# Acute Management of Responsive Behaviours in the Hospital Setting

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# Outline

1. Hospital context and cognitive impairment syndromes
2. Responsive behaviours in hospitalised people
3. Case studies (8) – integrating theory to each case (2 in-depth followed by 6 brief)
4. Conclusion

# Responsive behaviours and neuro-cognitive syndromes in hospitalized people

- **Delirium**
- **Dementia**
- **Delirium** superimposed on **dementia** (DsD)
- Intellectual impairment
- Brain injury
- **Delirium** or **dementia** superimposed on a psychiatric condition
- Mild Cognitive Impairment (MCI) - *pre-**dementia***

## Delirium

- **Acute** confusional state *manifested as: changes in attention and concentration.* Characteristically has an acute and fluctuating onset and course, changes in sleep-wake cycle and manifests with decreased or increased psychomotor behaviour(hypoactive/ hyperactive)

## Dementia/Major NCD(DSM V)

- Decline from previous baseline in one or more cognitive domains sufficient to effect function in the absence of delirium or other mental disorder. It is an umbrella term for neurodegenerative an other causes

## Mild Cognitive Impairment (Minor NCD)

# Differentiating between delirium & dementia

Need to use cognitive assessment (i.e. Confusion assessment Method, 4AT). Do not rely on behavioural assessment

| Delirium | Dementia |
|---|---|
| Acute onset, hours to weeks | Gradual onset, months to years |
| Potentially reversible | Neurodegenerative with no cure |
| Fluctuates during the day, worse at night | Tends to persist unchanged during the day |
| Reduced awareness | Awareness is clear |
| Abnormally low or high alertness/vigilance | Normal alertness/vigilance |
| Inattentive causing distractibility; fluctuates over the day | Relatively unaffected attention except in DLB and vascular dementia |
| Illusions and hallucinations are common | Absent in early stages but common later; common in DLB and PD |
| Sleep-wake cycle is always disrupted | Sleep-wake cycle normal |
| Working memory is always impaired | Working memory is normal in early stages |
| Incoherent, hesitant speech (fast or slow) | Difficulty with word finding |

# Dementia prevalence

20.7% > 70yrs increasing to 47.4% >90yrs (Travers et al, 2013)

94% of admissions are for other health conditions (Draper et al, 2011)

| Condition | Likelihood of admission compared to people without dementia |
|---|---|
| Constipation | 1.33 x more likely |
| UTI | 2.61 x more likely |
| LRTI | 1.64 x more likely |
| #NOF | 2.62 x more likely |
| TIAs | 1.19 x more likely |
| Head injury | 2.16 x more likely |
| Sepsis | 2.14 x more likely |
| Alcohol | 5.05 x more likely |
| Epilepsy | 4.47 x more likely |

Travers, C., Byrne, G., Pachana, N., Klein, K., & Gray, L. (2013). Prospective observational study of dementia and delirium in the acute hospital setting. Internal Medicine Journal, 43(3), 262-269. doi:10.1111/j.1445-5994.2012.02962.x

Draper, B., Karmel, R., Gibson, D., Peut, A., & Anderson, P. (2011). The Hospital Dementia Services Project: age differences in hospital stays for older people with and without dementia. International Psychogeriatrics, 23(10), 1649-1658

# Prevalence Delirium

(present on admission)

| | |
|---|---|
| Cardiac | --- |
| Non-cardiac | --- |
| Orthopaedic | 17% |
| General medical | 18-35% |
| Geriatric Medicine | 25% |
| ICU | 7-50% |
| Stroke | --- |

# Incidence Delirium

(new onset)

| | |
|---|---|
| Cardiac | 11-46% |
| Non-cardiac | 13-50% |
| Orthopaedic | 12-51% |
| General medical | 11-14% |
| Old age medicine | 20-29% |
| ICU | 19-82% |
| Stroke | 10-27% |

Overall prevalence: up to 64% in older hospitalised people
(65% of all in-patients > 65yrs in age)

Inouye, S. K., Westendorp, R. G. J., & Saczynski, J. S. (2014). Delirium in elderly people. *Lancet, 383*(9920), 911-922. doi:10.1016/S0140-6736(13)60688-1

# Risk Factors for Delirium in Hospital (medical and nursing care may modify these)

## Precipitating insults

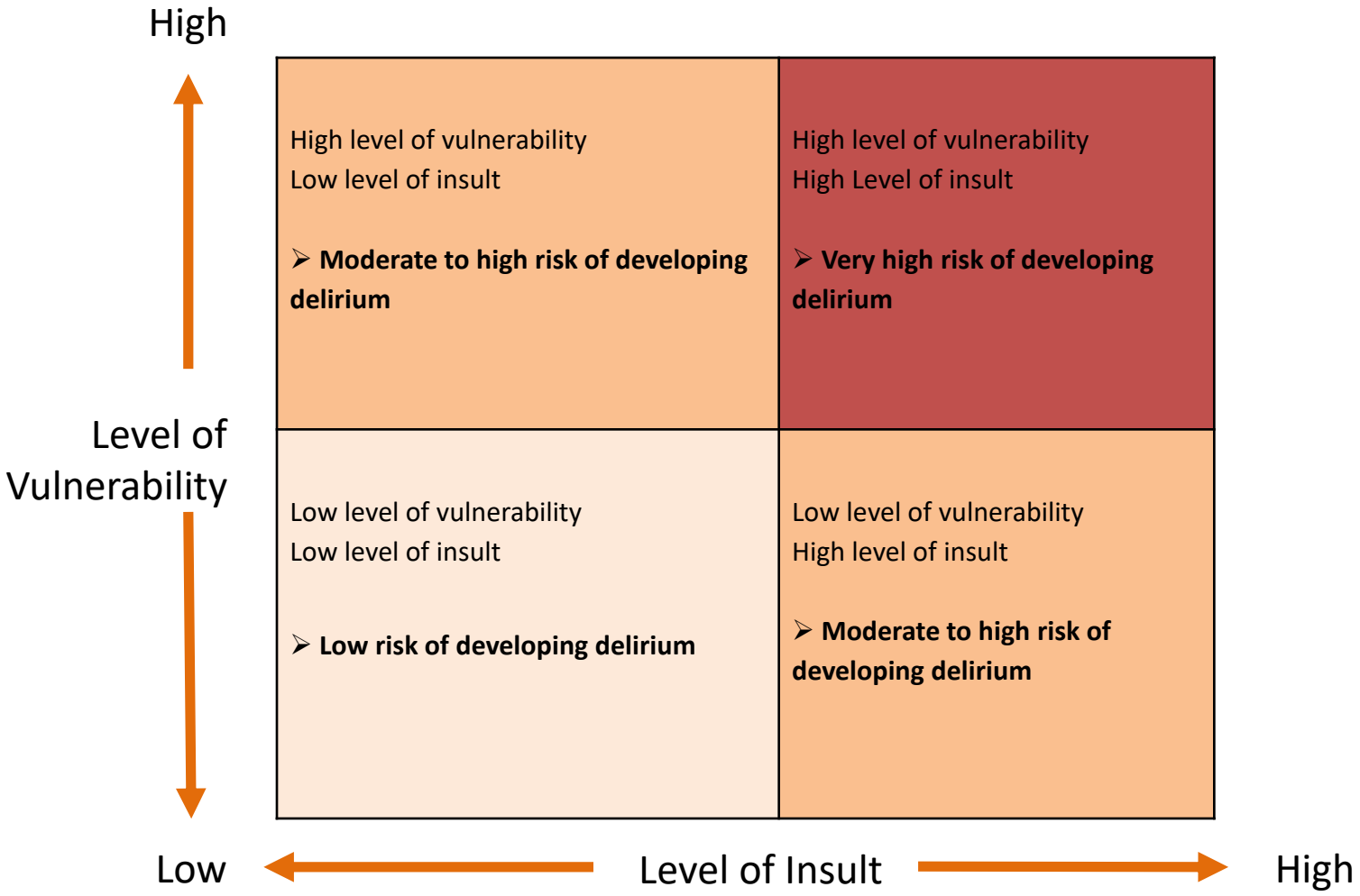
- Severe medical illness
- Metabolic disturbances: abnormal sodium, dehydration, constipation,
- Exposure to pethidine
- Exposure to benzodiazepine
- Exposure to narcotic analgesics preoperatively
- Addition of ≥ 3 medications during hospitalisation
- Major surgery & anaesthetising medications
- Withdrawal syndromes
- Intoxication with alcohol or illicit drugs
- Infections
- Anaemia
- Head trauma & focal brain lesions
- Pain & discomfort
- Sleep deprivation
- Use of physical restraint
- Use of indwelling catheters
- Emotional stress and unfamiliar surroundings

## Pre-disposing vulnerability

- Age ≥ 65 years
- Pre-existing **cognitive impairment** including **dementia**
- Pre-existing neurological disorders (e.g. Parkinson's disease)
- Depression
- History of delirium
- Sensory deficits – e.g. visual or hearing impairment
- Pre-existing drug treatments/ dependencies such as benzodiazepines
- Alcohol abuse
- Chronic sleep deprivation/disorders (≤ 4 hours per night)

# MULTI-FACTORIAL

## The interrelationship between patient vulnerability and precipitating insult




Source: adapted from – *Clinical practice guidelines for the management of delirium in older people.* 2006. http://www.health.vic.gov.au/acute-agedcare/.

# Determining the cognitive impairment

- Delirium is established from assessment of changes in inattention & vigilance in context of onset and course (fluctuations) +/- other symptoms
- Don’t use behavioural symptoms to determine cognition
- Check for a pre-existing diagnosis related to cognition
- Generally, dementia is difficult to diagnose in acute care (if unsure assume delirium)
- People with dementia have up to five times risk of delirium in hospital (DsD)
- Changes in pre-existing behaviours or appearance of new behaviour may indicate the presence of delirium. However, can also be due to various environmental and psychosocial precipitants.

