RESEARCH RESULTS:
Just 3 weeks of whole body cryotherapy may reduce anxiety and depression symptoms by more than 50%

Cryotherapy for Depressive and Anxiety Disorders

Research and Reported Benefits

The Importance of the Topic

Mental disorders have been stigmatized (and, consequently, leading to discrimination) for centuries. Only recently the focus has shifted from denial and isolation to acceptance and treatment, and the actual size of the mental health problem has been admitted.

Nearly 1 in 25 adults in America live with a serious mental illness. 1 in 5 experience symptoms. Depression in the adolescent population (ages 12 to 17) is also on a rise. An estimated 3.2 million teenagers have had at least one major depressive episode. This number represents 13.3% of the respective age group.

According to the National Institute of Mental Health (NIMH), major depression is one of the most common mental disorders in the United States, and **suicide is the 3rd leading cause of death**.

In people with a mood disorder, their general emotional state is distorted or inconsistent with the circumstances and interferes with their ability to function.

It is not unusual to experience brief periods of low mood or anxiety, particularly in response to certain life stressors (for example, loss of a loved one, receiving a diagnosis of a physical illness, starting a new job or school, experiencing financial problems, etc.), most people do. If the symptoms persist for a period of at least two weeks, it is considered **a depressive episode**. To meet the diagnostic threshold of **a disorder**, they must be lasting (often for several months) and impairing.

Depression

Depression is more than just feeling sad. Everyone feels upset or unmotivated from time to time, but depression is more serious. It is a mood disorder characterized by prolonged feelings of sadness and loss of interest in daily activities. **It is an indicator of underlying disease** when feelings become excessive, all-consuming, and interfere with normal living, including sleeping, eating, or working.

Current research suggests that depression is caused by a combination of genetic, biological, environmental, and psychological factors.

New study shows that chronic inflammation also contributes to lack of motivation and consecutive depression, due to interfering with dopamine release in the brain.

In midlife or older adults, **depression often co-occurs with other serious medical illnesses**, such as diabetes, cancer, heart disease, and Parkinson's disease. These conditions may worsen when depression is present. Also, medications taken for these physical illnesses may cause side effects that contribute to depression.

The symptoms and the severity of them differ. They **may include**:

- Persistent sad, anxious, or "empty" mood
- Feelings of hopelessness, or pessimism
- Irritability
- Feelings of guilt, worthlessness, or helplessness
- Loss of interest or pleasure in hobbies and activities
- Decreased energy or fatigue
- Moving or talking more slowly
- Feeling restless or having trouble sitting still
- Difficulty concentrating, remembering, or making decisions
- Difficulty sleeping, early-morning awakening, or oversleeping
- Appetite and/or weight changes
- Thoughts of death or suicide, or suicide attempts
- Aches or pains, headaches, cramps, or digestive problems without a clear physical cause and/or that do not ease even with treatment

Studies have shown that 70% of people with depressive disorders also have anxiety symptoms.

Anxiety

Anxiety and depression share a biological basis. Persistent states of anxiety or low mood — like those experienced by people with clinical anxiety and mood disorders — involve changes in neurotransmitter function. Low serotonin levels are thought to play a role in both, as do other brain chemicals like dopamine and epinephrine. At the same time, **anxiety and depression are consciously experienced differently**.

In a way, these two states might be considered flipsides of the same coin, as their biological underpinnings are similar.
Also, they can occur sequentially — one in reaction to the other, or they can co-occur. When anxiety and mood problems reach the threshold for clinical diagnosis simultaneously, they are called *comorbid conditions*.

Mental markers of anxiety may include:

- Worry about the immediate or long-term future
- Uncontrollable, sometimes racing, thoughts about something going wrong
- Fearing death due to perceived danger of physical symptoms or anticipated dangerous outcomes

Those with anxiety are mentally preoccupied with worries to a degree that's disproportionate with actual risks or in situations where there is nothing wrong. Depending on the nature of the anxiety problem, the mental markers can vary slightly. For example, someone with generalized anxiety disorder may worry about a variety of topics, events, or activities, while an individual with social anxiety disorder is more apt to fear negative evaluation or rejection by others

and to be apprehensive about meeting new people or other socially challenging situations.

