety scores remained significantly decreased among the subjects from the PUFA group alone. Thus, the authors of this study conclude, "these preliminary data indicate that n-3 PUFA supplementation could be beneficial in the treatment of some patients with anxiety disorders."

*Omega-3 supplementation lowers inflammation and anxiety in medical students: A randomized controlled trial," Kiecolt-Glaser JK, Belury MA, et al, Brain Behav Immun, 2011 July 19; [Epub ahead of print]. (Address: Institute for Behavioral Medicine Research, Ohio State University College of Medicine, OH, USA).*

Observational studies have linked lower omega-3 (n-3) polyunsaturated fatty acids (PUFAs) and higher omega-6 (n-6) PUFAs with inflammation and depression, but randomized controlled trial (RCT) data have been mixed. To determine whether n-3 decreases proinflammatory cytokine production and depressive and anxiety symptoms in healthy young adults, this parallel group, placebo-controlled, double-blind 12-week RCT compared n-3 supplementation with placebo. The participants, 68 medical students, provided serial blood samples during lower-stress periods as well as on days before an exam. The students received either n-3 (2.5•g/d, 2085•mg eicosapentaenoic acid and 348•mg docosahexanoic acid) or placebo capsules that mirrored the proportions of fatty acids in the typical American diet. Compared to controls, those students who received n-3 showed a 14% decrease in lipopolysaccharide (LPS) stimulated interleukin 6 (IL-6) production and a 20% reduction in anxiety symptoms, without significant change in depressive symptoms.

Individuals differ in absorption and metabolism of *n*-3 PUFA supplements, as well as in adherence; accordingly, planned secondary analyses that used the plasma *n*-6:*n*-3 ratio in place of treatment group showed that decreasing *n*-6:*n*-3 ratios led to lower anxiety and reductions in stimulated IL-6 and tumor necrosis factor alpha (TNF $\alpha$ ) production, as well as marginal differences in serum TNF $\alpha$ . These data suggest that *n*-3 supplementation can reduce inflammation and anxiety even among healthy young adults. The reduction in anxiety symptoms associated with *n*-3 supplementation provides the first evidence that *n*-3 may have potential anxiolytic benefits for individuals without an anxiety disorder diagnosis. ClinicalTrials.gov identifier: NCT00519779.

*Choline in anxiety and depression: the Hordaland Health Study, Bjelland I, Ueland PM, et al, Am J Clin Nutr, 2009, 90(4): 1056-60. (Address: Department of Child and Adolescent Psychiatry, Haukeland University Hospital, Bergen, Norway).*

In a cross-sectional study involving 5,918 individuals (2 groups: 46-49 year olds and 70-74 years olds), an inverse association was observed between plasma choline concentrations and anxiety. Information on plasma choline levels and symptoms of anxiety and depression (Hospital Anxiety and Depression Scale) were collected. After adjusting for potential confounders, a significant inverse association was observed between plasma choline concentrations and anxiety levels alone (no significance found for depression). Thus, the authors conclude, "In this large population-based study, choline concentrations were negatively associated with anxiety symptoms but not with depression symptoms."

*"Regular exercise, anxiety, depression and personality: a population-based study," De Moor MH, Beem AL, et al, Prev Med., 2006; 42(4): 273-9. (Address: Department of Biological Psychology, Vrije Universiteit, van der Boechorststraat 1, 1081 BT, Amsterdam, The Netherlands. E-Mail ...*

In a population-based study involving 19,288 adolescent and adult twins and their families from The Netherlands Twin Registry, regular exercise was associated with lower neuroticism, anxiety and depression, and higher extraversion and sensation seeking. The participants completed self-report questionnaires, which were used to assess exercise participation, anxiety, depression and personality. The overall prevalence of exercise participation (with a minimum of 60 minutes per week at 4 METS ([Metabolic Equivalent of Tasks])) among the participants was 51.4%. Exercise participation was observed to rapidly decrease with age, from 70% in young adolescents to 30% in older adults. Among adolescents, exercise participation was higher in boys, while among adults, exercise participation was higher in women. Exercisers were found to be, on average, less anxious, depressed and neurotic than non-exercisers. Furthermore, exercisers were, on average, more extraverted and had higher dimensions of sensation seeking than non-exercisers. While these differences between exercisers and non-exercisers were modest, they were consistent across gender and age. Thus, this study suggests that regular exercise is associated with lower neuroticism, anxiety and depression and higher extraversion and sensation seeking in a population.

*Journal of Functional Foods*

*Published online ahead of print, doi: 10.1016/j.jff.2011.03.009 (for purchase)*

*"Effects of L-theanine on attention and reaction time response"*

*Authors: A. Higashiyama, H.H. Htay, M. Ozeki, L.R. Juneja, M.P. Kapoor*

Results of the test showed that highly anxious students receiving the L-Theanine displayed a slowing of their heart rate, improved attention and better reaction times, compared to members of the same group receiving placebo. This is a significant improvement over many conventional anti-anxiety treatments that often have side effects of drowsiness, slowed reflexes or impaired concentration. (No significant benefits were observed in those with minimal anxiety, however.) L-Theanine appears to work by changing the electrical activity in the brain by increasing alpha waves, measured by EEG.