# Responsive Behaviours

**Behavioural and Psychological Symptoms of Dementia (BPSD)**

- Defined by the International Psychogeriatric Association in 2002 to avoid labelling and stigmatizing the person with dementia

  *'symptoms of disturbed perception, thought content, mood, and behaviour frequently occurring in patients with dementia'.*

**Responsive behaviours**

- Recently, consumer's are advocating to change terminology to "responsive behaviours" as they feel BPSD is may be stigmatising and that behaviours are responses to understandable triggers in the context of dementia

# Responsive Behaviours (BPSD)

## Behavioural Symptoms

- Vocally disruptive behaviour
- Agitation
- Wandering
- Aggression
- Apathy
- Hoarding
- Sexual disinhibition
- Culturally inappropriate behaviour

## Psychological Symptoms

- Depression
- Anxiety
- Hallucinations
- Delusions
- Sleep disturbances

# Epidemiology – symptom overlap

Difficult science. Past drug trials and some non-pharmacological interventions have failed because all symptoms were treated as the same

## Syndromes (clusters)

- Apathy
- Depression
- Psychosis
- Agitation/Aggression
- Sleep disturbances

## Other categories

- Repetitive
- Vocalisations
- Wandering
- Rejection of cares (could be considered agitation)
- Anxiety
- Sexual disinhibition

Gitlin et al 2014; Lyketsos et al 2011; Gauthier et al 2010; Cummings et al 2015

# Dementia ⟷ DsD ⟷ Delirium

- Repetitive vocalisation
- Agitation
- Aggression
- Wandering
- Apathy
- Hoarding
- Sexual disinhibition
- Anxiety
- Depression
- Hallucination
- Delusions
- Sleep Disturbance

- 25% increase in pre-existing responsive behaviours
- New responsive behaviours related to delirium, in particular
  - Agitation
  - Aggression
  - Sleep disturbance
  - Lethargy/apathy

- Agitation
- Aggression
- Inappropriate behaviours
- Delusions
- Hallucinations
- Sleep Disturbance

Physical Aggression in Acute Care

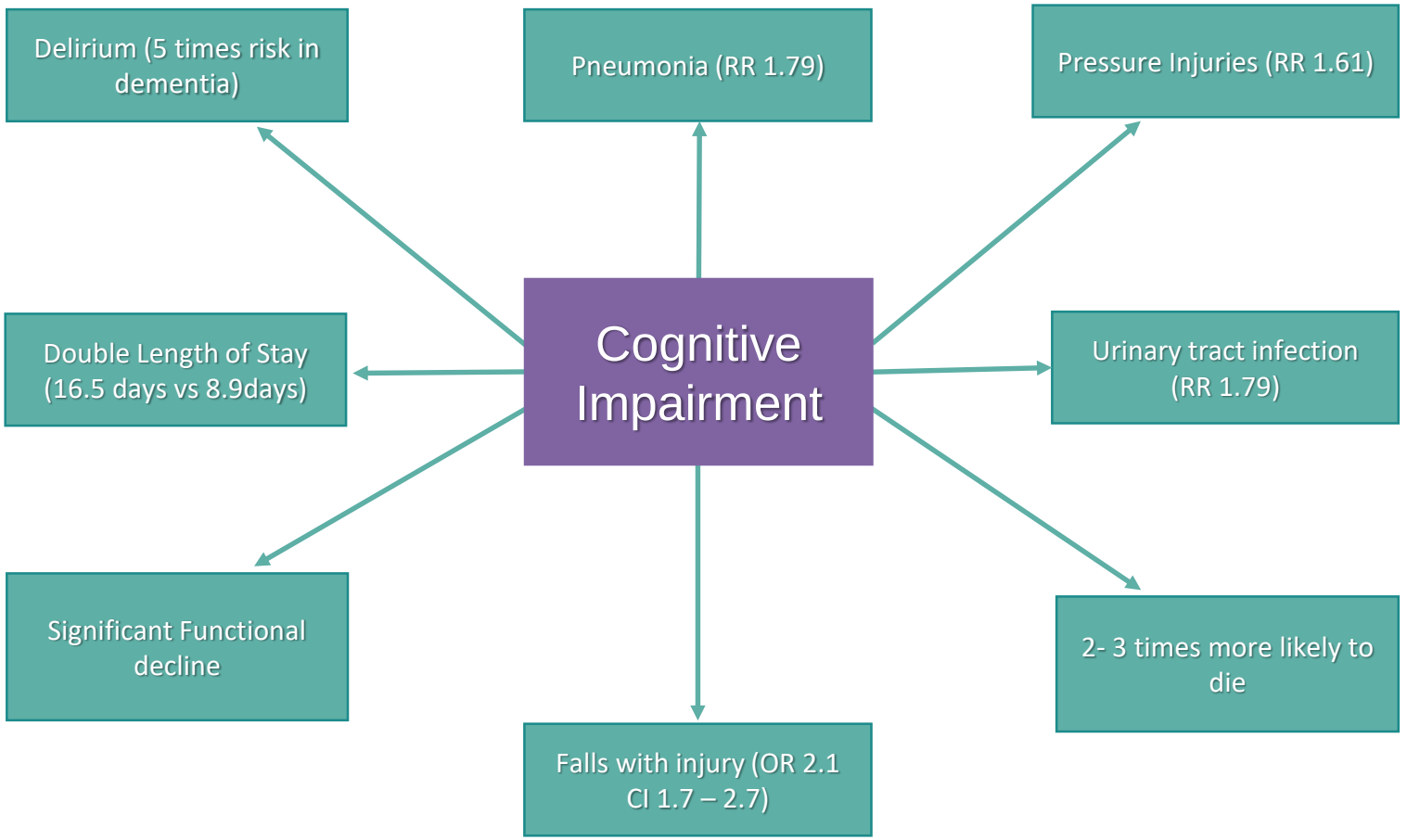
- 11 OR with delirium
- 7 OR with dementia
- 2 OR with mental health issues

Williamson et al 2014

Williamson, R., Lauricella, K., Browning, A., Tierney, E., Chen, J., Joseph, S., . . . Hamilton, B. (2014). Patient factors associated with incidents of aggression in a general inpatient setting. Journal of Clinical Nursing, 23(7-8), 1144-1152. doi:10.1111/jocn.12294

Leonard, M., McInerney, S., McFarland, J., Condon, C., Awan, F., O'Connor, M., . . . Dunne, C. (2016). Comparison of cognitive and neuropsychiatric profiles in hospitalised elderly medical patients with delirium, dementia and comorbid delirium–dementia. BMJ Open, 6(3), e009212.

# High Risk of Harm in Cognitive Impairment




Harlein et al (2011), McCusker et al (2001), Bail et al (2013), Mukadam et al (2011), Watkin et al (2012), Draper et al (2011), Margenoni et al (2013), Inouye et al (2014), Fick et al (2002), AIHW - *Dementia care in hospitals* (2013)

# Prevalence of BPS (responsive behaviours)

SUPPLEMENTAL TABLE 2. Frequency of behavioral and psychological symptoms in patients with and without dementia as reported by nursing staff with delirium cases excluded.

| Symptom | Dementia *N*=210[†] | | No dementia *N*=1,170[+] | |
|---|---|---|---|---|
| | *N* | % (95% CI) | *N* | % (95% CI) |
| Delusions*** | 11 | 5.2 (3.0 – 9.1) | 14 | 1.2 (0.7 – 2.0) |
| Hallucinations*** | 7 | 3.3 (1.6 – 6.7) | 7 | 0.6 (0.3 – 1.2) |
| Aggression*** | 44 | 21.0 (16.0 – 27.0) | 44 | 3.8 (2.8 – 5.0) |
| Depression*** | **61** | **29.0 (23.3 – 35.5)** | **213** | **18.2 (16.1 – 20.5)** |
| Anxiety*** | 47 | 22.4 (17.3 – 28.5) | 125 | 10.7 (9.0 – 12.6) |
| Euphoria | 1 | 0.5 (0.1 – 2.6) | 16 | 1.4 (0.8 – 2.2) |
| Apathy*** | 42 | 20.0 (15.2 – 25.9) | 34 | 2.9 (2.1 – 4.0) |
| Disinhibition*** | 18 | 8.6 (5.5 – 13.1) | 25 | 2.1 (1.5 – 3.1) |
| Irritability*** | **51** | **24.3 (19.0 – 30.5)** | **142** | **12.1 (10.4 – 14.1)** |
| Aberrant motor behavior*** | 46 | 21.9 (16.8 – 28.0) | 28 | 2.4 (1.7 – 3.4) |
| Nighttime disturbances*** | **74** | **35.2 (29.1 – 41.9)** | **137** | **11.7 (10.0 – 13.7)** |
| ≥ 1 symptom*** | 154 | 73.3 (67.0 – 78.9) | 429 | 36.7 (34.0 – 39.5) |

Hessler, J. B., Schäufele, M., Hendlmeier, I., Junge, M. N., Leonhardt, S., Weber, J., & Bickel, H. (2017). Behavioural and psychological symptoms in general hospital patients with dementia, distress for nursing staff and complications in care: results of the General Hospital Study. *Epidemiology and Psychiatric Sciences*, 1-10

SUPPLEMENTAL TABLE 1. Behavioral and psychological symptoms patients with dementia and complications in care.