Treatment Methods

Depending on the underlying conditions and severity of symptoms, **treatment may involve:**

- Exercise or spending time outdoors (being in nature has proven benefits)
- Non-medical therapies, such as cryotherapy, music, art, interaction with animals, like horses
- Supplements
- Medication
- Psychotherapies
- Hypnosis
- Brain stimulation therapies

A combination of several of the above often produces the best results.

Cryotherapy for Depression and Anxiety

When the body experiences extreme cold, even for a short period of time, so-called "fight or flight" response is initiated to activate all functions essential for survival and to prevent the core temperature from dropping. It enhances blood circulation and boosts energy, but also involves release of endorphins.

Endorphins are the body's natural pain killers and mood lifters. A whole-body cryotherapy treatment jump-starts the production of endorphins, even in people who traditionally have mood issues.

Cryotherapy is also helpful in easing depression caused by chronic pain. Since the treatment not only acts as an immediate analgesic but also lessens inflammation, the underlying cause of many aches and pains, regular treatments ease symptoms and help people feel better both mentally and physically.

Research and Findings

Numerous studies have looked at effects of cryo-stimulation on anxiety and depression, and the results have been promising.

One study concluded that "**whole-body cryotherapy has a significant influence on improving the well-being and mood of patients** (in terms of both

psychological and somatic aspects) and consequently leads to an improvement in their quality of life. **The worse the mental state of the patients is prior to the cryotherapy, the stronger its effect**. The observed effectiveness of cryotherapy was the strongest in women, patients with spinal pains and in patients with severe depressive symptoms."

Across the board, **the registered improvement has been statistically significant**. The Hamilton's depression rating scale (HDRS) and Hamilton's anxiety rating scale (HARS) were used as the outcome measures. After three weeks, **a decrease of at least 50%** from the baseline HDRS-17 scores in 34.6% of the study group and a decrease of at least 50% from the baseline HARS score in 46.2% of the study group were noted.

A better mean state after 3 weeks of cryotherapy was observed with respect to **11 of the 14 components of the anxiety scale** (except the gastrointestinal and genitourinary symptoms) and **12 of the 16 components of the depression scale,** in line with **6 components of the life satisfaction scale**, such as physical well-being, physical condition, domestic activity, professional activity, personal interests and general satisfaction from life.

An 80% reduction of suicidal thoughts was also reported.

The research outcomes could be summarized, as follows:

- Short exposition to extreme cold has doubtless a profitable influence on man's frame of mind
- Immediately after passing the cryogenic chamber there are detectable changes in patients' mental state such as improvement of mood, deep relaxation, freshening up, consolation, and even euphoria
- The improvement lasts for a long time after ending the cycle of cryotherapy
- Whole-body cryotherapy may be recommended as an auxiliary treatment in depression

Vitamins and Supplements for Even Better Treatment Results

Several types of supplements are thought to have some positive impact on depression symptoms. **Careful consideration and consulting with a doctor is recommended**, though, as the field is very little regulated, and many herbs and vitamins marketed for mood disorders haven't demonstrated effectiveness in clinical research.

A potentially good resource to look up trustworthy brands and more information about each natural remedy is:
https://www.healthline.com/health/depression/herbs-vitamins-supplements

Examples of supplements to ask the doctor about:

- St. John's wort (more popular in Europe than in the US)
- S-adenosyl-L-methionine (SAMe)
- 5-hydroxytryptophan (5-HTP)
- Omega-3 fatty acids
- Essential oils, such as wild ginger, bergamot, chamomile, or rose
- Vitamin B (B-12 and B-6 are vital to brain health)
- Vitamin D: (people who are depressed are more likely to have low levels of this "sunshine vitamin" essential for healthy brain function)

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