RED LIGHT THERAPY DOSE GUIDE

FIRST EDITION

HOW TO GET THE MOST OUT OF RED LIGHT THERAPY

By Mark Sloan
Creator of EndAllDisease.com

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When it comes to red light therapy, more isn’t necessarily better. Some studies have shown that applying red light for too long may actually begin to cancel out the benefits. So before you go out and buy the brightest light you can find and shine it on yourself for hours at a time, it’s useful to take a look at what doses scientists have found useful for treating certain conditions.

Studies using red and infrared light to treat various diseases and conditions have documented the effects of using specific power densities of light for specific durations of time. This paper was designed to help you find the optimal dose, session duration and frequency for the conditions you wish to treat.

By the way, I’ve done by absolute best to make this as simple as possible for you, but if in the end you feel overwhelmed or confused, don’t worry… I’ll simplify it even more for you at the end of this guide.

**THE STRENGTH OF YOUR LIGHT (POWER DENSITY)**

Power density is a measurement of light concentration, specifically how many photons are passing through a specific area of space. It is measured using the unit mW/cm² (milliwatts per centimeter squared) and varies from one device to the next. Power density can be measured using a [solar power meter](https://example.com/solar-power-meter).
By measuring the power density for any given light therapy device at certain distances, the optimal distance range that the device should be positioned from the body during treatment can be established.

**OPTIMAL APPLICATION DISTANCES**

The optimal power density during light therapy treatment tends to range between 20 – 200mW/cm². In the chart below I’ve calculated the distances that correspond to those optimal power densities for the red light therapy devices sold on EndAllDisease.com.

Basically the distance you position yourself from the device should be at least (lower end of effective range) and at most (upper end of effective range) to receive an effective power density. You can and should experiment with these distances and all distances in between.

**Table 1. Determining the optimal application Distances**

<table>
<thead>
<tr>
<th>LIGHT THERAPY DEVICE</th>
<th>LOWER END OF RANGE (Distance for Power Density 200 mW/cm²)</th>
<th>UPPER END OF RANGE (Distance for Power Density 20 mW/cm²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Handheld Red + Near-Infrared Device</td>
<td>5cm</td>
<td>50cm</td>
</tr>
</tbody>
</table>

For example, positioning yourself anywhere from 5cm to 150cm away from the device will provide a dose which has been proven effective in scientific research.

Holding the device directly against the body ensures maximum dose for the cells that receive the light. However, holding the device at a distance near the upper end of the effective range (50cm), rather than near the lower end of the range (5cm) can have its advantages too. One advantage is that it will apply the dose to a larger area of body tissue, which means more cells will benefit.
However, from a farther distance, the cells will receive a smaller dose than from a closer distance, so it may be useful to increase the treatment time when applying the light from a distance.

**RED LIGHT THERAPY DOSE**

The dose you administer during your light therapy session is dependent on how long you apply the light for at a given distance/power density. Dose is measured in J/cm$^2$ (Joules per centimeter squared) and is basically telling you how long a given power density was applied. Greater power density means shorter application time is required.

For example, you could hold the device close to you and be done in a few short minutes, but if you prefer longer sessions, you could position yourself farther from the device and your tissues would receive the same dose in 10 or more minutes. As mentioned above, increasing distance treats a greater surface area of the body, which is advantageous.

**Power Density x Time = Dose**

**Table 2. Determining the time each power density administers the same dose**

<table>
<thead>
<tr>
<th>POWER DENSTY</th>
<th>TIME</th>
<th>DOSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>20mW/cm$^2$</td>
<td>50 seconds</td>
<td>1J/cm$^2$</td>
</tr>
<tr>
<td>100mW/cm$^2$</td>
<td>10 seconds</td>
<td>1J/cm$^2$</td>
</tr>
<tr>
<td>200mW/cm$^2$</td>
<td>5 seconds</td>
<td>1J/cm$^2$</td>
</tr>
</tbody>
</table>

**OPTIMAL DOSES FOR HEALTH CONDITIONS A TO Z**

Now that you understand how to calculate dose, we’re going to figure out which doses have been found effective for treating certain diseases and conditions. Furthermore, I will calculate the treatment times required to achieve the required doses for three red light therapy devices.