| Complications | Expansive symptoms | | | | |
|---|---|---|---|---|---|
| | Aggression | Disinhibition | Irritability | Aberrant motor behavior | Nighttime disturbances |
| | odds ratio (95% confidence interval) | | | | |
| Nursing | | | | | |
| Fends off basic care | **30.60 (14.54 – 64.38)** | **4.14 (1.80 – 9.52)** | **6.51 (3.54 – 12.00)** | **3.29 (1.84 – 5.87)** | **1.99 (1.14 – 3.47)** |
| Fends off wound care | **7.16 (3.23 – 15.89)** | **8.05 (2.58 – 25.10)** | **4.43 (2.03 – 9.67)** | **9.75 (4.24 – 22.43)** | **3.57 (1.61 – 7.90)** |
| Fends off medication | **2.45 (1.39 – 4.31)** | 1.76 (0.77 – 4.05) | **2.45 (1.39 – 4.31)** | 1.43 (0.84 – 2.45) | 1.38 (0.84 – 2.29) |
| Pulls out catheters etc. | **5.26 (2.77 – 10.01)** | **3.69 (1.58 – 8.65)** | **4.00 (2.09 – 7.49)** | **5.48 (2.90 – 10.38)** | **4.78 (2.46 – 9.27)** |
| Food/drinks untouched | **3.34 (1.62 – 6.88)** | 1.43 (0.45 – 4.55) | 2.01 (0.97 – 4.13) | **2.11 (1.02 – 4.35)** | 1.96 (0.98 – 3.93) |
| Fends off feeding | **3.58 (1.48 – 8.66)** | 3.26 (0.88 – 12.06) | **3.84 (1.49 – 9.90)** | **2.70 (1.14 – 6.40)** | **2.78 (1.17 – 6.61)** |
| Throws food | † | **8.84 (2.20 – 35.43)** | **11.26 (2.28 – 55.65)** | **10.07 (2.04 – 49.70)** | 1.98 (0.52 – 7.57) |
| More time needed | **4.77 (2.41 – 9.45)** | **4.38 (1.46 – 13.13)** | **3.40 (1.80 – 6.43)** | **3.81 (2.05 – 7.08)** | **3.25 (1.89 – 5.57)** |
| Medical treatment | | | | | |
| Disobeys instructions | **6.30 (2.69 – 14.76)** | **6.14 (2.32 – 16.28)** | **4.97 (2.15 – 11.49)** | **2.46 (1.08 – 5.61)** | **3.03 (1.28 – 7.16)** |
| Fends off blood withdrawal etc. | **9.65 (3.29 – 28.30)** | **5.95 (2.01 – 17.62)** | **5.56 (2.06 – 15.03)** | **4.52 (1.68 – 12.15)** | **2.96 (1.06 – 8.28)** |
| Physical restraint in bed | **4.89 (1.78 – 13.42)** | **6.33 (2.12 – 18.91)** | **4.89 (1.78 – 13.42)** | **14.54 (4.04 – 52.27)** | **5.45 (1.73 – 17.23)** |
| Physical restraint in chair | **4.60 (1.41 – 15.01)** | **5.34 (1.49 – 19.16)** | **6.71 (1.95 – 23.08)** | **2.71 (0.85 – 8.69)** | 1.54 (0.48 – 4.90) |
| Application of bed rails | **1.94 (1.06 – 3.56)** | 0.98 (0.42 – 2.24) | 1.34 (0.75 – 2.40) | **2.22 (1.23 – 4.03)** | **1.90 (1.12 – 3.23)** |
| Transfer to single room or hall | **2.79 (1.47 – 5.29)** | **4.33 (1.86 – 10.05)** | **3.84 (2.02 – 7.27)** | **4.17 (2.21 – 7.86)** | **3.97 (2.07 – 7.61)** |
| Neurologic/psychiatric consult | **2.18 (1.02 – 4.67)** | **3.06 (1.18 – 7.97)** | **2.18 (1.02 – 4.67)** | **2.79 (1.33 – 5.87)** | **2.45 (1.15 – 5.22)** |
| Medication | | | | | |
| Antipsychotics | **2.25 (1.24 – 4.09)** | 2.21 (0.96 – 5.08) | **1.82 (1.00 – 3.30)** | **2.90 (1.63 – 5.17)** | 1.47 (0.85 – 2.56) |
| Anxiolytics | **2.81 (1.15 – 6.85)** | 1.52 (0.42 – 5.54) | 2.23 (0.91 – 5.49) | **4.24 (1.73 – 10.40)** | **7.55 (2.46 – 23.17)** |
| Antidepressants | 0.48 (0.22 – 1.03) | 0.83 (0.30 – 2.29) | 0.54 (0.26 – 1.14) | 0.75 (0.38 – 1.46) | 1.23 (0.67 – 2.25) |
| Hypnotics/sedatives | 0.96 (0.37 – 2.51) | 2.63 (0.90 – 7.73) | **2.61 (1.12 – 6.07)** | 1.49 (0.63 – 3.54) | **4.97 (1.89 – 13.08)** |
| Anti-dementia drugs | 1.16 (0.43 – 3.09) | 0.42 (0.05 – 3.25) | 0.87 (0.31 – 2.45) | 2.30 (0.95 – 5.57) | 2.16 (0.88 – 5.34) |
| Antiepileptics | 0.85 (0.37 – 1.97) | 1.61 (0.57 – 4.59) | 0.69 (0.29 – 1.65) | 0.70 (0.30 – 1.60) | 1.16 (0.57 – 2.40) |
| Analgetics | 0.84 (0.48 – 1.47) | **0.35 (0.14 – 0.87)** | 0.88 (0.51 – 1.53) | 0.66 (0.38 – 1.12) | 0.81 (0.49 – 1.34) |
| Behaviors | | | | | |
| Other patients complain | **4.88 (2.39 – 9.98)** | **3.87 (1.53 – 9.81)** | **6.25 (3.02 – 12.94)** | **2.86 (1.41 – 5.81)** | **7.69 (3.52 – 16.81)** |
| Rings bell very often | **2.65 (1.31 – 5.33)** | 1.84 (0.69 – 4.92) | **5.00 (2.47 – 10.09)** | 1.47 (0.72 – 3.01) | **2.64 (1.32 – 5.26)** |
| Experienced fall | 1.50 (0.64 – 3.48) | 1.66 (0.53 – 5.22) | 1.50 (0.64 – 3.48) | 1.78 (0.79 – 4.00) | 1.35 (0.61 – 2.97) |
| Shouts/calls for help | **11.40 (5.60 – 23.22)** | **5.09 (2.18 – 11.92)** | **7.80 (3.94 – 15.46)** | **7.79 (3.92 – 15.50)** | **4.75 (2.39 – 9.44)** |
| Insults others | † | **5.86 (2.23 – 15.42)** | **14.52 (5.51 – 38.23)** | **4.18 (1.82 – 9.61)** | **2.73 (1.19 – 6.29)** |

Hessler, J. B., Schäufele, M., Hendlmeier, I., Junge, M. N., Leonhardt, S., Weber, J., & Bickel, H. (2017). Behavioural and psychological symptoms in general hospital patients with dementia, distress for nursing staff and complications in care: results of the General Hospital Study. *Epidemiology and Psychiatric Sciences*, 1-10

SUPPLEMENTAL TABLE 1 CONTINUED. Behavioral and psychological symptoms patients in patients with dementia and complications in care.

| Complications | Psychotic symptoms | | Affective symptoms | | |
|---|---|---|---|---|---|
| | Delusions | Hallucinations | Depression | Anxiety | Apathy |
| | odds ratio (95% confidence interval) | | odds ratio (95% confidence interval) | | |
| Nursing | | | | | |
| Fends off basic care | **3.30 (1.15 – 9.47)** | 3.61 (0.94 – 13.87) | 1.29 (0.72 – 2.31) | **3.36 (1.86 – 6.05)** | 1.74 (0.93 – 3.26) |
| Fends off wound care | 1.60 (0.31 – 8.31) | 2.47 (0.22 – 28.05) | 0.90 (0.39 – 2.08) | 1.46 (0.67 – 3.20) | 1.12 (0.47 – 2.68) |
| Fends off medication | 1.16 (0.41 – 3.31) | 1.08 (0.28 – 4.11) | 1.00 (0.59 – 1.72) | 1.52 (0.87 – 2.65) | 1.55 (0.86 – 2.80) |
| Pulls out catheters etc. | 1.42 (0.43 – 4.71) | 1.15 (0.23 – 5.86) | 1.18 (0.61 – 2.27) | 1.64 (0.86 – 3.14) | 1.31 (0.66 – 2.60) |
| Food/drinks untouched | **5.45 (1.85 – 16.09)** | 2.87 (0.68 – 12.02) | 1.86 (0.92 – 3.78) | 1.95 (0.94 – 4.07) | **3.88 (1.82 – 8.29)** |
| Fends off feeding | 3.60 (0.62 – 20.82) | 0.83 (0.72 – 9.50) | 2.10 (0.85 – 5.18) | **3.60 (1.39 – 9.36)** | 1.67 (0.69 – 4.04) |
| Throws food | **6.08 (1.12 – 33.10)** | 4.29 (0.47 – 39.09) | 3.13 (0.82 – 11.97) | **6.54 (1.59 – 26.97)** | 1.93 (0.47 – 7.99) |
| More time needed | **11.53 (1.49 – 89.03)** | 2.76 (0.56 – 13.53) | 1.04 (0.61 – 1.78) | **1.87 (1.05 – 3.34)** | **2.26 (1.20 – 4.28)** |
| Medical treatment | | | | | |
| Disobeys instructions | 0.68 (0.09 – 5.40) | 1.17 (0.14 – 9.77) | 1.14 (0.47 – 2.76) | 1.45 (0.60 – 3.54) | 1.79 (0.73 – 4.36) |
| Fends off blood withdrawal etc. | **4.18 (1.05 – 16.61)** | 4.78 (0.91 – 25.15) | 0.51 (0.14 – 1.84) | **3.28 (1.24 – 8.66)** | 1.08 (0.34 – 3.43) |
| Physical restraint in bed | 1.05 (0.13 – 8.45) | 4.90 (0.93 – 25.79) | 1.11 (0.37 – 3.30) | 2.13 (0.78 – 5.85) | 1.15 (0.36 – 3.67) |
| Physical restraint in chair | 1.55 (0.19 – 12.89) | 2.76 (0.32 – 24.06) | 1.22 (0.36 – 4.19) | 0.96 (0.25 – 3.65) | 1.25 (0.33 – 4.77) |
| Application of bed rails | 1.77 (0.55 – 5.73) | 5.20 (0.64 – 42.17) | 0.91 (0.53 – 1.57) | **2.28 (1.23 – 4.22)** | **1.97 (1.03 – 3.76)** |
| Transfer to single room or hall | 2.21 (0.72 – 6.76) | 2.19 (0.53 – 9.08) | 0.69 (0.34 – 1.40) | 1.70 (0.89 – 3.27) | 0.99 (0.47 – 2.07) |
| Neurologic/psychiatric consult | 1.97 (0.53 – 7.42) | **6.70 (1.70 – 26.46)** | 1.45 (0.67 – 3.11) | 2.07 (0.97 – 4.42) | 1.49 (0.65 – 3.42) |
| Medication | | | | | |
| Antipsychotics | **9.01 (2.76 – 29.36)** | 2.40 (0.63 – 9.22) | 0.97 (0.53 – 1.77) | 1.75 (0.97 – 3.18) | 1.19 (0.62 – 2.31) |
| Anxiolytics | 1.75 (0.37 – 8.32) | 3.50 (0.68 – 18.06) | 1.47 (0.59 – 3.66) | 1.40 (0.55 – 3.59) | 0.84 (0.27 – 2.59) |
| Antidepressants | 0.24 (0.03 – 1.86) | ‡ | **1.91 (1.04 – 3.52)** | 1.70 (0.91 – 3.18) | 1.11 (0.55 – 2.24) |
| Hypnotics/sedatives | ‡ | 1.19 (0.14 – 9.90) | **2.54 (1.10 – 5.85)** | 1.15 (0.46 – 2.88) | 0.96 (0.34 – 2.67) |
| Anti-dementia drugs | 1.85 (0.39 – 8.83) | 1.45 (0.17 – 12.18) | 0.93 (0.35 – 2.47) | 1.75 (0.70 – 4.38) | 0.58 (0.17 – 2.05) |
| Antiepileptics | 1.63 (0.44 – 6.08) | 0.78 (0.09 – 6.39) | 0.99 (0.45 – 2.18) | 1.89 (0.89 – 4.00) | 1.33 (0.59 – 3.03) |
| Analgetics | 0.90 (0.32 – 2.57) | 0.51 (0.12 – 2.08) | 1.28 (0.75 – 2.17) | 0.79 (0.45 – 1.37) | 1.01 (0.56 – 1.83) |
| Behaviors | | | | | |
| Other patients complain | 3.13 (0.97 – 10.10) | **8.52 (1.95 – 37.24)** | 1.28 (0.63 – 2.63) | 1.93 (0.94 – 3.96) | 0.89 (0.38 – 2.07) |
| Rings bell very often | 2.16 (0.65 – 7.16) | 1.68 (0.34 – 8.38) | 1.56 (0.77 – 3.16) | 1.29 (0.61 – 2.69) | 1.09 (0.49 – 2.44) |
| Experienced fall | **3.59 (1.06 – 12.18)** | 2.62 (0.52 – 13.29) | 1.17 (0.50 – 2.71) | 1.42 (0.61 – 3.31) | 1.56 (0.65 – 3.75) |
| Shouts/calls for help | **6.38 (2.18 – 18.62)** | **19.90 (3.98 – 99.42)** | 1.32 (0.67 – 2.57) | **2.91 (1.51 – 5.62)** | 1.34 (0.64 – 2.79) |
| Insults others | **5.70 (1.78 – 18.31)** | **14.50 (3.61 – 58.32)** | 1.36 (0.58 – 3.20) | 1.96 (0.84 – 4.56) | 0.86 (0.31 – 2.39) |

# Common cases:

1. Behavioural or cognitive crisis in community setting (+/- dementia diagnosis)
2. Carer burden and stress in community setting with increasing responsive behaviours (+/- dementia diagnosis)
3. Polypharmacy from psychoactive medications for responsive behavior management (multiple benzo's and antipsychotics)
4. New illness or injury i.e. fracture (+/- dementia diagnosis)
5. Usually compounded by delirium

