Presentation by Dr Allan Shell

Dementia – what is it?

What is BPSD?:

- ***Responsive or reactive behaviours***
- ***Behaviours of concern***

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Acknowledgement to Country:

I acknowledge the first nation people of Australia, and pay my respects to the elders past, present and emerging

Acknowledgement of support:

- **Dementia Training Australia – La Trobe VIC**
- **Scientia Prof Henry Brodaty - UNSW Sydney**
  www.dementiaresearch.org.au
- **Centre for Healthy Brain Ageing - UNSW Sydney**
  www.cheba.unsw.edu.au
- **Ronin Films – *The Long Goodbye***

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Learning Outcomes

- **Develop "Patient-centred" non-pharmacological management options for the various behaviours**
- **Discuss a family and carer plan related to these behaviours**
- **Critique recommended pharmacological options available, including their indications, to treat some of the behaviours**
- **Design an appropriate Behaviour Management Plan for your patients in an RACF or at home**

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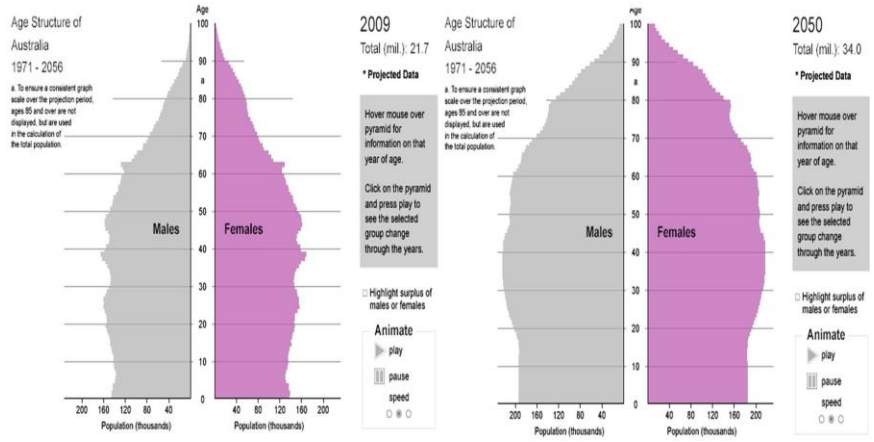
Is Dementia increasing?



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What is dementia?

Dementia affects an individual's:

- **Thinking**
- **Behaviour**
- **Ability to perform everyday tasks**

It is more than a memory problem! It involves generalised brain degeneration that effects people in many different ways:

- **Progressive**
- **Global neurological effects**
- **Life-limiting condition**

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How does Dementia progress?

- **GRADUAL onset of short-term memory problems over months or years**
- **PROGRESSIVE memory problems when "compared to 4-5 years ago"**
- **FUNCTIONAL decline affecting the person's ability to perform tasks.**
- **CORTICAL DYSFUNCTION such as dysphasia, agnosia or dyspraxia - difficulty finding the right words or a loss of fluency, difficulties in performing tasks they were previously able to do.**

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Mild Cognitive Impairment (MCI)

MCI is a condition in which there is:

- **Impairment of cognitive abilities greater than expected for age**
- **Does not significantly interfere with daily activities of living**

Most people with MCI are able to function independently:

- **Although MCI may lead to an increased risk of dementia, not all patients with MCI will progress, and some may improve with support**
- **No "treatment" medication is recommended**

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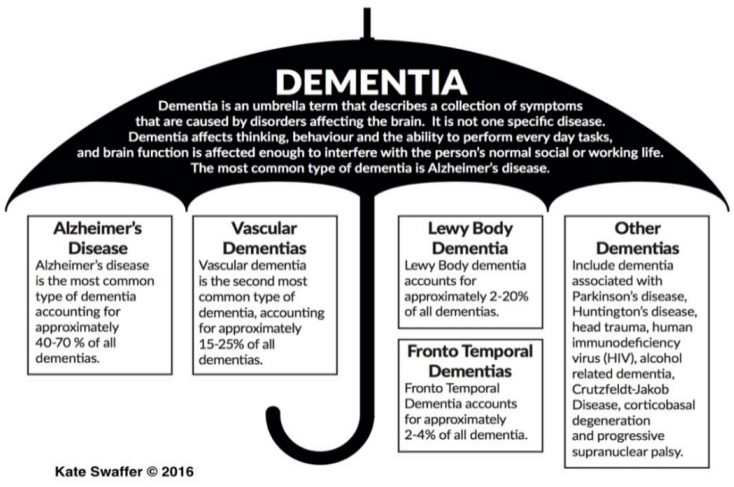
What Dementia type are we managing?