The following table presents the effective doses for specific ailments – ranging from as little as 0.1J/cm$^2$ per session to as much as 700J/cm$^2$ per session.
Table 3. Determining session time and application distance for specific conditions

<table>
<thead>
<tr>
<th>CONDITION</th>
<th>EFFECTIVE DOSE (J/cm²)</th>
<th>TREATMENT TIMES (minutes &amp; seconds)</th>
<th>Handheld Red + Near-Infrared Device</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>5cm</td>
<td>50cm</td>
</tr>
<tr>
<td>Acne</td>
<td>5 to 96[^1]</td>
<td>25s–8m</td>
<td>4m–80m</td>
</tr>
<tr>
<td>Back Pain</td>
<td>40 to 120[^2]</td>
<td>3m–10m</td>
<td>33m–100m</td>
</tr>
<tr>
<td>Braces (tooth movement)</td>
<td>8 to 64[^3]</td>
<td>40s–5m</td>
<td>7m–53m</td>
</tr>
<tr>
<td>Braces Pain</td>
<td>60[^4]</td>
<td>5m</td>
<td>50m</td>
</tr>
<tr>
<td>Brain Health</td>
<td>60[^5]</td>
<td>5m</td>
<td>50m</td>
</tr>
<tr>
<td>Cellulitis</td>
<td>60[^5]</td>
<td>5m</td>
<td>50m</td>
</tr>
<tr>
<td>Depression</td>
<td>60[^5]</td>
<td>5m</td>
<td>50m</td>
</tr>
<tr>
<td>Dermatitis</td>
<td>60[^5-7]</td>
<td>5m</td>
<td>50m</td>
</tr>
<tr>
<td>Hair Loss</td>
<td>67[^8-9]</td>
<td>6m</td>
<td>56m</td>
</tr>
<tr>
<td>Joint Pain</td>
<td>40 to 120[^2]</td>
<td>3m–10m</td>
<td>33m–100m</td>
</tr>
<tr>
<td>Muscle Performance &amp; Recovery</td>
<td>80[^10]</td>
<td>7m</td>
<td>67m</td>
</tr>
<tr>
<td>Oral Candida</td>
<td>5 to 20[^11]</td>
<td>25s–2m</td>
<td>4m–17m</td>
</tr>
</tbody>
</table>
### How Many Times a Week Should I Use My Device?

The ideal number of treatment sessions may vary depending on the ailment being treated, but as a general guideline, one to three times per day is a reasonable amount depending on how urgently you need healing. Morning and night are good times to administer light therapy.

### Summary

To get the most out of red light therapy, applying the correct dose is important. The best way to determine the correct dose is to find doses that have been proven effective for particular conditions in red light therapy studies. (See table 3)

The optimal power density during light therapy treatment tends to range between 20 – 200mW/cm². Every red light therapy device is different, so you’ll need to determine the distances which provide the power densities within the effective range. This can be done by using a solar power meter. (See table 1)

The length of each session can then be determined based on the chosen application distance and power density that is delivered from that distance. (See table 2)

### Bonus: Keeping Red Light Therapy Treatment Simple

If you feel overwhelmed or discouraged by this information and just want to begin red light therapy treatment without having to make any mathematical calculations, this section is for you.

Harvard Professor Dr. Michael Hamblin has been researching and publishing studies on red and infrared light therapy for decades and uses it regularly for his own health benefit. In a recent interview he was asked when and how he uses red light therapy on himself, and he replied:
“I have an LED device plugged in by my bed and every morning I put it on some part of my anatomy that I believe could do with some stimulation. So, if I have a sore elbow or a sore knee,… I put it on any part of my anatomy that I think could benefit from the light.”

Dr. Hamblin also mentioned that he uses it on his forehead to give his brain a boost 2-3x a week for about 15 minutes each session.

Remember, red light therapy is one of the safest treatments ever developed, so don’t be afraid to experiment on yourself with various treatment times, treatment sessions, power densities, distances and different parts of your anatomy. Notice how the treatment makes you feel and take note. Nobody can tell you better than you can what works for you and what doesn’t. Self-experimentation is the ultimate method of learning and discovering truth.

Thank you for reading our red light therapy dose guide. I hope it helps you get the most out of red light therapy and delivers the healing you’ve been searching for.

In health,
Mark Sloan
P.S. – If you have any questions, feel free to contact me anytime at mark@endalldisease.com

CHECK OUT OUR RED LIGHT THERAPY DEVICES

[Images of red light therapy devices]

CHECK OUT OUR BOOKS
REFERENCES:

This dose guide has been adapted from the research of the RedLightMan. The original article can be found [here](#).


   [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4126803/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4126803/)


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