# “Diane” (Case 1)

## Presentation

- 86-yr female injured in MVA (she was driver at fault)
- Left arm laceration requiring surgical repair
- On surgical ward,
  - ❖ STM deficits alongside agitation – aggression plus purposeful elopement.
  - ❖ High levels of anxiety apparent.
- Ward staff note: not remembering names or events from 30 minutes prior, disorientated and lacks insight into hospitalisation
- Lives alone (no family but some friends)
- Transferred to medical ward once wound healing well (surgically ready for discharge)
- Requiring further investigation of cognition and whether current living arrangements appropriate

# Determination of a dementia diagnosis

- **Dementia is a clinical diagnosis**
- History- patient and informant
  - Social and educational history
  - Medical/ surgical history esp vascular
  - Medications
  - Psychiatric history
  - Rule out other disorders
  - Cognitive impairment history
    - Temporal evolution
    - Language,hallucinations sleep, movement issues

# Determination of a dementia diagnosis

- Physical examination
- Investigations
  - Radiology- CT Brain/ MRI/ PET MRI
  - Bloods
- Formal Cognitive assessment
  - AMT
  - MMSE/ RUDAS/ MOCA
  - ACE3
  - Neuropsychological assessment

# Determination of a dementia diagnosis: Dementia Subtypes

- Alzheimer's type dementia
- Vascular Dementia
- Frontotemporal dementia
  - Bv-FTD
  - Semantic dementia
  - Progressive non-fluent aphasia
- Lewy body dementia/ Parkinson' dementia
- Alcohol related dementia
- Brain injury
- Chronic psychiatric disease

# “Diane” (Case 1)

## Presentation

- 86yr female admitted post MVA with laceration to left arm (required surgery - healing well).
- Significant cognitive impairment noted in hospital plus behavioural symptoms of agitation, aggression, anxiety.
- Poor social supports - Lives alone (no family)
- Further investigation of cognition required

## Cognitive History (2 friends + GP)

- Repeated phone calls to friends started about one-and-a- half-years ago - several a day with repetitive topics/themes
- Not able to play bridge anymore 1 year ago
- Forgetting that friends had recently visited and missing social engagements 9th months ago
- Friends noted house not well kept and food going off in pantry 6 months ago
- Increased phone calls with element of anxiety about possible house intruders noted 3-4 months ago. Having difficulty remembering friends names at times.
- GP noted spate of appointment made in last 6 months but all missed. Noted SMT deficits developing 1 yr ago.

## Cognitive assessment

- Delirium screening negative (attentive, alert, not fluctuating)
  - MSQ 2/10
  - Attentional tasks – months of year (achieved ¾ accurately); world (1 mistake), digit span forward 5
- MMSE – 18/30 (poor SMT; poor planning and visiospatial)
- Functional tasks – e.g. making tea (poor initiation and planning)

## Tests: scans & bloods

- Brain mass loss
- No other reversible signs found (re mases etc.)
- Bloods normal

## Physical & medical assessment

- Visual impairment
- Any benign symptoms?
- No constipation
- Uses wheely walker

# “Diane” (Case 1)

## Presentation

- 86 yr female admitted post MVA with laceration to left arm (required surgery - healing well).
- Significant cognitive impairment noted in hospital plus behavioural symptoms of agitation, aggression, anxiety.
- Poor social supports - Lives alone (no family)
- Further investigation of cognition required

## Diagnosis

- Alzheimer’s Dementia
- Significant deficits in SMT, planning and visio-spatial
- Fluent speech but with word finding difficulties
- Lacks insight into deficits and situation
- For QCAT

## Responsive behaviours

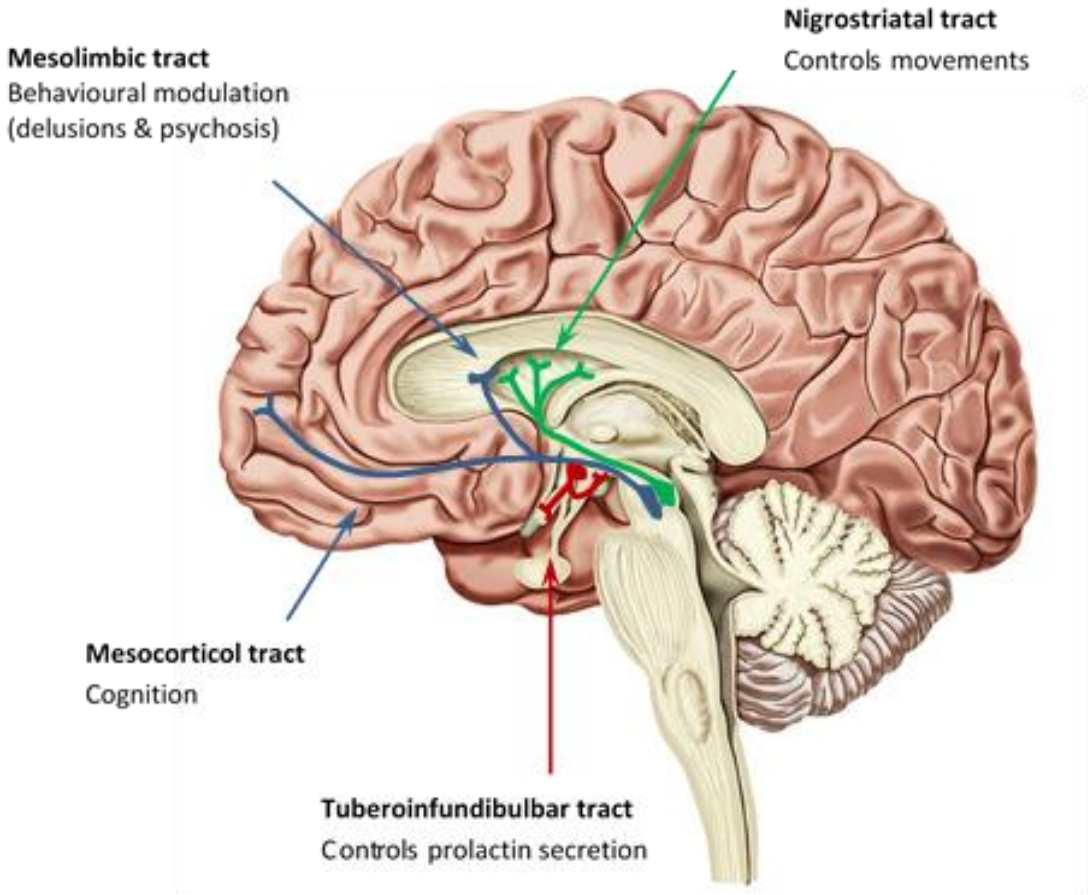
- On ward for 2 weeks - post diagnosis of dementia (QCAT hearing not for another 2 months time)
- Daily pattern of responsive behaviours noted with responsive behaviours becoming severe at lunch time onwards.
- Diane would often run screaming to the nursing station, hysterically sobbing, accusing people of trying to cause her harm, keeping her captive and claiming her mother and father would be distressed and expecting her home soon.
- At this point, she would often become combative on attempts at redirection. Would often be administered an antipsychotic (risperidone 0.5mg) which would have a moderate sedative effect at times.
- Generally, first signs of behavioural escalation involve increased anxiety about “what is going on”

## Medications

- Risperidone 0.5mg PRN - frequent (every 2-days)
- Often 2-doses used

# Antipsychotic medications

## Dopaminergic Pathways (Most antipsychotics have effects on all these pathways but to widely varying degrees)



# Types

Antipsychotics are broadly classified into two groups:

- Typical anitipsychotics (1st generation)
  - Haloperidol, Droperidol, Chlorpromazine, Flupentixol, Zuclopentixol, Tripluoperazine
- Atypical antipsychotics (2nd generation)
  - Risperidone, Olanzipine, Quetiapine, Clozapine, Amisulpiride, Arpriprazole have effects on both dopaminergic and serotonergic receptors (5-HT2)

# Anti-psychotics – adverse outcomes

## Dementia

Caution in Lewy Body Dementia and Parkinson's disease (risk of adverse events very high)

### Extra-pyramidal side effects (EPSE)

- Parkinsonism – tremor, rigidity and slow initiation of movements
- Akathisia – internal restlessness (within several days of treatment)
- Dystonia – muscle spasm or abnormal muscle tone (24-48hrs of treatment)
- Tardive dyskinesia – involuntary movements of the face mouth, neck and limbs after long term use
- Neuroleptic Malignant Syndrome (rare now)

### Other adverse events (risk increases with longer treatment period and higher doses)

- Increased risk of falls and fracture
- Up to 3 times risk of cerebrovascular events (stroke)
- Long QT wave, cardiovascular events
- Increased risk of mortality from any cause
- Sedation, fatigue, oedema, urinary symptoms, increased cognitive decline and anticholinergic effects such as delirium
- High doses may lead to respiratory depression and over sedation with aspiration



Ballard & Howard, 2006; Herrmann et al., 2004; Lonergan et al., 2002; Maglione et al., 2011; Schneider et al., 2005; Schneider, Dagerman, & Insel, 2006b

# Anti-psychotics – adverse outcomes

## Delirium:

Insufficient evidence for use to prevent or manage delirium

## Adverse events

- Stroke
- Seizures
- Cardiac Q-T wave prolongation
- Sudden cardiac death

Therefore, temporary 1st line use of antipsychotics for sedative purposes in dementia and delirium, is only deemed acceptable in cases where symptoms are severe and causing extreme distress or danger

Inouye, S. K., Marcantonio, E. R., & Metzger, E.D. (2014). "Doing damage in delirium: the hazards of antipsychotic treatment in elderly people." The Lancet Psychiatry 1(4): 312-315.