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What do we know about Dementia?

- With ↑age, % of pure AD, VaD or LBD ↓
- 80%+ of older people with dementia had CVD at post mortem
- In older people, mixed dementia > more common than AD

(MRC CFAS Study, 2003)

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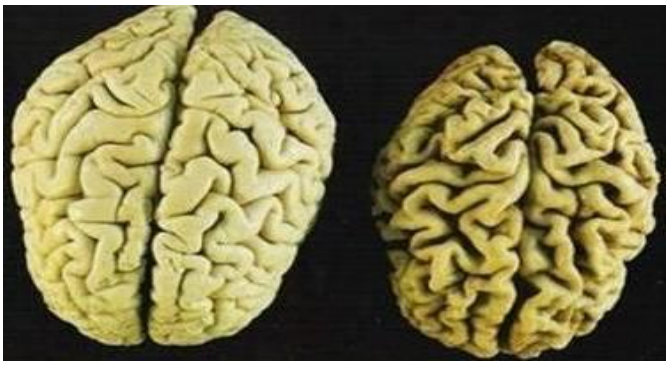
Pathology findings in Dementia

- The 'normal' adult brain weighs about 1.3 kg
- Dementia may shrink it to ~50% its usual size



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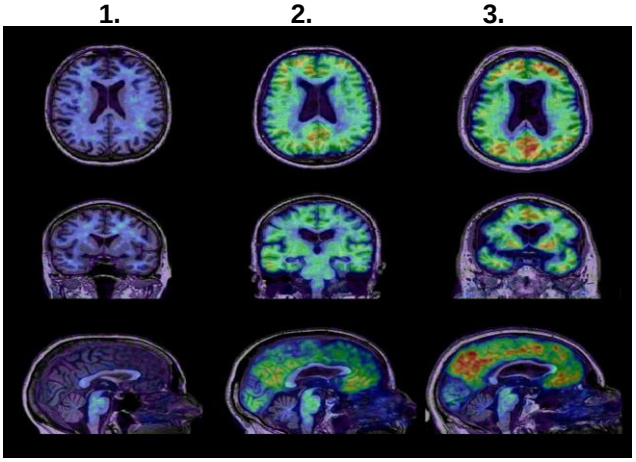
MRI views superimposed with Amyloid specific PET scans:

1. Healthy brain 2. Mild cognitive impairment - MCI
3. Alzheimer's disease patient.

1. 2. 3.



(Courtesy of Prof. C. Rowe, The Austin Hospital VIC. 2015)

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How much can Dementia be attributed to environmental factors?

- **8% Hearing loss in mid-life ***
- **7% Poor lifetime education ***
- **5% Smoking ***
- **4% Depression ***
- **4% Social isolation ***
- **3% Traumatic head injury**
- **2% Midlife hypertension ***
- **2% Physical inactivity ***
- **2% Air pollution exposure in later-life ***
- **1% Diabetes mellitus (type 2)**
- **1% Obesity in mid-life**
- **1% Alcohol excess in mid-life ***

(The Lancet Dementia Commission, 2020)
*** Higher Risk Factor prevalence > 10%**

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The Long Goodbye - Michael, Ken and Brenda

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Behavioural and Psychological Symptoms of Dementia - BPSD

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Why are we concerned?

- Some 50 - 90% of people living with dementia will exhibit some change in their behaviour
- BPSD = Responsive or Reactive Behaviours or Behaviours of Concern)
- Distressing for that person and their caregivers – community, family, RACF staff
- Increased rate of institutionalisation
- Higher rate of complications in hospital

Associated with:

- Faster rate of decline is often seen
- Increased mortality

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What are common Responsive or Reactive Behaviours (RB)?