*"L-5-Hydroxytryptophan in the Treatment of Anxiety Disorders," Kahn RS, Westenberg HGM, J Affect Disord, 1985;8:197-200.*

In 5 male and 5 female subjects suffering from anxiety disorders for over a year in an uncontrolled, open trial lasting 12 weeks, subjects were treated initially with carbidopa at a dose of 50 mg. 3 times daily, and from the second day onward, the addition of L-5-hydroxytryptophan (5-HTP) was started at 20 mg/day and increased to 300 mg/day. Nine patients clinically improved, with panic attacks almost completely disappearing. The pretreatment frequency of panic attacks was 45 per month in 1 patient, 12 per month in 5 patients, and 1 per month in 1 patient. The anxiolytic effects were apparent after 4 weeks of treatment, and the anxiety scores declined up to week 8. This study showed that in 10 subjects with anxiety disorders, subjects were treated successfully with 5-HTP, which is the immediate precursor of serotonin.

# Bio-Ashwagandha

Ashwagandha (*Withania somnifera*), is a small evergreen shrub found in India and the Middle East, as well as in parts of Africa.<sup>(1)</sup> It is a plant in the Solanaceae or nightshade family providing adaptogenic properties, i.e. "something that helps one adapt to stressful situations". Among Ashwagandha's primary active components are mild-acting calming alkaloids. These steroidal lactones called glycowithanolides, consisting of Withaferin A, Withasomniferin-A, provide significant supportive health benefits. Some of the withanolides have been reported to be structurally similar to ginsenosides from ginseng,<sup>(2)</sup> and are used to provide support for healthy adrenal, cognitive and immune system function, as well as providing relief for menstrual discomfort.

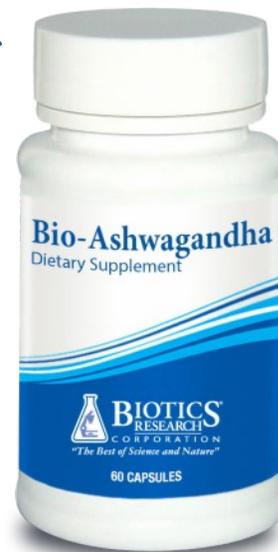
Traditionally viewed as a rejuvenative tonic, research in animal models suggests that Ashwagandha has soothing effects, and been demonstrated to suppress stress-induced increases in dopamine receptors in the brain.<sup>(3)</sup> It also appears to reduce stress-induced increases of plasma corticosterone, blood urea nitrogen, and blood lactic acid.<sup>(4)</sup>

Each bottle of **Bio-Ashwagandha** supplies 60 capsules

**Caution:** Not recommended for pregnant or lactating women.

#### References

1. Ven Murthy MR, Ranjekar PK, Ramassamy C, Deshpande M. Scientific basis for the use of Indian Ayurveda medicinal plants in the treatment of neurodegenerative disorders: ashwagandha. *Cent.Nerv.Syst.Agents Med.Chem.* 2010 09 10(3):238-246.
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3. Upton R, ed. Ashwagandha Root (*Withania somnifera*): Analytical, quality control, and therapeutic monograph. Santa Cruz, CA: American Herbal Pharmacopoeia. 2000 1-25.
4. Mishra LC, Singh BB, Dagenais S. Scientific basis for the therapeutic use of *Withania somnifera* (ashwagandha): a review. *Altern Med Rev.* 2000 5:334-46.



**Bio-Ashwagandha** is available in 60-count bottles (#8050).

## Supplement Facts

Serving Size: 1 Capsule

	Amount Per Serving	% Daily Value
Ashwagandha root ( <i>Withania somnifera</i> )	300 mg	*

\* Daily Value not established

**Other Ingredients:** Microcrystalline cellulose, capsule shell (gelatin and water) and magnesium stearate.

**This product is gluten free.**

**RECOMMENDATION:** One (1) capsule each day as a dietary supplement or as otherwise directed by a healthcare professional.

**CAUTION:** Not recommended for pregnant or lactating women.

#### KEEP OUT OF REACH OF CHILDREN

Store in a cool, dry area.  
Sealed with an imprinted safety seal for your protection.

Product # 8050 Rev. 09/16

To place your order for **Bio-Ashwagandha** or for additional information please contact us below.



Utilizing "The Best of Science and Nature"  
to Create Superior Nutritional Supplements



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# Biotics Research Full Spectrum Hemp Extract Products

SUPERIOR QUALITY FROM SEED TO SUPPLEMENT

Biotics Research is proud to partner with Ananda Professional for our new and exciting suite of full spectrum hemp extract products. From hemp seed genetics to the manufacturing of the final product, we closely monitor every step in the process, guaranteeing the purest of hemp extract products. A pioneer in the hemp space, Ananda Professional has worked diligently to uphold the highest standards in the industry and presently holds their license with the Kentucky State Department of Agriculture.

