

Morning Versus Evening Bright Light Treatment at Home to Improve Function and Pain Sensitivity for Women with Fibromyalgia: A Pilot Study.

[Burgess HJ](#)¹, [Park M](#)², [Ong JC](#)³, [Shakoor N](#)⁴, [Williams DA](#)⁵, [Burns J](#)⁶.

Abstract

OBJECTIVE:

To test the feasibility, acceptability, and effects of a home-based morning versus evening bright light treatment on function and pain sensitivity in women with fibromyalgia.

DESIGN:

A single blind randomized study with two treatment arms: 6 days of a 1 hour morning light treatment or 6 days of a 1 hour evening light treatment. Function, pain sensitivity, and circadian timing were assessed before and after treatment.

SETTING:

Participants slept at home, except for two nights in Sleep Center.

PARTICIPANTS:

Ten women meeting the American College of Rheumatology's diagnostic criteria for fibromyalgia, including normal blood test results.

METHODS:

Self-reported function was assessed with the Fibromyalgia Impact Questionnaire (FIQ). Pain sensitivity was assessed using a heat stimulus that gave measures of threshold and tolerance. Circadian timing was assessed with the dim light melatonin onset.

RESULTS:

Both morning and evening light treatments led to improvements in function and pain sensitivity. However, only the morning light treatment led to a clinically meaningful improvement in function (>14% reduction from baseline FIQ) and morning light significantly increased pain threshold more than evening light ($P < 0.05$). Phase advances in circadian timing were associated with an increase in pain tolerance ($r = 0.67$, $P < 0.05$).

CONCLUSIONS:

Bright light treatment appears to be a feasible and acceptable adjunctive treatment to women with fibromyalgia. Those who undergo morning light treatment may show improvements in function and pain sensitivity. Advances in circadian timing may be one mechanism by which morning light improves pain sensitivity. Findings can inform the design of a randomized controlled trial.