



**Photobiomodulation and Children**  
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**At what age can you use Photobiomodulation on Children?**

I cannot see any reason why PBM should not be used at any age including newborn babies although there are no papers

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**Sample Studies**

**1. Transcranial photobiomodulation in children aged 2–6 years: a randomized sham-controlled clinical trial assessing safety, efficacy, and impact on autism spectrum disorder symptoms and brain electrophysiology**

**Background:** *Small pilot studies have suggested that transcranial photobiomodulation (tPBM) could help reduce symptoms of neurological conditions, such as depression, traumatic brain injury, and autism spectrum disorder (ASD).*

**Objective:** *To examine the impact of tPBM on the symptoms of ASD in children aged two to six years.*

**Method:** *We conducted a randomized, sham-controlled clinical trial involving thirty children aged two to six years with a prior diagnosis of ASD. We delivered pulses of near-infrared light (40 Hz, 850 nm) noninvasively to selected brain areas twice a week for eight weeks, using an investigational medical device designed for this purpose (Cognilum™, JelikaLite Corp., New York, United States). We used the Childhood Autism Rating Scale (CARS, 2nd Edition) to assess and compare the ASD symptoms of participants before and after the treatment course. We collected electroencephalogram (EEG) data during each session from those participants who tolerated wearing the EEG cap.*

**Results:** *The difference in the change in CARS scores between the two groups was 7.23 (95% CI 2.357 to 12.107,  $p = 0.011$ ). Seventeen of the thirty participants completed at least two EEGs and time-dependent trends were detected. In addition, an interaction between Active versus Sham and Scaled Time was observed in delta power (Coefficient = 7.521, 95% CI -0.517*

to 15.559,  $p = 0.07$ ) and theta power (Coefficient =  $-8.287$ , 95% CI  $-17.199$  to  $0.626$ ,  $p = 0.07$ ), indicating a potential trend towards a greater reduction in delta power and an increase in theta power over time with treatment in the Active group, compared to the Sham group. Furthermore, there was a significant difference in the condition (Treatment vs. Sham) in the power of theta waves (net\_theta) (Coefficient =  $9.547$ , 95% CI  $0.027$  to  $19.067$ ,  $p = 0.049$ ). No moderate or severe side effects or adverse effects were reported or observed during the trial. **Conclusion:** *These results indicate that tPBM may be a safe and effective treatment for ASD and should be studied in more depth in larger studies.*

Fradkin Y, De Taboada L, Naeser M, Saltmarche A, Snyder W and Steingold E (2024) Transcranial photobiomodulation in children aged 2–6 years: a randomized sham-controlled clinical trial assessing safety, efficacy, and impact on autism spectrum disorder symptoms and brain electrophysiology. *Front. Neurol.* 15:1221193. doi: 10.3389/fneur.2024.1221193

## 2. Low-level red-light therapy controls myopia progression in children

- Children treated with low-level red-light therapy experienced significant effects on spherical equivalent, axial length and subfoveal choroidal thickness.
- No significant differences were reported between powers.
- They enrolled 200 children **aged 6 to 15 years** with myopia and astigmatism less than  $-2.5$  D, who were divided into three intervention groups and one control group.

[Zhou W, et al. Ophthalmology.2023;doi:10.1016/j.ophtha.2023.08.020.](https://doi.org/10.1016/j.ophtha.2023.08.020)

## 3. Red Night Light for Children

*Using a red night light for children during sleep offers a gentle and effective solution to ensure restful nights for both infants and parents.*

*Red light promotes a serene atmosphere, easing potential fears of the dark that often emerge in children around 4 months of age. This soft, warm glow helps soothe them during nighttime awakenings, making it easier for them to fall back asleep.*

*Melatonin, a hormone crucial for regulating sleep-wake cycles, is produced in response to darkness. Unlike white and blue lights, red light doesn't hinder melatonin production, making it an optimal choice for creating a calming sleep environment.*

*<https://www.mynightlight.com.au/collections/red-night-light#:~:text=Red%20light%20promotes%20a%20serene,them%20to%20fall%20back%20asleep>.*

#### **4. Red Lighting Helps Ensure Babies Sleep More Soundly**

*Red light is said to have a calming effect on our muscles, making them more relaxed and ready for bed. It has also been said to reduce stress levels and anxiety in both adults and babies. With this benefit, babies can fall asleep quicker and stay asleep for longer.*

*Red light for babies can be a great way to ensure that our little ones are getting the best possible sleep. It helps regulate their circadian rhythm, mimics the sunset, and relaxes their muscles so they can drift off into dreamland quickly and easily. Red light also combats blue light exposure which is an important part of regulating melatonin production to get quality shut-eye.*

*With red light therapy, you may find your baby sleeping soundly through the night with fewer interruptions or grogginess in the morning.*

*<https://babyshusher.com/blogs/news/is-red-light-good-for-helping-babies-sleep#:~:text=Red%20Lighting%20Helps%20Ensure%20Babies,getting%20the%20best%20possible%20sleep>.*

#### **5. Red Light Therapy Benefits and Risks**

- **Stomatitis:** Minor recurrent aphthous stomatitis (MiRAS) causes painful lesions on the lips, soft palate, and the lining of the cheeks. In a 2020 study of **children aged 5 to 12**

*years old, red light therapy reduced pain and the size of MiRAS ulcers within two weeks.<sup>11</sup>*

Bardellini E, Veneri F, Amadori F, Conti G, Majorana A. [\*Photobiomodulation therapy for the management of recurrent aphthous stomatitis in children: clinical effectiveness and parental satisfaction.\*](#) Med Oral. 2020:e549-e553. doi:10.4317/medoral.23573

## 6. ECZEMA TREATMENT: PHOTOTHERAPY

- *Phototherapy can reduce your child's need for medicine applied to the skin.*
- *You take your child to a phototherapy treatment center.*
- *You'll take your child for treatment 2 to 3 times per week for a few weeks to months.*
- *If you cannot take your child to a phototherapy treatment center, ask your child's dermatologist about other ways to treat the eczema.*
- *Phototherapy may be your child's only treatment, or it may be used along with other treatment for eczema.*

<https://www.aad.org/public/diseases/eczema/childhood/treating/phototherapy#:~:text=Phototherapy%20can%20reduce%20stubborn%20eczema,but%20this%20risk%20seems%20low.>

Google Search

**Yes, phototherapy is a safe treatment option for babies.** Oct 28, 2022



Cleveland Clinic

<https://my.clevelandclinic.org> › health › treatments › 24... ⋮

## Phototherapy (Light Therapy): Uses, Benefits & Risks

### **Is it safe for children to use the red light?**

*Clinical studies have shown light therapy to be safe and have no side effects.*

*But, before using red light to children, contact your doctor.*