Behavioural Symptoms

- ***Physical and Verbal Aggression***
- ***Agitation***
- **Pacing**
- **Wandering**
- **Disinhibition**
- **Sexual disinhibition**
- **Screaming**
- **Shadowing**
- **Tearfulness**
- **Resistance to care**
- **Night-time disturbance (Sundowner)**

Psychological Symptoms

- ***Delusions***
- ***Hallucinations***
- **Anxiety**
- **Apathy**
- **Depression**
- **Elation / euphoria**

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Indigenous health

www.perkins.org.au/wacha

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Effects of RB

- **Residents with RB are more likely to [1]:**
  - **be physically restrained**
  - **receive antipsychotic medication**
  - **negatively influence other residents**
- **RB increases the cost of institutional care for persons with dementia [2]**
- **RB, especially aggression [3] and calling out [4], increases 'nurse' and carer stress**

([1]Maslow K 1994; [2]O'Brien JA et al, 2000; [3]Rodney, 2000; [4]Draper et al, 2000)

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Some Common causes of RB

- Biological
  - Alterations in neurotransmitter systems – ACh, Dopamine
  - Neuronal loss, tangles and plaques – VaD, CVA
- Emotional Unmet Needs
- ABC of Responsive or Reactive Behaviour **–
  - Antecedents - Behaviour – Consequences
- Stress threshold - under or over stimulation
- The Book, Mirror and Landscape – DTA

**
www.dementiamanagementstrategy.com/Pages/ABC_of_behaviour_management.aspx

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Before intervening > Assess

1. Is the description accurate?
2. Identification of target behaviour
3. Does behaviour require intervention?
4. Careful diary of behaviours – two observers
5. Exclude non-dementia causes – drugs?
6. Correct sensory impairment - hearing, vision
7. Is it acute Delirium?

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Communication

1. Use the person's first name if possible
2. Notice the person's body language, their facial expression and emotional state
3. Know that person's first language to engage with family or carers
4. Speak clearly and initiate activities at a slow and gentle pace. Repeat these before initiating
5. May have to use pictograms, or write the 'instructions' in their language
6. Listen to them and not just reply

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The bio-psycho-social framework

Socio-environmental	Interpersonal
Biological	Psychological

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Biological causes - intrinsic

- Frontal lobe pathology (behavioural disturbance, disinhibition, depression)
- Basal ganglia lesions – Parkinson's and Lewy body dementia - LBD (delusions)
- Temporal lobe (delusions, hallucinations)
- Locus coeruleus (psychosis, depression)
- Chemical changes – Serotonin, Dopamine
- Genes – Serotonin, Dopamine receptors
- Family history of neurodegenerative disorder - Huntington's disease (change behaviours)

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Biological causes - intrinsic

Basal ganglia disorders are associated with a common set of cognitive impairments - "subcortical dementia profile"

- prominent impairment in executive function
- Psychomotor speed
- Attention deficit
- Visuospatial abilities
- Memory retrieval
- Relative sparing of language and memory storage.

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Biological causes - intrinsic

Cortical dementias - AD:

- **Agnosia – inability to recognise familiar objects**
- **Aphasia – loss of language function, word finding**
- **Amnesia – memory loss for recent events**
- **Apraxia – loss in ability to perform familiar movements > dressing, making a bed**
- **Associated with more focal lesions**
  - **impairment is severe enough to disrupt social, interpersonal or occupational function**

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Biological causes - extrinsic

- **Acute medical condition – UTIs, Hernia**
- **Medication**
- **Pain syndromes**
- **Constipation**
- **Sensory impairments**
- **Fatigue**
- **Fears**
- **Basic needs (hunger, thirst)**
- **Psychiatric syndromes**

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The bio-psycho-social framework

Socio-environmental	Interpersonal
Biological	Psychological

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How to intervene: *Environment*

- Modify environment rather than the person
- Avoid too much or too little stimulation
- Adequate space - wanderers
- Privacy available - initimacy

