

## Winter Blues...Or Hormone Clues?



Short days, icy sidewalks and bitter winds whipping against the windows...it's enough to make the hardiest winter enthusiast hunker down with a steamy mug of cocoa and binge-watch "The Crown"...until peony season.

After all, just like hibernating bears or migrating birds, our bodies take cues from seasonal changes in light and temperature.

The transition to winter affects our energy, sleep and moods.

Even our DNA changes seasonally—activating over 5000 extra genes just in the winter to give our immune system a boost. [\[i\]](#)

***Biologically, winter is a time for slowing down, repair and rebuilding, all of which is orchestrated by our hormones.***

When nights are longer, we produce more sleepy melatonin and sugar-craving cortisol. On the longest, darkest winter nights, our growth hormone is at its yearly low—making workouts and weight-loss more challenging—on top of leftover holiday sweets! [\[ii\]](#)

We also produce much less serotonin in colder months. This neurotransmitter heavily influences mood and social behavior, appetite and digestion, sleep, memory and sexual desire. [\[iii\]](#) No wonder it's easy to feel blue, or lack motivation during winter.

When you're feeling sluggish and down, how do you know if it's just the normal slowing, repairing cycle of winter, or something more? Could the season be highlighting a hormone imbalance that needs attention?

If you are dealing with more than a few of these:

- low energy, especially trouble getting started in the morning
- cold hands and feet
- thinning hair, or loss of outside eyebrows
- dry skin, especially around lips and nailbeds
- sweet cravings, especially after meals
- listlessness, and lack of motivation

...ask yourself if these are *always* there to some degree, but worsen in winter, or when you're stressed?

***Winter might be shining a light on underlying imbalances, and winter blues may really be hormone clues.***

For example, someone feeling less energetic than her usual upbeat self may also be putting up with constantly cold hands, falling hair, and increasing weight around her middle.

As winter sets in, she may notice her normally cold hands are positively icy and she just can't shake her gloomy outlook. She struggles through the holidays feeling a little lackluster and by mid-January feels like winter has wiped her out this year.

Unaware that these signs could be connected, and may reveal a thyroid or estrogen imbalance—she might attribute them to age or the winter blues, and assume she just has to deal with the frustration of it all.

While winter may be exacerbating what she's feeling, her constellation of symptoms are very likely a hormone problem, one that was there before Jack Frost arrived.

Research shows that thyroid hormones are lower in fall and winter, and lower serotonin levels coincide with reduced thyroid hormone. [iv] For someone with already low levels, this added winter plunge can feel overwhelming.

If it seems like winter has thrown you off so much that you really don't feel like yourself, it's important to pay attention and get to the root of what's happening hormonally.

A good place to start is to seek qualified help and get tested for indicators of neuro-endocrine dysregulation. While it may seem scary to consider a hormonal imbalance, once you know, there are many lifestyle shifts that can help your body rebalance.

Before you even have your hormones tested, start with these few habits to help make winter a little brighter:

**1. Get outside and away from screens.** In northern climates, it's easy to spend most of the winter holed-up in front of Netflix™, a Kindle™ or scrolling through social sites. Constantly breathing recycled indoor air and not getting enough natural light weakens our immune system. Artificial blue light from electronics, especially after the sunset, can spike cortisol and disrupt sleep cycles. Simple fix: take a 10-minute walk at lunch, or get out hiking in warm gear on the weekend. Light a beeswax candle in the evening for cozy orange light that soothes brain and hormones.

**2. Bring the outside in.** The scent of fresh evergreens and flowers activates chemical pathways in your brain that calm and uplift.

**3. Eat hearty bone broths** from grass-fed or pastured animals. Substituting bone broth for regular stock in soups and stews, and even sipping on its own, provides a rich source of minerals, collagen for healthy skin and joints, and quality protein for hormone and neurotransmitter production—just when you most need it.

**4. Test your Vitamin D-3** when you have your hormones tested, and supplement if low. In addition to protecting your bone density, preventing infertility and PCOS, and strengthening your immune system, vitamin D-3 also improves mood and sense of well-being. [v] The Vitamin D Council recommends 1000 IU per 25 lbs of body weight per day for adults.

**5. Change up the cup of cheer** and skip the wine. Serotonin levels in people who drank alcohol the previous day resemble those who experience depression. [vi] Instead, fill your wine glass with kombucha, a lacto-fermented cold tea that is naturally sparkly, available in festive flavors like cranberry, and supports healthy serotonin—90% of which is estimated to be made by our intestinal bacteria! [vii]



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[i] Xaquín Castro Dopico, Marina Evangelou, Ricardo C. Ferreira, et al., Widespread seasonal gene expression reveals annual differences in human immunity and physiology. *Nature Communications*. **6**, Article: 7000 (May 2015)

[ii] T.A. Wehr, Effect of Seasonal Changes in Daylength on Human Neuroendocrine Function. *Hormone Research in Paediatrics* **49**: 118–124 (1998).

[iii] A Frazer, JG Hensler, Serotonin Involvement in Physiological Function and Behavior. In: G.J. Siegel, B.W. Agranoff, R.W. Albers et al., editors. *Basic Neurochemistry: Molecular, Cellular and Medical Aspects*. 6th ed. Philadelphia: Lippincott-Raven; (1999).

[iv] J Leppaluoto, K Sikkilä, J Hassi, Seasonal variation of serum TSH and thyroid hormones in males living in subarctic environmental conditions. *Int J Circumpolar Health*. **57 Suppl 1**:383–5 (1998).

[v] R. Jorde, M. Sneve, Y. Figenschau et al., Effects of vitamin D supplementation on symptoms of depression in overweight and obese subjects: randomized double blind trial. *J Intern Med*. **264(6)**:599–609 (December 2008).

[vi] M.H. Pietraszek, T. Urano, K. Sumiishi et al. Alcohol-induced Depression: Involvement of Serotonin. *Alcohol and Alcoholism*, **Volume 26, Issue 2**, 1:155–159 (January 1991).

[vii] Yano, Jessica M. and Yu, Kristie and Donaldson, Gregory P. et al., Indigenous Bacteria from the Gut Microbiota Regulate Host Serotonin Biosynthesis. *Cell*. **161(2)**:264–276 (April 2015).