Inouye, S. K., Marcantonio, E. R., & Metzger, E.D. (2014). "Delirium in elderly people." Lancet 383(9920): 911-922.

| Route | Drug Class | Medications | Side effects | Initial dose | Max dose | Caution |
|---|---|---|---|---|---|---|
| Oral | Antipsychotic | Risperidone quicklet, tablet, syrup | Postural hypotension*<br>Drowsiness | 0.25-0.5 | 2mg/24hr | Caution in DLB & PD |
| | | Olanzapine wafer, tablet | Hypotension & bradycardia* | 2.5 | 10mg/24hr | Caution in DLB & PD |
| | | Quetiapine | Hypotension, sedation | 25mg | 100mg/day | Caution in DLB & PD |
| | | Haloperidol tablet | EPSE*<br>Lower incidence of postural hypotension than atypical's | 0.25 – 0.5 | 2mg/24hr | **Avoid in DLB & PD – high risk of EPSE** |
| IMI | Antipsychotic | Haloperidol** (vial 5mg) | EPSE*<br>IM is 2x stronger than PO | 0.25 – 0.5 | 2mg/24hr | **Avoid in DLB & PD– high risk of EPSE** |
| | | Olanzapine (vial 5mg) - **Only in behavioural crisis** | Postural hypotension & bradycardia*<br>Drowsiness, Weight gain, Constipation | 2.5 | 5mg/24hr | Caution in DLB |

* High risk of stroke
** IM Haloperidol 1mg = 2mg oral (caution with PRN IM/PO orders)

# Behavioural Emergency – sedation (rescue meds)

## When behavioural risk outweighs adverse effects

- First Line
  - Oral medical haloperidol/ risperidone 0.25-0.5mg stat
  - Review at 30-60 minutes and repeat if needed

- Second Line
  - Haloperidol 0.25mg to 0.5mg stat
  - Review at 30min and repeat to max of 2mg in 24hours

- When rescue medications are used every day they essentially become regular – warrants pharmacy review and/or geriatric specialist review

# “Diane” (Case 1)

## Presentation

- 86 yr female admitted post MVA with laceration to left arm (required surgery - healing well).
- Significant cognitive impairment noted in hospital plus behavioural symptoms of agitation, aggression, anxiety.
- Poor social supports - Lives alone (no family)
- Further investigation of cognition required

## Diagnosis

- Alzheimer’s Dementia
- Significant deficits in SMT, planning and visio-spatial
- Fluent speech but with word finding difficulties
- Lacks insight into deficits and situation
- For QCAT

## Responsive behaviours

- Rhythmic pattern of anxious behaviour (daily at 12-noon)
- Often difficult to assure and de-escalate
- PRNs used 2nd-daily

## Medications

- Risperidone 0.5mg PRN - (average every 2-days)

# Treatment of Responsive Behaviours (BPSD)

1. Address *unmet needs* or *lowered stress threshold* plus *medical provocations – illness, delirium , pain*

2. Attempt **non-pharmacological** approaches first

3. Unless in extreme distress or have pain

4. Drugs *should complement, not replace*, non-pharmacological approaches – Try SSRIs (e.g. citalopram, mirtazapine) before moving to regular antipsychotic medications

5. Stipulate target symptoms for antipsychotics. Always consider de-prescribing after 12 weeks

Guideline Adaptation Committee. Clinical Practice Guidelines and Principles of Care for People with Dementia. Sydney. Guideline Adaptation Committee; 2016. http://sydney.edu.au/medicine/cdpc/documents/resources/CDPC-Dementia-Guidelines_WEB.pdf

# Non-pharmacological interventions

Identifying and modifying environmental and social precipitants

a) Establish personal preferences around eating, hygiene, routines and socialisation/recreation

b) Establish approaches to communication

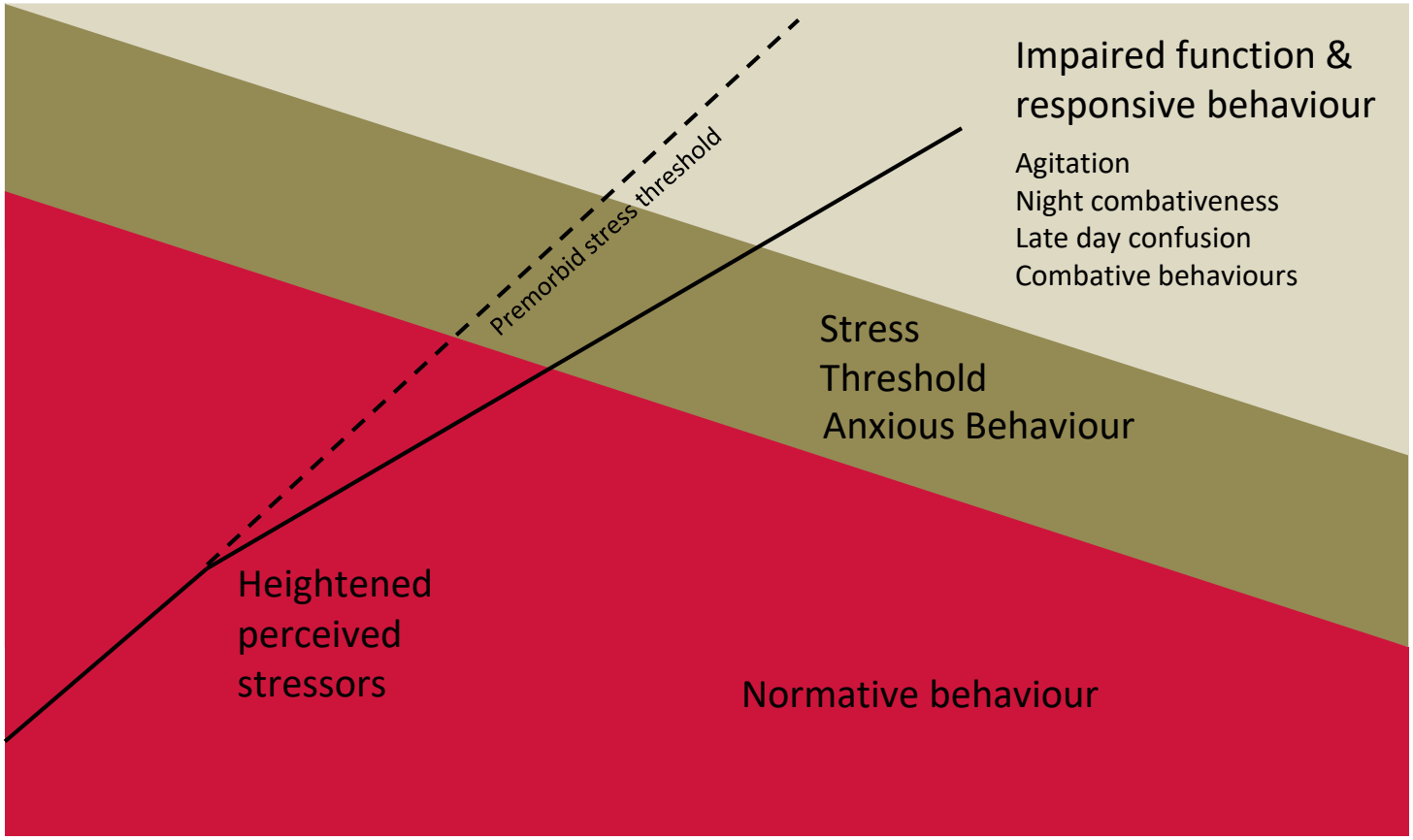
c) Careful establish and modify any environmental and social triggers to behaviour

d) Facilitate engagement in meaningful social and recreational activity



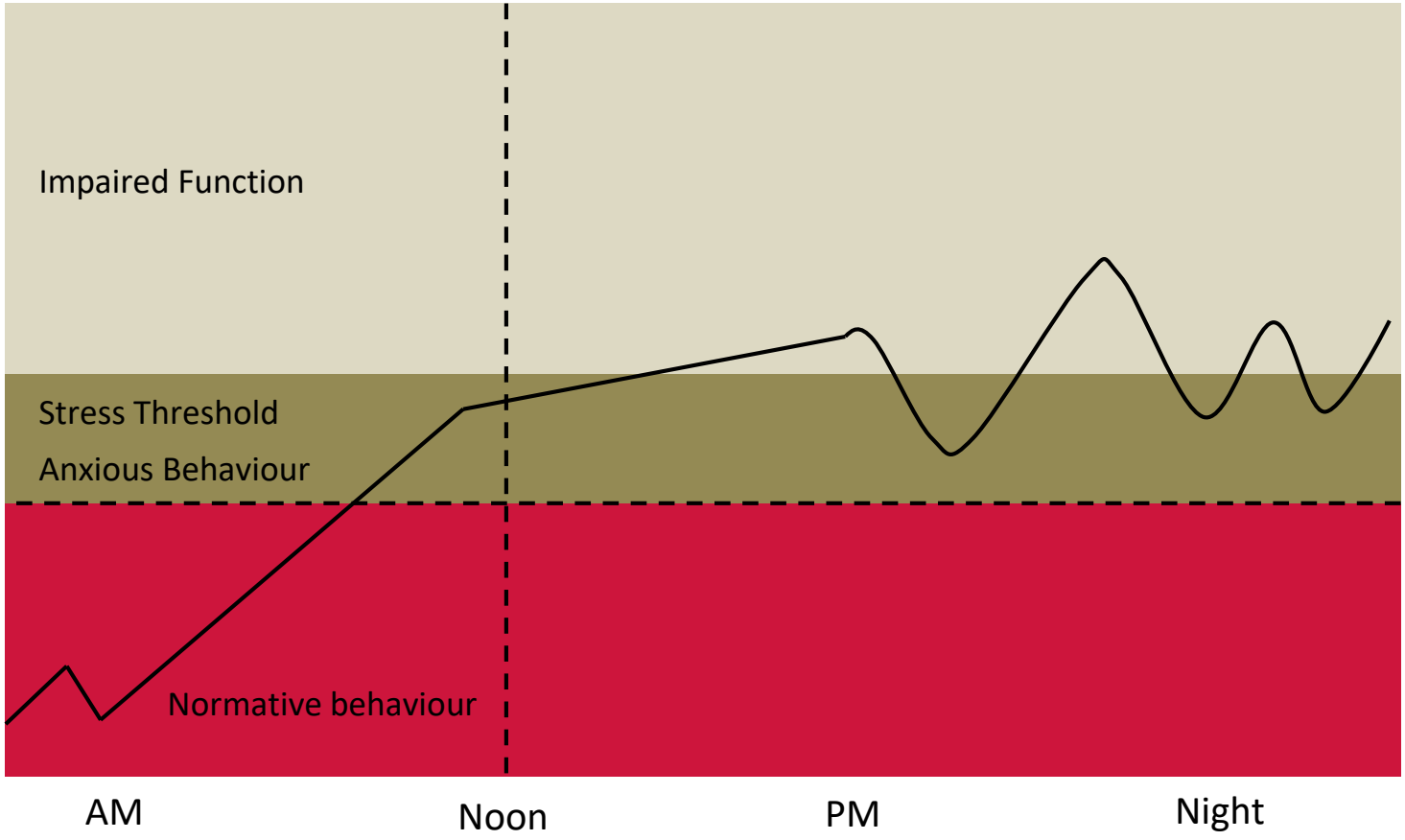
# Progressively Lowered Stress Threshold (PLST)

A lowered ability to deal with everyday stressors means that environmental demands (internal & external) exceed a persons ability to cope resulting in responsive behaviours




Smith, M., Gerdner, L. A., Hall, G. R., & Buckwalter, K. C. (2004). History, development, and future of the Progressively Lowered Stress Threshold: a conceptual model for dementia care. *Journal of the American Geriatrics Society, 52*(10), 1755-1760.

Responsive behaviours may have a temporal pattern. As stress accumulates during the day, a persons threshold is eventually exceeded, and by afternoon or evening they may cycle between anxious and impaired function (responsive behaviours).