## Difference Between Hemp and Marijuana

Both hemp and marijuana come from the same cannabis plant, *Cannabis sativa*. Hemp, however, is defined in the 2018 Farm Bill as the cannabis plant that contains 0.3% or less THC by dry weight and marijuana is the term used for plants containing greater than 0.3% THC. THC is the compound delivering the psychotropic effects of "getting high", while cannabinoids are the main non-psychoactive ingredient in cannabis.

## Endocannabinoid System (ECS)

The Endocannabinoid System (ECS) is a complex cell-signaling system that supports vital functions keeping physiological regulation pathways in the body balanced. It interconnects numerous systems, organs and tissues and responds to variations in the internal and external environment. The components of the ECS include endocannabinoids, receptors and enzymes.

Endocannabinoids are molecules made by the body that are similar to cannabinoids. The two key endocannabinoids that the body produces on an as needed basis include anandamide (AEA) and 2-arachidonoylglycerol (2-AG). While research has linked the ECS to numerous processes, experts have yet to



determine all of its potential functions. According to researchers, "It is critical to keep in mind that the study of the endocannabinoid system should be region- and condition-specific, along with the consideration of other neurotransmission systems."<sup>(1)</sup>

The ECS is made up of two different kinds of receptors, CB<sup>1</sup> and CB<sup>2</sup>, which are expressed in the brain and immune system, respectively.<sup>(2)</sup> They act as messengers, giving different directions for what your body should do.

CB<sup>1</sup> receptors are found throughout the body, but mostly in the brain and spinal cord. They are concentrated in brain regions associated with the behaviors they influence. For example, there are CB<sup>1</sup> receptors in the hypothalamus, which is involved in appetite regulation and the amygdala, which plays a role in memory and emotional processing. CB<sup>1</sup> receptors are also found on nerve endings, the termination of a nerve at the distal end of an axon, which sends messages to the brain about body sensations.



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# Biotics Research Full Spectrum Hemp Extract Products

SUPERIOR QUALITY FROM SEED TO SUPPLEMENT

CB<sup>1</sup> receptors are the main molecular target of the binding molecule called anandamide, an endogenous arachidonate-based lipid ('N-arachidonoyl ethanolamide'), sometimes referred to as the bliss molecule. CB<sup>2</sup> receptors are found throughout the central nervous system; they are especially concentrated in immune cells. When CB<sup>2</sup> receptors are activated, they work to support healthy inflammatory pathways.

The ECS is responsible for maintaining homeostasis, the process of optimizing a normal balance in the body and its systems, regardless of what is going on in the external environment. Going on a run can activate the ECS, but sometimes our bodies become depleted of the endogenous compounds. In this case, plant-derived bio-actives can help activate and modulate the ECS when the internal or endogenous compounds that support the ECS are depleted. Overall, the role of the ECS helps keep the body in homeostasis.

Hemp compounds found in full-spectrum hemp oil are active at the ECS receptors and support the ECS in maintaining homeostasis.

## The Hemp is Pure

According to the FDA, 9<sup>1</sup> % of hemp-derived products do not meet label claims or were adulterated. Although other products may be less expensive, each of our hemp-derived products has been tested for purity with lot-specific certificates of analyses conducted by a third-party, ISO-certified lab.

## Entourage Effect

The "entourage effect" was introduced as a concept in 1999.<sup>(3)</sup> The proposed mechanism is that the bioactive compounds in hemp act synergistically. The interactions between the phytonutrients that create added health benefits are what is considered the entourage effect. Biotics Research's suite of full spectrum hemp products are all made to include multiple bioactive compounds to give the entourage effect and ensure maximum efficacy.

## What Method Is Used to Extract the Hemp Actives?

Ananda Professional extracts the cannabinoids with ethanol, a Class<sup>3</sup> solvent ('safest solvent other than water'). Once extracted, the product is refined so that all of the ethanol is removed, which is reflected in the CoA. All cannabinoids must be derived from either CO<sup>2</sup> or solvent extraction. Even the CO<sup>2</sup> extraction must go through a process called winterization, which requires ethanol so requiring an analysis of residual solvents is important to demonstrate safety and purity.

## Recommended Use:

### FS-20 Hemp Extract

One dropperful (1 ml) directly into mouth each day as a dietary supplement or as otherwise directed by your healthcare professional.

### FS-15 Hemp Extract

One (1) softgel one (1) to two (2) times each day as a dietary supplement or as otherwise directed by your healthcare professional.

## Relief Roll-on:

The hemp infused **Relief Roll-on** is a user-friendly topical application of hemp. Easy to throw in a gym bag or purse for on-the-go, the rollerball application allows the user to keep their fingertips product-free. The ingredients contain the primary hemp actives plus additional skin-healthy ingredients for ease of application, such as aloe and camphor. To help soothe the muscles and promote relaxation, the **Relief Roll-on** is ideal for sports medicine and rehabilitation facilities.

## References

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