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How to intervene: *Environment*

- Secure grounds
- Personalised space
- Non-institution environment
- Home-like
- Colour, furnishings, architecture
- Lighting
- Resident mix
- Size of residential facility
- Aroma therapy - lavender

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Calming music and/or hand massage

10 min CMAI ratings

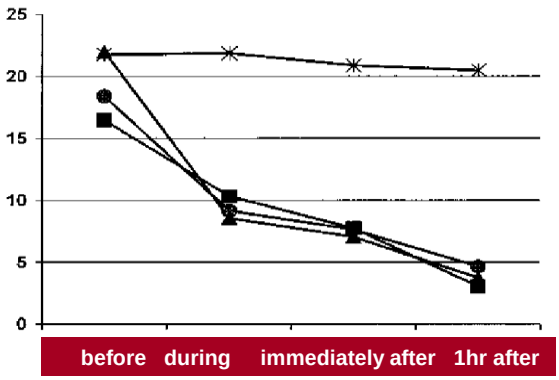

FIGURE 1. Mean agitation scores by treatment group over time. ● calming music; ■ hand massage; ▲ calming music and hand massage together; ✳ control.

Remington, *Nursing Research*, 2002

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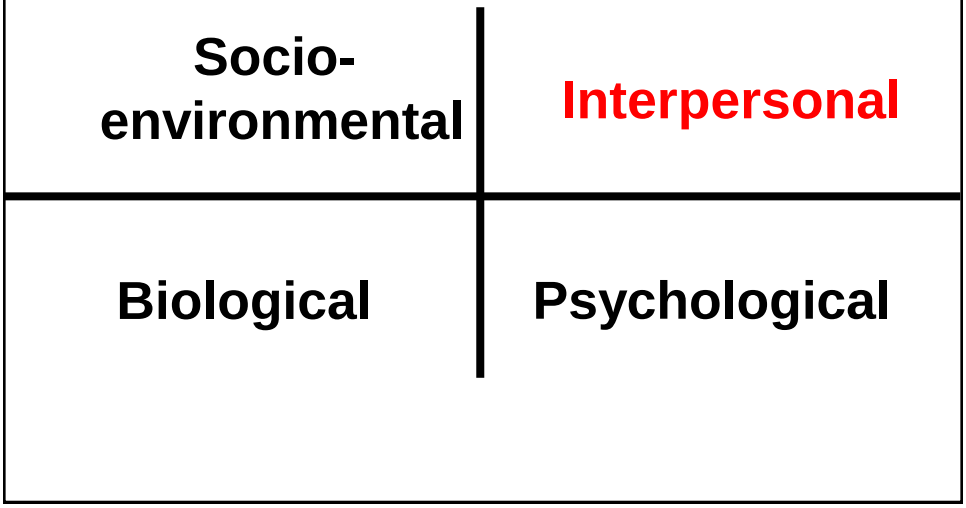
The bio-psycho-social framework



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Family as caregivers

- Family carers as therapists for people living in the community
- Family members as a cause of "stress"
  - Anger
  - Aggression – Mr T

Brodaty H & Arasaratnam C, Am J Psychiatry, 2012

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Family as caregivers

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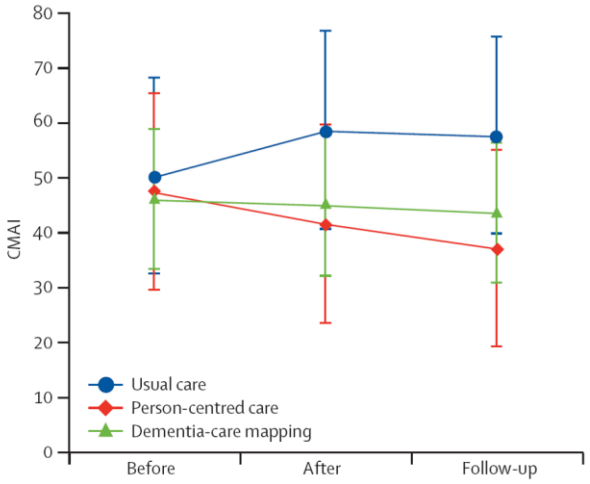
Dementia Care Mapping & Person Centred Care for Agitation