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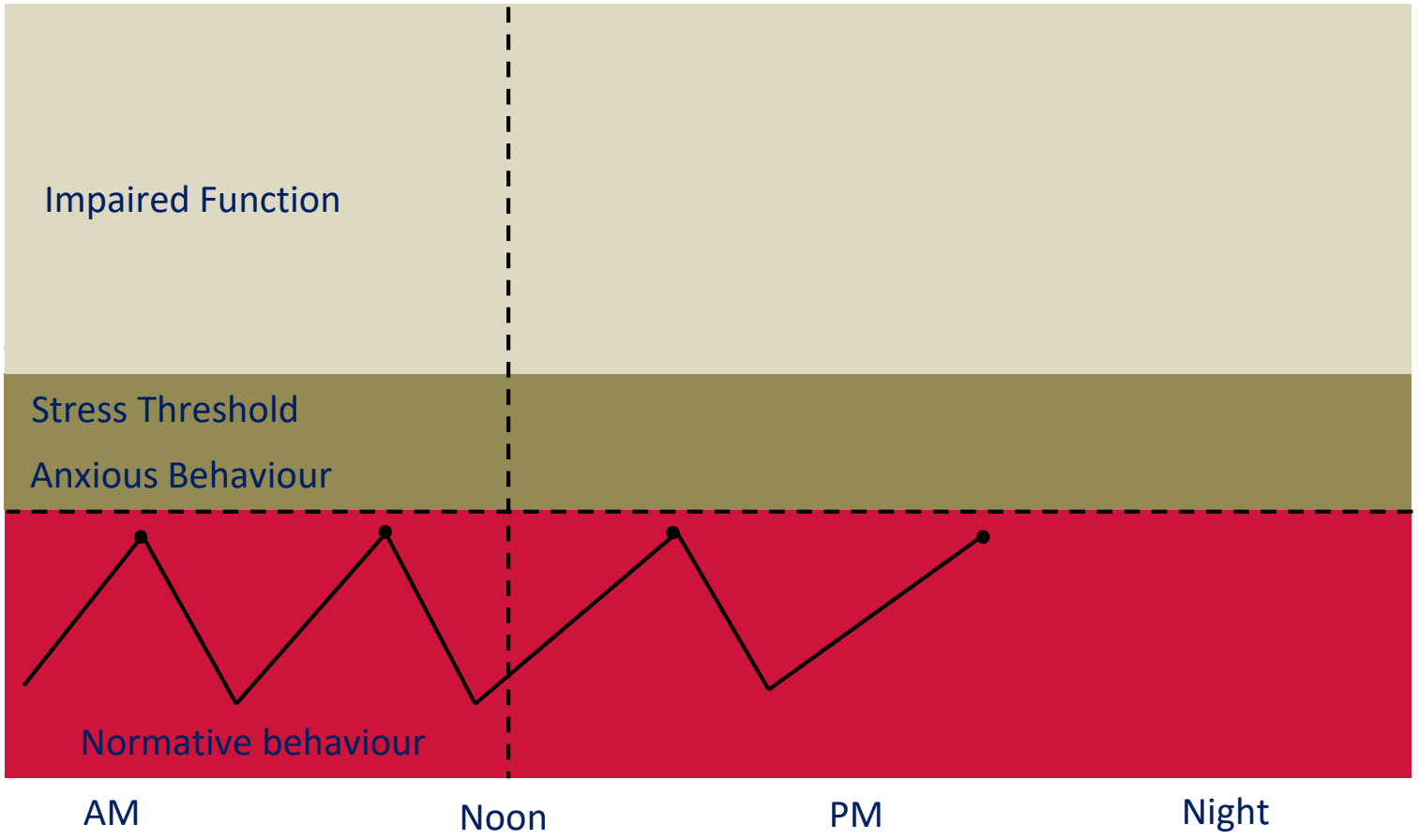
Through targeted and timely interventions, stressors can be reduced, thereby avoiding anxious behaviour, more impaired functioning and responsive behaviours.

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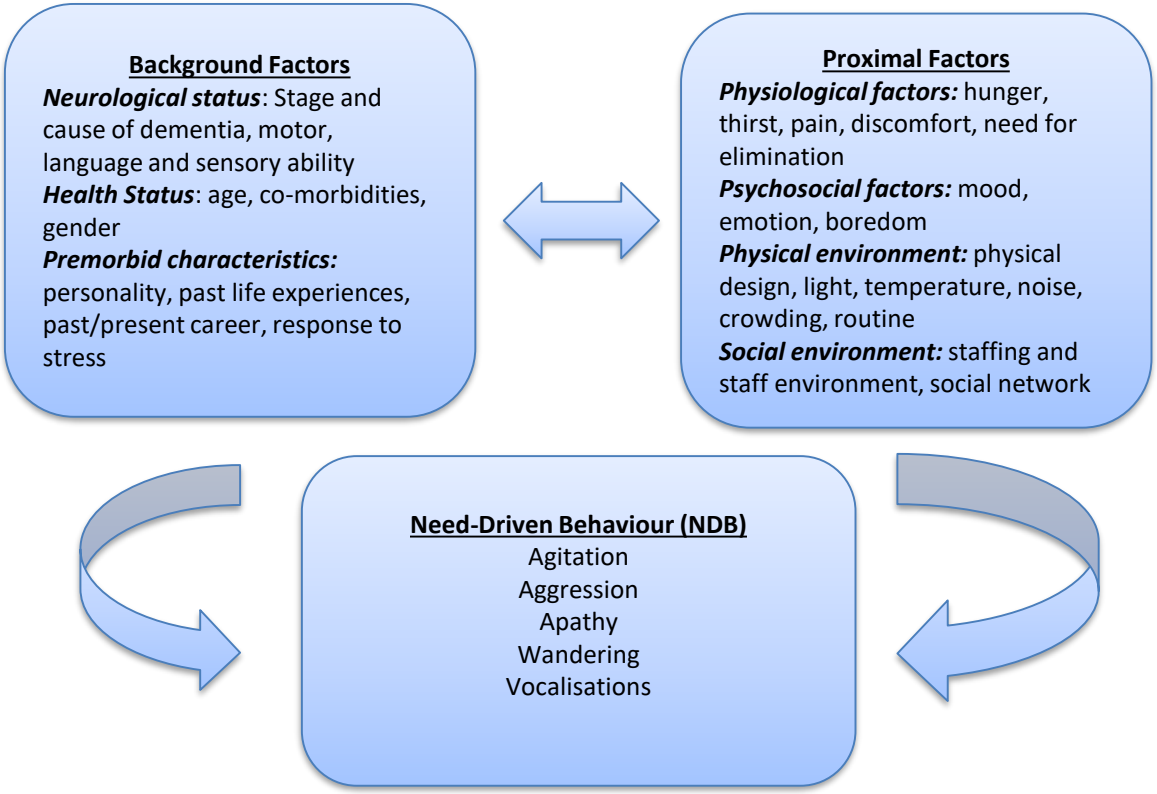
# Why responsive behaviours occur

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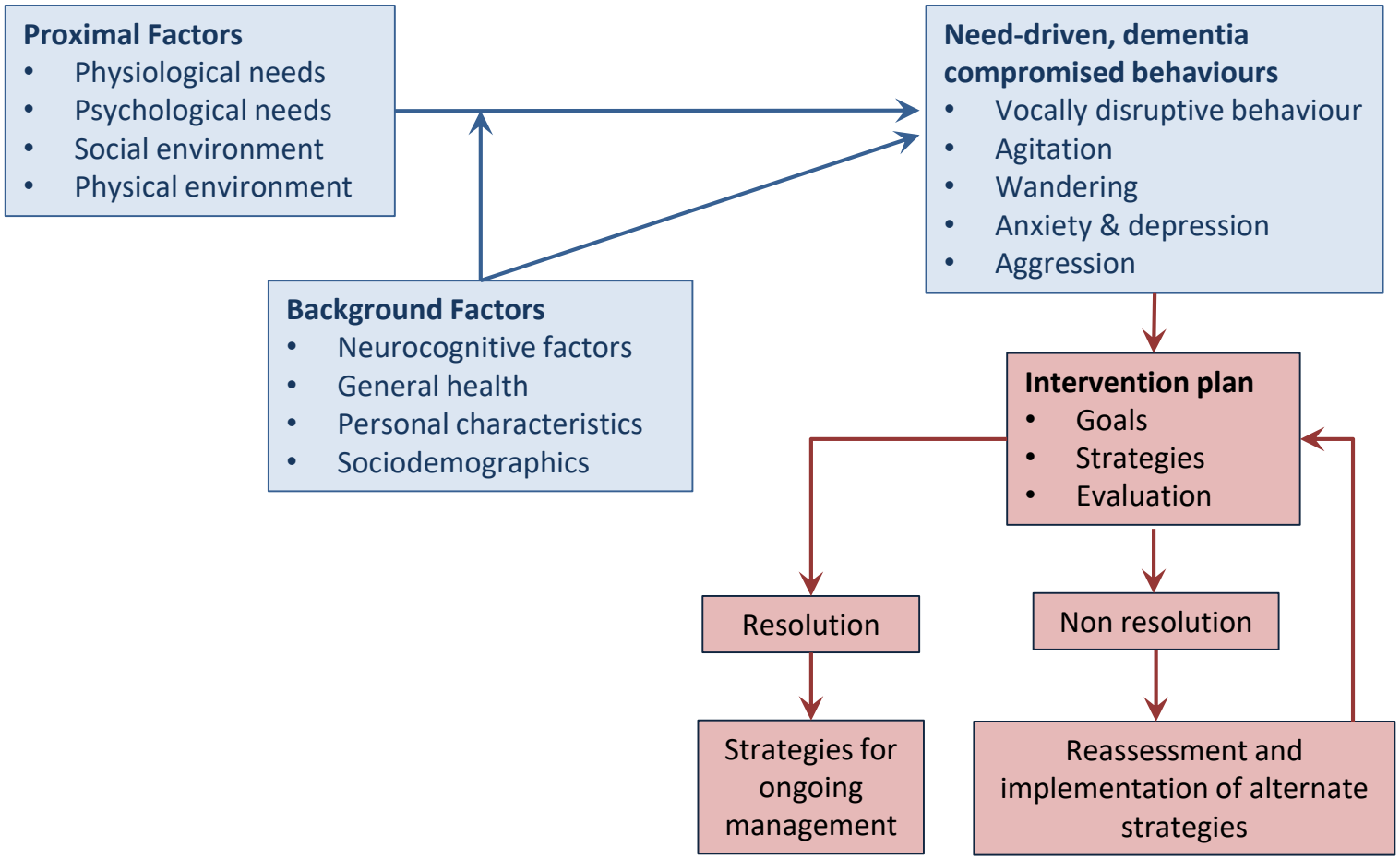


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# “Diane” (Case 1)

## Presentation

- 86-yr female with AD
- Experiencing Responsive Behaviours of anxiety and agitation with rhythmic/temporal nature .
- Awaiting RACF post QCAT hearing

## Cognition Support Plan: (i.e. behavioural plan)

Diagnosis:

- Lack of meaningful activity in mornings leading to build up of stress and anxiety.
- Avoid triggers:
  - Noise, overcrowding, boredom
- Provide care in line with patient preferences: night time shower
- Introduce purposeful social and recreational activity in mornings (as daily routine):
  - Playing cards at cognitive level
  - Visits to community garden
  - Music listening
  - Dance and performance
  - Pampering day (nails and feet)
  - Arts and crafts – painting, adult colouring and drawing

## Biography

- Grew up in Brisbane, only child of wealth family
- Lives alone in family home. Had relationships early in life but never married or partnered
- In early to mid-life was an accomplished performer on stage and as musician on radio. Played piano and sang.
- Remained an active member of theatre ad musical preference community groups into later life
- According to friends, loved a party and social occasions.
- Enjoyed gardening, playing cards (500 and bridge), painting and music performance.

