



An Australian Government Initiative

# Dementia Behaviour Management Advisory Services



Supporting workers • Advice • Information • Referral



Alzheimer's  
Australia WA Ltd  
Living with dementia

Helping Australians with dementia, and their carers



## The Secrets of Sleep

- How & Why sleep is effected in People living with Dementia
- How the care facility environment can impact on a good nights rest.
- Developing good sleep hygiene
- Aromatherapy to assist with sleep
- How Light Therapy can help





# Sleep Issues are Seen Throughout the Lifespan



*However : Nocturnal disruption in people with dementia , and consequently, in their spouse or caregiver, represents a major cause for transition to residential care.*



## The Impact of Poor sleep

- Reduced cognitive clarity
- Increased risk of falls/accidents
- Increased agitation
- Reduced mood
- Reduced capacity to engage in meaningful activity





## Possible Causes

- Environmental, temperature, lighting, change of environment
- Physical health, UTI, diabetes, faecal impaction, pain, dehydration, hunger,
- Sleep disorders such as sleep apnea
- Restless legs
- Mental health, depression (e.g. early morning waking)
- Delirium
- Medication



- Poor sleep hygiene, eg, going to bed too early, prolonged daytime naps
- Need for less sleep
- Overtiredness
- Excess caffeine or alcohol
- Psychological, loss or bereavement, anxiety, agitation following upset





An Australian Government Initiative



Alzheimer's  
Australia WA Ltd  
Living with dementia

# Assessment

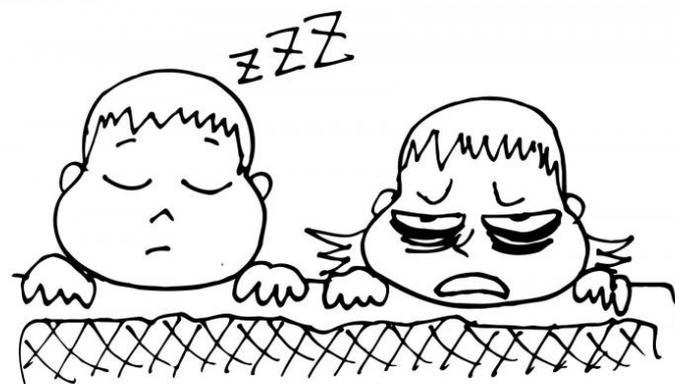
*Before putting the sleep problem down to being a product of the dementia , consider the following:*

- Baseline physical assessment
- Investigate possible causes thoroughly
- Past social and work history
- Whose problem is it? Why is it a problem?



# Management Strategies

So there is an issue what can be done about it?





## Environment & Reduced Sleep

### Impacted By:

- Room Layout
- Staff and facility practices
- Lighting cues
- Noise
- Lack of Familiarity
- Temperature





An Australian Government Initiative



Alzheimer's  
Australia WA Ltd  
Living with dementia  
Alzheimer's  
Australia WA Ltd  
Living with dementia

# Better Sleep Environment

## Assisted By:

- **Cosy Room**
- **Sight lines**
- **Familiarity**
- **Music/sound**
- **Controllable lighting**
- **Modified staff practices**





An Australian Government Initiative



Alzheimer's  
Australia WA Ltd  
Living with dementia

# Environmental Cues





## Study into Night Time Practices

- Twenty month study based in UK: Dementia Services Development Centre and University of Stirling.
- Phase one: direct observation at night and interviews with residents, care staff, managers and relatives
- Phase two: implementing interventions and evaluate impact



## Findings Included:

- Little management involvement
- Unacceptable levels of “checking”
- Unacceptable practices whilst checking
- Too much noise and light
- Little knowledge amongst staff re dementia, nutrition or continence (less training)
- Rare night specific programmes



## Interventions Tried

- Staff training in PCC and awareness raising
- Increase management involvement
- Reduction in “checking”
- Night time menus
- Night time medication review
- Reduction in noise and light levels
- Key worker system and improved care plans



## Results

- Reduction in challenging behaviours
- Improved sleep
- Improved morning routines
- Reduced staff stress

*See references for where to get the full report and copies of the night care posters*



