



# Light therapy

## DEMENTIA CARE

This evidence theme on light therapy is a summary of one of the issues identified in a scoping review of dementia research.

### Key points

- Light therapy is used with people living with dementia to help regulate their sleep and waking cycle.
- Some studies have found that light therapy reduces sleep disturbances in people living with dementia while others have not.
- There is no conclusive evidence that light therapy helps to reduce responsive behaviours and it may even increase agitation in some people.
- Carers might review the levels, quality, and timing of the natural light people living with dementia are exposed to daily. This might help with mood and signal the transition between day and night for better sleep quality.

### What is light therapy?

Changes in the part of the brain controlling sleep-wake cycles can disrupt the sleep patterns of people living with dementia. [1] This can lead to broken nighttime sleeping and increased daytime sleeping. [2] There is a theory that exposing people living with dementia to a source of bright light might stimulate this part of the brain and restore sleep patterns. [3] This may also reduce agitation, especially at twilight ('sundowning'), [4] and neuropsychiatric symptoms such as depression. [1]

Sources of light tested in research conditions include:

- A light box placed at eye height approximately one metre away from the person living with dementia
- Light visors
- Special mounted light fixtures
- Increased exposure to natural light
- Simulated changes between dawn and dusk. [1]

## Is light therapy effective?

Reviews on the effectiveness of light therapy have examined its impact on sleep, activities of daily living, depression, and agitation for people living with dementia. All have found conflicting findings.

There is inconclusive evidence that light therapy or changing the overall light level influences:

- Sleep [3, 5]
- People's ability to manage their self-care activities [1, 3]
- Mood [3]
- Cognitive function [3]
- Responsive behaviours such as agitation, restlessness, and aggression [4, 6, 7]
- Psychiatric symptoms such as depression and psychosis. [1]

This is because some studies found evidence supporting light therapy while others did not. Similarly, one review found light therapy may even worsen agitation [6] while another did not find any connection between light and agitation. [8]

## Evidence limitations

Reviews raised some concerns about the methods used in studies on this topic which could lower our confidence in the findings. These include:

- The small number of participants [9]
- The wide variety of devices, light intensities, durations, and frequencies tested across studies, which makes it difficult to compare findings [9]
- Differences in the type and severity of dementia experienced by study participants, which may contribute to the variations in findings. [1]

## What can an individual do?

Even without a formal therapy such as bright light therapy, the light available in the home can be reviewed and modified if necessary to help the person living with dementia.

- Relieving areas of dimness may help people see their way better and enhance self-care activities. This might mean opening more windows or encouraging people to go outdoors. [2]
- Position seating as close to open windows, preferably with a view of a garden.
- Outdoor light in the morning and evening may help stabilise a person's body clock.

## What can the organisation do?

Bright light therapy requires a moderate investment of time for staff training and supervision and equipment costs. [2] Until the evidence base for this approach becomes more

consistent, explore ways to improve levels and types of lighting to assist people living with dementia to make sense of their environment.

- Train staff about lighting so that they know how to monitor it to reduce falls, help people find their way, enhance positive mood, and support activities of daily living. [10]
- Incorporate flexible lighting levels to accommodate individual needs as a part of a person-centred approach to design. [10]
- Bring natural light inside during the day as much as possible to foster a sense of wellbeing. This could be achieved by keeping curtains open, opening windows, installing skylights, or using light pipes or glass blocks.
- Keep the home as dark as possible during nighttime to help people differentiate between day and night. [11]

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