## Outcome

- Reduced frequency and intensity to once a week
- Mostly managed non-pharmacologically with communication and diversion
- Little to no use of PRN risperidone for next 2-months
- Placed to RACF with only PRN risperidone in place
- 2 months after placement very little anxiety reported

DAY 1

# "Patricia" (Case 2)

## Presentation

- 82yr female admitted with agitation, paranoia, anxiety and confusion
- Cognitive impairment for investigation
- Recent indicators of possible UTI

## Medical history

- Meniere's disease
- OA
- rheumatic fever 1944
- BCC
- HTN
- Osteoporosis
- cholecystectomy 2002
- AR 2005
- TIA 2007
- keratosis
- Fractures (wrist)
- Hip replacement

## Medications

- Metoprolol
- Bactroban cream
- Prolia injection
- Systane eye drops
- Trimethoprim

## Tests: scans & bloods

CT

- periventricular hypodensity

Bloods

- TFT normal
- B12/folate normal
- Electrolytes normal
- Hb normal

Urine (MSU)

- NAD

## Physical Assessment

- Gait normal
- Nil parkinsonism
- FNT normal
- Nil nystagmus
- UL/LL power/tone/reflex normal

## Working diagnosis

- Alzheimer's type dementia
- BPSD of depression, delusions
- Possible delirium

## Cognitive screens

Screens

- MMSE – 18/30
- MSQ – 1/10

3-Item:- Registration good, recall poor (0/3)

Attention:

- WORLD backwards - fast and accurate
- Digit span of 6 forwards only
- Month of year: forwards - accurate, backwards - would not attempt

Delirium screen:

- CAM -ve – acute, nil fluctuation; attentive, vigilant, disorganised thinking

## Cognitive & behavioural history

**Collateral from Son**:

- Memory decline for 2yrs (last 2-months deficits in daily tasks, crosswords and scratchie's)
- Paranoia and aggression toward family over 6 month (worse in last month - "everyone one is out to get her" and people are "stealing her property")

**Supported accommodation account**:

- Normally independent with medications (staff prompts)
- Recently, when emotive, may verbalise self harm
- Increasing aggression, paranoia and disorientation over past 3 months

DAY 6

# "Patricia" (Case 2)

## Presentation

- 82yr female admitted with agitation, paranoia, anxiety and confusion
- Cognitive impairment for investigation
- Recent indicators of possible UTI

## Working diagnosis

- Alzheimer's type dementia
- BPSD of depression, delusions
- Possible delirium

## Care plan:

**Pharmacological**

- Introduce Risperidone 0.5mg daily
- Introduce Citalopram 10mg nocte

**Non-pharmacological**

- Attempt to explore care preferences (refusing to disclose preferences at this stage)
- Attempt introduce meaningful activity and opportunities for socialisation (refusing to engage)

## Behavioural crisis & management

**Observed events**:

- 4 x bizarre behavioural events acting like an animal, manic-like with hysterically laughter
- Refusing medications and all cares (hostile and suspicious) : becoming hostile and aggressive and accusing all people round her of trying to hurt her, torture her or kill her
- Suspicious of all staff and reserved in interactions.
- Not sleeping well (2 hrs periods).

## Nursing Impression:

- Paranoid delusions that are severe and preventing engagement with any non-pharmacological approaches leading to resistance to cares (or reactive aggression)
- Refusing all oral medications therefore Risperidone and citalopram not taken.

DAY 7

# "Patricia" (Case 2)

## Presentation

- 82yr female admitted with agitation, paranoia, anxiety and confusion
- Cognitive impairment for investigation
- Recent indicators of possible UTI

## Working diagnosis

- Alzheimer's type dementia
- BPSD of depression, delusions
- Resolving/resolved delirium

## Geriatric Team Review:

- Complaining of lower back pain
- Suspected constipation (hard abdomen, BNO x 4 days)
- Attentive, alert and vigilant
- Paranoia and persecutory ideation highly evident
- Resistant and guarded throughout review

## New plan

**Impression:**

- Treatment for delusions with antipsychotic medication indicated
- Treat pain (analgesia) and constipation (laxative)
- Continue attempting psychosocial approaches

**Pharmacological**

- Change Risperidone to Olanzapine 2.5mg PO BD and use IM (PRN) if refusing
- PRN olanzapine (oral/IM)
- Citalopram 10mg nocte
- Norspan patch 5mcg (applied to mid-back)

**Non-pharmacological**

- Single room with special (reduce stimulation; observe for self harm)
- Attempt psychosocial strategies

# Anti-psychotics are indicated for psychosis

- Start low go slow
- Review at 12 weeks
- Watch for EPSE and Akathisia (internal agitation)
- Reserve for true psychosis (hallucinations, delusions)

- Haloperidol 0.5mg daily or bd (max 2mg)
- Risperidone 0.5mg daily or bd (max 2mg)
- Olanzapine 2.5mg daily or bd (max 10mg)
- Quitiepine 25mg daily or bd (max 100mg)

DAY 20

# "Patricia" (Case 2)

## Presentation

- 82yr female with AD and Responsive Behaviours involving paranoid delusions.
- For RACF placement

## Situation:

- 3-weeks in single-room with special.
- Regular IM olanzapine used over 1st week and half
- Oral olanzapine used for past week
- Resistance to care and paranoia dissipated
- Engaging in activities and cares

**Review**

- Attentive, alert and vigilant
- No hostility and resistance
- Complaining of lower back pain

## Outcome

4 weeks

- No behavioural events and nil sign of delusions
- Engaged in social and recreational activities
- Formed friendships and has improved well-being
- Discharge to new RACF with plan to cease antipsychotic in 4 weeks

## Updated plan

**Impression:**

- Taking oral antipsychotic and SSRi consistently
- Continue to explore pain management
- Explore effective psychosocial aspects of care plan

**Pharmacological**

- Olanzapine 2.5mg (BD)
- Increase Citalopram to 20mg nocte
- Norspan patch (5mcg)
- Paracetamol 1mg (TDS)
- PRN olanzapine (oral & IM)

**Non-pharmacological**

- Dementia-care unit (shared 4 bed bay)
- Social and recreational activity:
  - ❖ Group outings to community garden
  - ❖ Music and dance
  - ❖ Group card games
  - ❖ Adult colouring
  - ❖ Story telling and socialisation:
  - ❖ Reminiscence : pictures of beaches (her favourite place)

## 3-month follow-up (RACF)

- Olanzapine ceased
- Psychotic symptoms did not reappear.
- Pain an intermittent and ongoing issue

# “Donald” (Case 3)

## Presentation

- 58yr male with early onset AD (3-yrs diagnosed) admitted from home with unmanageable confusion
- Agitation and aggression toward wife
- GP has been increasing doses of medication to assist wife at home.

## Medications

Regular (on admission):

- Oxazepam 15mg TDS (45mg/day)
- Risperidone 1.5mg BD (3mg/day)
- Temazepam 10mg nocte

Hospital PRN use:

- Haloperidol 1mg IMI x 3 today
- Haloperidol 1mg IMI x 1 day previous

## Observed symptoms (past 3 days)

- Very agitated and constantly walking corridors.
- Intrusive and very to gain attention or redirect escalating to physical aggression/combativeness.
- Interrupted sleep – (2-hrs naps)
- Gait difficulty and at times unsteady.

## Review

- Unable to engage in interview
- Highly distractible + constant restlessness/agitation.
- Profound word finding difficulties
- Bloods, urine leucocytes NAD

## Working diagnosis

- Delirium superimposed on dementia 2$^{nd}$ to high benzo’s and high antipsychotic doses
- Akathisia present

## Plan

- Reduce mane Risperidone to 0.5mg and keep nocte at 1.5mg
- Special in single room
- Attempt to engage in activities try - craft, colouring, building models
- Try to avoid IM haloperidol as much as possible

# Drug induced delirium – requires de-prescibing

- Anticholinergic toxicity
  - Sedation, confusion, cognitive decline, hallucinations, constipation, urinary retention
  - 1st gen antihistamines
  - Antiparkinsonian agents
  - Tricyclic antidepressants
  - Anti-muscarinics
  - Anti-psychotics
  - Anti-spasmodics
- Analgesics
- Cardiac meds- digoxin, B-blockers
- Steroids
- Benzodiazepines, (caution withdrawal may cause delirium)

# “Donald” (Case 3)

## Presentation
- 58yr male with early onset AD
- Polypharmacy induced delirium and akathisia

## Working diagnosis
- Underlying seizure activity explains behaviours inability to engage in or sustain non-pharmacological measures
- Polypharmacy still a compounding factor

## Biography
- Multiple professions including a mechanical engineer, electrical engineer and business man.
- Grew up in rural NSW to German born parents.
- Is multilingual – speaking 5 different languages prior to his illness.
- Was an inventor and had a hobby of flying light plans.
- Married wife in early adulthood and they have three children.

## Observed symptoms (past 3 days)
- Minimal reduction in symptoms.
- Periods of vacant staring (5-10 secs) and arm twitching (several a day).

## On Review
- Tonic-clonic seizure witnessed during review lasting for 3 minutes (not observed wife or staff previously)

# LEVETIRACETAM

Treating/Preventing seizures primary target

- Easy to use (no loading), devoid of any drug interactions, broad spectrum
- low risk of life-threatening events (eg SJS, TEN with phenytoin)

**Risks**

Drowsiness most common side-effect

Pyschiatric ADR's in up to 16% of people with epilepsy

Should we avoid?

- Start low and monitor response
- Data suggestive that female sex, social deprivation, depression, anxiety, recreational drug use more predictive of psychiatric ADR
- Like most therapies, elderly and dementia not well studied

# “Donald” (Case 3)

## Presentation
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## Observed symptoms (past 3 days)
- Minimal reduction in symptoms.
- Periods of vacant staring (5-10 secs) and arm twitching (several a day).

## On Review
- Tonic-clonic seizure witnessed during review lasting for 3 minutes (not observed wife or staff previously)

## Plan
- Start Keppra & PRN Diazepam (seizures0
- Reduce risperidone to 0.5 mane and 1 nocte (over 2 days)
- EEG
- Continue low stimulus environment with special
- Offer therapeutic activity informed by biography
- Undertake care informed by patients' preferences

## Progress
- More interactive and attentive
- Mobility improved
- Minimal reactive aggression
- Engaging in psychosocial activities (30min periods)
- offered for periods of up to 30
- Speech improved
- Oxazepam ceased (remains PRN)
- Risperidone reduced to 0.5 mg nocte

D/C home with wife
- 12 months at home incident free.

# “Jack” (Case 4)

## Presentation

- 82yr male with Alzheimer's Dementia from RACF with unmanageable violence, confusion, agitation and resistance to cares.
- 2-recent presentations to ED in past 2 month.
- RACF 1-yr ago after being cared for by wife at home for 5 yrs.
- Wife states never aggressive at home. 1-month after RACF, GP ceased, as a mater of routine, his regular Sertraline
- GP started regular Risperidone 2.5mg BD and oxazepam 7.5mg daily.