## Good Sleep Hygiene

- Environmental, keep the environment as constant as possible, manage shadows or glares, mirrors etc
- Daytime clothing should not be on show as this is a visual cue that it may be time to get up
- Address continence issues by use of aids or cues to use the bathroom
- Day time exercise and activity
- Avoid heavy or spicy meals 2-3 hours before bed
- Address physical issues and ensure comfort



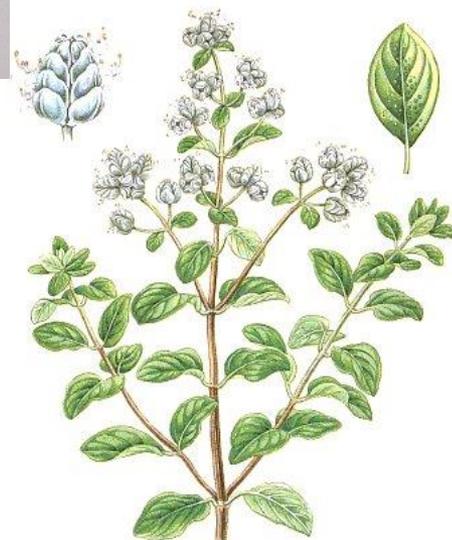
## Sleep Hygiene (Contd):

- Be aware of side effects of medication: poly-pharmacy should be addressed
- Reduce stimulants if this is an issue
- Bed time routines are good strategies to improve sleep hygiene, including a toilet routine.
- Restraint should not be a management strategy
- For people waking during the night provide a warm drink, reassure and then encourage to return to bed
- Medication/night time sedation should be used as a last resort



An Australian Government Initiative

# Aromatherapy and Sleep





## Aromatherapy for Sleep: Points to Consider

- Essential oils are still chemicals, use a qualified aromatherapist
- Individualised assessment and care plan
- Different ways of delivering the essential oils: not everyone likes touch
- Smell is linked to memory so “aromatherapy” can be seen in a wider sense than just essential oils



THE AGE  
Sydney  
May 1994

# EXTRA

RA LEUNG

## AROMATHERAPIES - TRIED AND TRUE

Essence of fish and chips



essence of shoe polish



essence of wheat bag



essence of wet dog



essence of burnt toast



essence of saturday afternoon



essence of clean sheets



essence of sweetheart





An Australian Government Initiative

# The Why, Where When and How of Light Therapy.





## Background & Rationale

- Agitation and sleep disturbance are problematic for people with dementia and their carers, and have been linked to disrupted circadian rhythms caused by a lack of exposure to light.
- Bright light therapy (BLT) offers a powerful and cost effective alternative to pharmacological options, and can be easily incorporated into care routines. The bright light presentation will describe practical issues faced when implementing BLT into a care facility setting, the value of light in dementia, and research supporting light therapy.



