HOLISTIQUE MEDICAL CENTER · BELLEVUE, WA

Feeling Blue? I've Got Good News for You, Methylene Blue!

How methylene blue with IV red-light therapy supports mitochondrial function, mood, and cellular health, an area of active, off-label research.

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Methylene blue is far more than a medical dye. Emerging research highlights its role in supporting cellular and mitochondrial health, with growing scientific interest in its potential in longevity and integrative medicine.

History behind Methylene Blue

Methylene blue has been around for a very long time. Looking back at the history of this synthetic dye, in the 1800's it was developed and used as a dye for textiles. It was later used as an antimicrobial during the first World War, and it remains an FDA-approved treatment for methemoglobinemia. Today it is also being explored, off-label, in longevity and integrative medicine for its effects on mitochondrial health.

How Does Methylene Blue Work?

First off, it is an oxidation reduction agent which means it gains and loses electrons to help produce energy and reduce oxidative stress.

It is also a photosensitizer. Laser light treatment can enhance methylene blue's antifungal and antimicrobial effects. Methylene blue becomes activated and more permeable in the bloodstream when it is exposed to certain wavelengths of light.

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Red-Light + Methylene Blue Powerhouse

The combination of methylene blue and intravenous red-light laser therapy is known as antimicrobial photodynamic therapy. When methylene blue is activated by specific wavelengths of light, it produces reactive oxygen species, and researchers are studying how this interacts with microbes and biofilms at the cellular level.

Photodynamic therapy using methylene blue and IV laser light is also an area of active laboratory and clinical research. This work is preliminary and does not establish it as a treatment for any cancer.

What Benefits Does the Duo Provide?

Intravenous red-light therapy and methylene blue work synergistically as a powerhouse to:

- Support mitochondrial function
- Enhance blood flow and tissue oxygenation
- Increase cellular energy
- Decreasing inflammation
- Increase neuroplasticity
- Support healthy mood
- Support cognitive function
- Enhance memory and has neuroprotective effects
- Support healthy nervous system function

How does Methylene Blue work in the brain?

Methylene blue has been studied for its effects on mood and brain chemistry. Methylene blue can cross the blood brain barrier, how cool is that! It supports neuronal function and boosts brain derived neurotrophic factor (BDNF) which fuels neuroplasticity.

It enhances mitochondrial function (helping cells produce energy) and increases availability of certain neurotransmitters such as serotonin, norepinephrine, and dopamine by blocking monoamine oxidase A (MAO-A) – which is the bad guy because it breaks down these neurotransmitters.

Methylene blue is shown to modulate N-methyl-D-aspartate (NMDA) related pathways which can lead to neuroplasticity by increasing BDNF and mitigates against glutamate toxicity and oxidative stress by acting as an antioxidant.

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Word of Caution

If though methylene blue is generally safe, it should not be used in certain patients. Methylene blue should not be combined with other depression medication such as SSRI's or MAOIs because it can lead to serotonin syndrome. It should also not be taken if you are pregnant or have a known G6PD deficiency. Some mild side effects seen are nausea, headache, and blue colored urine.

After reading this I'm sure you are "dye-ing" to try methylene blue. Methylene blue and IV Red Light therapy are by prescription only. Contact Holistique for an in-person or telehealth consult with of our physicians to see if methylene blue and IV Red light therapy are right for you. Text or call **(425) 451-0404**

REFERENCES

1."Nexus Pharmaceuticals Reports FDA Approval for Methylene Blue Injection, USP." *Health & Beauty Close-Up*, 11 Dec. 2024. *Gale Health and Wellness*, link.gale.com/apps/doc/A819590848/HWRC?u=kcls_main&sid=bookmark-HWRC&xid=03f8f8e7. Accessed 6 Sept. 2025.

2. Liester, Mitchell B., and June Winsor. "Red Light Therapy and Methylene Blue May Promote Brain Health." *Psychology Today*. Last modified October 8, 2024. https://www.psychologytoday.com/us/blog/the-leading-edge/202409/red-light-therapy-and-methylene-blue-may-promote-brain-health.

3. Hamblin, Michael R. "Shining Light on the Head: Photobiomodulation for Brain Disorders." *BBA Clinical* 6 (2016): 113–124. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4428125/.

4. Liester, Mitchell B. "Could Methylene Blue Help Treat Depression?" *Psychology Today*. July 20, 2024. https://www.psychologytoday.com/us/blog/the-leading-edge/202407/could-methylene-blue-help-treat-depression.

5. Taldaev et al. Methylene Blue in Anti-Cancer Photodynamic therapy: A systemic review of preclinical studies. *Front Pharmacology,* Sept 2023. https://pmc.ncbi.nlm.nih.gov/articles/PMC10568458/

6. https://www.globallymealliance.org/blog/use-of-methylene-blue-for-lyme-disease

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