Cost for PCC ≈ $6 to reduce a point on CMAI

- *DCM observing what happens to people with dementia over the day*
- *PCC patients receiving their care in the way they want to be treated.*

(Chenoweth et al. Lancet Neurology, 2009)

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The bio-psycho-social framework

Socio-environmental	Interpersonal
Biological	Psychological

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Psychological approaches to BPSD

- Music therapy **
- Snoezelen room
- Sensory stimulation

} Useful during treatment, but may not be for long term

- Managing "Unmet needs" – thirst, pain, constipation, feeling cold, touch

** ww.youtube.com/watch?v=RcbddBfoaG4

Livingston G et al Am J Psychiatry 2005; 162:1996-2021)

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Novel strategies

- Humour therapy – SMILE study
- Volunteers
- Music, singing, dance therapy
- Integrating kindergarten/ babies

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Humor therapy: SMILE study

- 20% reduction in agitation
- Effect size = antipsychotic medications for agitation
- Adjusting for dose of humour therapy
  - Decreased depression
  - Improved quality of life

(Low LF et al. BMJ Open, 2013; Brodaty et al. Am J Ger, Psych 2014)

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Pets, robotic pets, toys, dolls

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Key elements to improve

- Engagement
- Understanding
- Time

Some of the Barriers

- Time
- Money
- Staff
- Attitudes
- Training

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The bio-psycho-social framework

Socio-environmental	**Interpersonal**
Biological	**Psychological**

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Pharmacological interventions

Antidepressants or
Anticonvulsants or
Antipsychotics
or others?

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Pharmacy Review

- Which drugs should we watch out for?
  - Acetylcholine is main neurotransmitter for new memories
  - Potential for 'Anticholinergic load' with some commonly prescribed medications
    - Deprescribing
- AcetylCholinEsterase Inhibitors (AChEIs) and other CNS (neuroleptic) agents*
  - Cognitive impact - may impact on behaviour

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Pharmacy Review

- In GP Australia: older people > 65yr some are taking ≥ 5.6 prescribed medication, with 3-5 chronic medical conditions being treated

  (Britt H et al. U Syd. BEACH 2016)
- Great value of medication review for people living with dementia – and in other frail and elderly patients
  - Polypharmacy - Assess impact of current chronic disease management medicines and side-effects
  - Reduce 'cholinergic load'

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AChEIs & RB

- Some benefit
- Statistically significant in some reviews – may even reduce use of other drugs
- Individual symptoms may be more susceptible: apathy, hallucinations, delusions – especially in LBD - aberrant motor behaviour, anxiety, depression

(Trinh N-H et al, 2003; Rodda et al, 2009; Campbell et al, 2008)

www.ipa-online.org

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Antidepressants or Anticonvulsants or Antipsychotics for RB ?

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Some of the drugs…

- ***Citalopram* (2nd generation SSRI)** An antidepressant used off-lable to treat anxiety and agitation
  - **Improvement with hallucinations & delusions**
  - **Reduced agitation**
  - **60% ↓ irritability and apathy**
    - ***Prolong QT interval > Cardiac risk***
    - ***Worsening of cognition***
- ***Carbamazepine* (Mood stabilizer)** Anticonvulsants could help to reduce symptoms of anxiety and improve mood
  - **Might be beneficial for some patients**
  - **Not recommended for routine use**
    - ***Serious allergic reaction - Stevens-Johnson syndrome***
    - ***Recommended to have periodic blood tests to check liver function and blood cell levels.***

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Some of the drugs…

- ***Risperidone*** PBS approved antipsychotic originally used for symptoms of schizophrenia and Bipolar depression and related psychoses in adults
  - **elevated, expansive or irritable mood, distractibility or poor judgment including disruptive or aggressive behaviours**
  - **short term treatment of behavioural problems in patients with dementia – particularly for verbal or physical aggression and agitation**
    - ***Increased drowsiness – may help improve sleep cycle***
    - ***Hypotension***
    - ***Stroke***
- ***Sertraline* (1st generation SSRI)** PBS approved (older) antidepressant
  - **Can improve weight gain and reduce food apathy**
  - **Reduce agitation**
    - **Common adverse events of diarrhoea, dizziness, dry mouth**