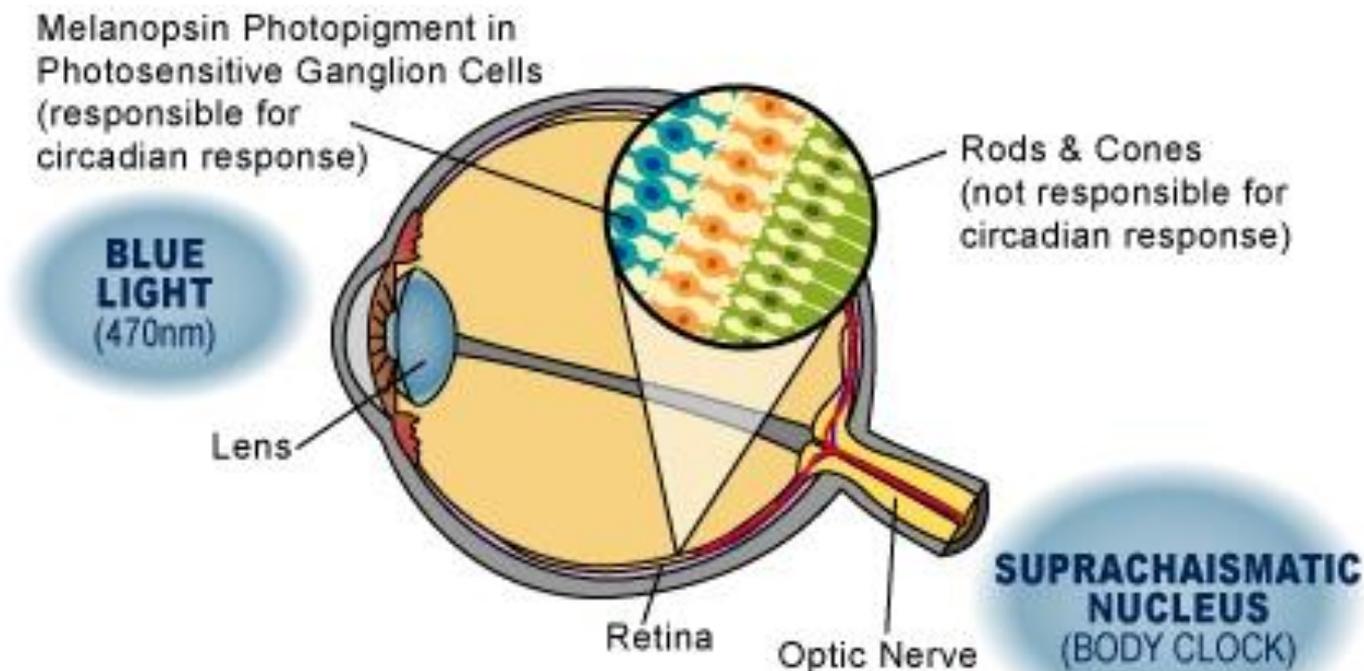
# Circadian Rhythms in General Population



- Approximately 7% of the population has a weak circadian system, 80% of this group will have delayed circadian rhythm and need very strong stimulus of light.
- Most people with delayed circadian rhythms suffer from sleep disorder
- Circadian rhythm's are already present in the fetus. During aging, and in particular Alzheimer's Disease, circadian rhythm's are disturbed



# Light Exposure





# The Case for Using Light to Balance Circadian Rhythms

- The progression of Alzheimer's Disease results in damage to part of the brain known as the suprachiasmatic Nucleus (SCN), this part of the brain controls the circadian rhythm's.
- Reduced amount of light, and changes in the visual systems affect our circadian rhythms'.
- Therefore if we increase light intake our circadian rhythms' will in effect become more settled, less agitation and prolonged “sounder sleep” will occur



## Sleep Studies in Dementia

- Martin *et al.* (2000) demonstrated that circadian rhythms in people with dementia were not related to seasonality but were related to light exposure, sleep and medication use.
- Many facilities where people with Alzheimer's disease reside, often have low ambient light levels and residents are not adequately exposed to daylight (Shochat *et al.* 2000; Campbell *et al.* 1988). This can lead to neuropathological damage which can consequently lead to rhythm disorders.



## Supporting Evidence

- Light treatment lowers agitated behaviours (Sutherland et al 2004)
- Social interaction along with light therapy reduces agitated behaviours. (Mishima K, 1998)
- Satlin A, 1992, studied 10 patients all with Alzheimer's disease on a research ward of a veterans hospital, clinical ratings of sleep-wakefulness on the evening nursing shift improved with light treatment in 8 out of the 10 patients involved. This light treatment was conducted between 7pm and 9pm in the evenings.
- Non pharmacological manipulation of circadian rhythm's can be effective in improving sleep (behav bain res 1993)



## Measuring sleep

- The mean duration of nocturnal sleep as measured by the actigraph was 8.3 hours and 8.6 hours before and after BLT respectively. The mean duration of sleep as recorded by the nursing staff was 9.4 hours and 9.6 hours before and after BLT respectively.
- This study has shown that, in people with dementia, bright light therapy can have some effect in reducing agitation (as measured by an actigraph) in reducing agitated improves sleep and is acceptable to patients and their carers.
- Non-pharmacological approaches to treatment of dementia are becoming more popular as an alternative to drugs, whose effectiveness and side effect profile have raised safety about their use in practice (e.g. Royal College of Psychiatrists, 2005). Bright light therapy was used because of its effect on the melatonin system, itself implicated in the regulation of abnormal motor behaviour (Haffmanns *et al.*2001).



## Why Light Treatment?

- Non pharmacological
- Can be relaxing
- Can be incorporated into daily routine
- Lifts mood
- Reduces agitation
- Decreases day time napping
- Increases night time sleep



An Australian Government Initiative

# The Light Therapy Box

[www.lighttherapy.com.au](http://www.lighttherapy.com.au)



Helping Australians with dementia, and their carers



## How to Use the Light ?

- Most research papers recommend that light treatment commence before midday
- Having breakfast in front of the light is one way of incorporating its use into a daily routine
- After 30 minutes we cannot absorb any more light
- It is recommended to use the light with people with Dementia for between 1 and 2 hours to compensate for head movement
- If residents indicate they do not like the light and become agitated it is advisable for them to leave the room



## Use in Care Facilities

- Very easy to use
- Can be placed on the breakfast table
- Portable
- Alternative treatment, no prescribing required
- Costs approx \$350 per box
- No side effects
- 10 times brighter than daylight
- Promotes carer/resident relationship
- Immediate effects



## Quotes From Study Participants



- “I USED TO SIT AT HOME AND LOOK OUT OF THE WINDOW WATCHING THE WORLD GO BY, I CANT DO THAT HERE”
- “ITS LIKE LIVING IN A CAVE IN HERE”
- ” I LOVED MY GARDEN AND BEING OUTSIDE”
- “MY HUSBAND AND I WERE ALWAYS IN THE FRESH AIR, BUT THATS GONE NOW”
- “I FEEL REALLY CROSS THAT I CANT GO OUTSIDE”



## Tips for Staff use of Light

- [shift workers](#) are best to receive light therapy every morning regardless of shift patterns. This may not work to shift the rhythms but it will give considerable relief by using the light to repress melatonin while working at night.
- [Jet lag](#) can be avoided all together by the use of the light, it is much easier to re set the body clock before arriving at the destination
- [Travelling East](#); advance the body clock the number of times zones travelled, upon arrival any sunlight must be avoided before 10am.
- [Travelling west](#); delay the body clock and upon arrival home no light should be taken in the afternoon or evening whilst continuing with light therapy in the mornings.



# Melatonin

- Shifting the body clock can be accelerated by using melatonin in conjunction with light therapy.
- Take approximately 1-3 mg 12 hours after light therapy.
- So for example to shift the body clock from night to day follow the following schedule;

<u>Day</u>	<u>Light treatment</u>	<u>Melatonin</u>
1	6am	6pm
2	2pm	2am
3	10am	10pm



## Conclusion

- Light therapy reduces agitation in dementia
- Non pharmacological treatment
- Easily accessible
- Cost effective
- Aids sleep
- Lifts mood
- User friendly
- Evidence from around the world concludes light treatment is effective
- **DONT LIVE IN A CAVE TRY LIGHT THERAPY!!!!**





## A Few References:

- 1) **Haffmans, P.M.J., R.C.Sival, et al.** (2001) “Bright light therapy and melatonin in motor restless behaviour in dementia: A placebo-controlled study.” *International Journal of Geriatric Psychiatry* 16, 106-110
- 2) **Kerr. D et al.** (2008) “Supporting older people in care homes at night.” Joseph Rowntree Foundation Report. [www.jrf.org.uk](http://www.jrf.org.uk)
- 3) **Martin. J et al.** (2000) “Circadian rhythms of agitation on institutionalized patients with Alzheimers disease.” *Chronobiology International* 17, 405-418.



## References (Contd):

- 4) **Mishima. K. et al.** (2000) *“Supplementary administration of artificial bright light and melatonin as potent treatment for disorganized circadian rest-activity and dysfunctional autonomic and neuroendocrine systems in institutionalized demented elderly persons.”* Chronobiology International, 17, 419-432.
- 5) **Sutherland. D. et al.** (2004) *“The use of light therapy to lower agitation in people with dementia.”* Nursing Times 45, 32-34.
- 6) **Shochat, T. et al.** (2000) *“Illumination levels in nursing home patients: effects on sleep and activity rhythms.”* Journal of Sleep Research 9, 373-379



An Australian Government Initiative

# Old age is not for the faint hearted!!