(Kanovalov et al. Int Psychogeriatr, 2008;20:2; Weintraub D et al. Am J Ger Psych, 2010;18:332-340; Porsteinsson et al. *JAMA*. 2014;311(7):682-691)

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Antipsychotics for …

- Screaming X
- Wandering X
- Intruding into other people's rooms X
- Aggression ?√ (but not 1st line)
- Delusions and hallucinations ?√ (but not 1st)

➢ *Consider Paracetamol for 'pain relief' that may be causing the agitation and aggression*

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Prevention of RB

- Person-centred care
- Their environment
- Right level of stimulation
- Attention to environment
- Treat physical disorders quickly

http://www.dementiaresearch.org.au/bpsdguid

Dementia Training Australia

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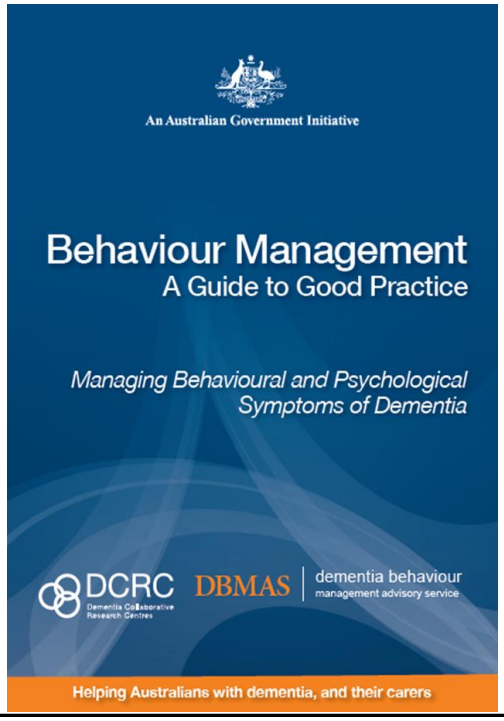

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Clinical conclusions about management of RB


Rex

"Dr,

Mrs Smith-Jones is hitting the nurses, disrupting the other residents and being impossible. Can you prescribe something?"

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Clinical practice 1

- Ask nurses to monitor behaviours – what, when, what happens before, during and after?
- How often, when, what are precipitants?
- Exclude pain, UTI
- Determine cause
- Correct reversible factors e.g. ?stimulation level
- Start with psychological and environmental intervention(s)
  - except if urgent or sometimes concurrent
  - informed consent

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II: Understand the person - Don't just label the behaviour

- Why is this person behaving this way *now*?
- Map out a Behaviour Management Plan
- Different approaches often come together
- Be creative
- Document – two observers 'day/ night shift'
- Monitor outcomes
- Partnership is always with family / carers

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Clinical practice 2

- No cause can be found or correctable
- Try psychosocial treatments
  - not sure how?
  - BPSD Guide app.
  - call DBMAS (DAS) or local psychogeriatric team
- Psychosocial treatment failed
- Consider pharmacological treatment
- Need informed consent from patient or proxy (*Person Responsible, Enduring Guardian*)
  - Start low and go slow

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Summary … d'oh!

- Drug treatments limited benefit and → side effects – yet 50% on ≥1 psychotropic and 30% of residents in Australia are on antipsychotics
- ≈ 90% of psychotropic Rx given without required consent[1]
- Psychosocial and environmental therapies beneficial

(Rendina N et al, IJGP, 2009; HALT, 2017)

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Summary … d'oh!

- So why are RACFs / Nursing homes not engaging more?
- Why is the knowledge not being translated into practice?
  - Training – too little?
  - Cost – too much?
  - Time – not enough?
  - The system – it's against me?
  - Resident's families / caregivers - they need to understand

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QUESTIONS

- too many?

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