## Medications on Admission

Regular

- Haloperidol 1mg TDS (3mg daily)
- Oxazepam 7.5mg TDS (21mg daily)
- Norspan Patch (25mcg)

PRNs

- Risperidone
- Olanzapine
- Endone.

## Biography

- Grew up in Brisbane.
- Represented Qld in Rugby; talented boxer
- Profession - school teacher, headmaster across the state in small country schools.
- 3-children with wife Karen who is very devoted and visits daily at the RACF.
- Used to paint landscapes as a hobby when younger

## Observed symptoms (past 3 days)

- Highly aggressive to staff and others. Requiring single room.
- Agitation intense and frequent. Roaming corridors shouting at people and clapping his hands forcible, ordering people to do their jobs.
- Severe aphasia and gets frustrated quickly escalating to anger when misunderstood

## Review

- Highly distractible, easily frustrated, alert in interview
- Bloods, urine leucocytes - NAD

## Working diagnosis

- Delirium superimposed on dementia 2nd to polypharmacy of sedating medications
- Suspected underlying anxiety a prime driver to responsive behaviours

# “Jack” (Case 4)

## Working diagnosis

- DsD 2nd to polypharmacy
- Anxiety a prime driver to responsive behaviours

## Plan

- Medication titration plan:
  - ❖ Change haloperidol to olanzapine (10mg mane & 10mg nocte – less risk of akathisia)
  - ❖ Oxazepam down over next half a week
  - ❖ Reduce olanzapine by half in the following week
- Once at appropriate levels; introduce sertraline
- Nurse in low stimulus environment

## Outcomes

**First week:**

- More settled with reduced frequency of events; still highly aggressive events several times a day

**Second week:**

- Oxazepam halved and olanzapine halved**:**
- Reintroduced sertraline - immediate response - “you could see the anger go from his eyes” (Wife)
- Engaging in psychosocial activity
- Nil behavioural crisis, agitation responding to redirection

**Third and fourth weeks:**

- Olanzapine reduced to 2.5mg nocte
- Oxazepam 7.5mg nocte
- Regular Panadol

Discharge back to RACF without further responsive behaviours over next 6 months

# Treatment of Responsive Behaviours (BPSD)

1. Address *unmet needs* or *lowered stress threshold* plus *medical provocations – illness, delirium , pain*

2. Attempt **non-pharmacological** approaches first

3. Unless in extreme distress or have pain

4. Drugs *should complement, not replace*, non-pharmacological approaches – **Try SSRIs (e.g. citalopram, mirtazapine) before moving to regular antipsychotic medications**

5. Stipulate target symptoms for antipsychotics. Always consider de-prescribing after 12 weeks

Guideline Adaptation Committee. Clinical Practice Guidelines and Principles of Care for People with Dementia. Sydney. Guideline Adaptation Committee; 2016. http://sydney.edu.au/medicine/cdpc/documents/resources/CDPC-Dementia-Guidelines_WEB.pdf

# Case 5 – "Sandro"

## Presentation

- 63-yr male from RACF with 3-day history of aggression (RACF reluctant to take back)
- MHx - FTD, schizophrenia, epilepsy, syphilis; NESB – Portuguese speaking
- 3-4 months of wandering/intrusive behaviour, resistance to cares, repeated falls and aggressive outbursts

## Medications on Admission

Regular

- Clonazepam 2mg mane & 1.5mg nocte (3mg/day);
- Risperidone 2mg mane & 3mg nocte (5mg/day);
- Oxazepam 15mg BD (30mg/day);
- melatonin 2mg dialy;
- valproate 500mg BD;
- Venlafaxine 150mg Daily;
- Targin 5/2.5

## Biography

- Grew up in Portugal.
- Lived in Brisbane since early adulthood. Has a sister in Brisbane.
- Worked in service industry - waiter and kitchen-hand
- 10 years ago QPAC usher. Enjoys music and culture.
- Likes football (soccer).

## Outcomes

2-weeks (clonazepam ceased; risperidone halved):

- Mobility now safe and independent
- Able to sit for periods of time (30 minutes at night)
- Sleeping better 3hrs uninterrupted spells overnight

## Observed symptoms (past 2 days)

- Very agitated, constantly standing-up and walk around
- Very unsteady on feet and often falling backwards or unbalancing
- One-to-one special holding walk belt (staff on 2hr-spells).
- Impossible to get attention.
- Aggressive at times - hitting out when re-directed/constrained.

### Review

- Impossible to interview at present
- Akathisia
- No English, some Portuguese (but few formed words)
- Bloods, urine leucocytes - NAD

## Plan

- Wean meds:
  - ❖ Clonazepam
  - ❖ Venlafaxine
  - ❖ Haloperidol

## Outcomes

**4th week:**

- Targin & Venlafaxine ceased; Valproate changed to Keppra
- Interactive and engaged with staff (key words using language app) No aggression, agitation for two weeks.
- Discharge with wandering plan

# “Peter” (Case 6)

## Presentation

- 78yr male with Alzheimer's Dementia with unmanageable violence, wandering and resistance to cares in RACF setting.
- RACF want family to find new placement

## Medical history

- Alzheimer's disease (2011)
- Interstitial lung disease (asbestosis)
- Pleural plaques
- Asthma
- GORD
- Ureteric calculus (stent 2016)
- OA with previous L) TKR
- Hearing impairment

## Medications

Regular

- Olanzapine 5mg BD (10mg daily)
- Budesonide nasal spray
- Hydrocortisone cream
- Movicol
- Pantoprazole 80mg oral

PRN:

- Olanzapine 5mg IM
- Olanzapine 2.5mg (wafer)

## Biography

- Grew up near Toowoomba. Talented sportsman – boxing, Rugby & rowing.
- Manager of hardware stores.
- 2nd wife Jill (one child) Two children to 1st wife who died in MVA (30-yrs ago).
- Never aggressive at home with wife

## Outcome (2 weeks)

- No more resistance to cares
- PRNs occasionally when overstimulated
- Very settled and fully engaged in psychosocial routines and activities
- T/F to new RACF on olanzapine 5mg nocte with plan for cessation in 4-wks

## Initial plan

- Observe in dementia-specific unit/area; explore psychosocial strategies and communication appropriate to aphasia

## Observed behaviour (3 days)

- 5 x physical aggressive episodes in shower/hygiene cares (staff injured).
- Required security & PRN olanzapine
- Agitation escalating to aggression if exposed to boundary transgression/over stimulation
- Engaging in psychosocial activities

## Key moment

- Door open during shower – no resistance-to-care
- Curtain half-pulled for hygiene (around bed)

## Feedback (1yr later)

- From family - Peter flourishing and no aggression
- Family feel quality of life improved greatly compared to previous RACF

# "Brad" (Case 7)

## Presentation
- 63-yr male with unstable spinal fractures, severe agitation and acute confusional state.
- Inter-hospital transfer (4 days ago)

## Medical history
- Closed head injury (2008) - residual STM issues
- Epilepsy - diagnosed 2010
- Unclear medication compliance

## Medications
- Keppra 500mg BD
- Carbamazepine (800mg mane, 400mg nocte)

## Investigations/examinations
- Bloods – low $Na^+$ (131); Valproate levels (NAD)
- T12, L1 and L2 fractures
- Cellulitis left leg
- Temperature spike several times at previous hospital (admission 2days before transfer)
- Abdo X'ray – constipation
- CK up

## Day 4 - Behavioural crisis

Physical restraint and security on multiple occasions

Sedation given until 3pm:
- Droperidol IV 2.5mg x 2 in space 20 minutes (5mg IV)
- Haloperidol 1mg IM x 4 in 1hr; 1mg IM x1;
- Haloperidol 1 mg PO x 1
- Olanzapine wafer 5mg
- Midazolam IV 2mg x 1
- Lorazepam 1mg IV x 2 in space of 2 hrs

Ryan's rule called re sedation and deterioration

## Working diagnosis:
Delirium with multiple possible causes:
- Underlying seizure activity (cannot obtain EEG as yet)
- Infection possible (leg cellulitis)
- Constipation
- New cranial injury (possible but unconfirmed on scans so far)

## Delirium service impression:
- Untreated pain in setting of injury and multifactorial delirium.

## Plan:
- For next 12-hrs undertake an analgesic trial and using the behavioural observation chart to assess and evaluate effect
- No sedation to be used at time of administration, if agitation continues after two administration try sedation
- Morphine s/c analgesic of choices.

# Guidelines – prioritize the investigation of PAIN

## Responsive Behaviours (BPSD)

Address unmet needs or lowered stress threshold plus medical provocations – illness, delirium, pain.

(Guideline Adaptation Committee 2016)

## Delirium – Multifactorial Model

Pain is one of a range of precipitating causative factors in delirium, where underlying vulnerability exists – cognitive impairment, age, sensory deficits

(Inouye et al 2014)

## Pain in Dementia

Up to 25% of patients with responsive behaviours may receive antipsychotic medication instead of analgesia

- Placing them at unnecessary risk of adverse events.

(Flo et al 2014)

Flo, E., Gulla, C., & Husebo, B. S. (2014). Effective pain management in patients with dementia: benefits beyond pain? *Drugs & Aging, 31*(12), 863-871.
Inouye, S. K., Westendorp, R. G. J., & Saczynski, J. S. (2014). Delirium in elderly people. Lancet, 383(9920), 911-922. doi:10.1016/S0140-6736(13)60688-1

# Guiding principles for Assessing Pain in Cognitive Impairment

- Self report  (use validated tool)
- Painful conditions or treatments
- Observe behaviours (use validated tool)
- Surrogate reporting
- Analgesic trial

Herr, K., Coyne, P. J., McCaffery, M., Manworren, R., & Merkel, S. (2011). Pain assessment in the patient unable to self-report: position statement with clinical practice recommendations. Pain Management Nursing: Official Journal Of The American Society Of Pain Management Nurses, 12(4), 230-250. doi:10.1016/j.pmn.2011.10.002

Queensland Government

# PITTSBURGH AGITATION SCALE

| SCORE<br>Only mark the highest intensity score observed over the hour. | Aberrent Vocalisation<br>Repetitive requests or complaint, non-verbal vocalisations, eg, moaning, screaming. | Motor Agitation<br>Pacing, wandering, moving in chair/bed, seeking comfort, picking at objects, taking others possessions.<br>Rate "intrusiveness" by normal social standards, not by effect on other patients If verbally "intrusive" or "disruptive" rate under "vocalisation". | Aggressiveness<br>Score "0" if aggressive only when resisting care. | Resisting Cares<br>Record associated activity in the 6th hrly scoring space provided on the graph eg. WASHING, EATING, DRESSING, MEDS, TOILETING. |
|---|---|---|---|---|
| **0** | Not present | Not present | Not present | Not present |
| **1** | Low volume<br>☐ Not disruptive in milieu<br>☐ Includes crying | Pacing or moving about in chair at normal rate<br>☐ Appears to be looking for spouse<br>☐ Purposeless movements | Verbal threats | Procrastination or avoidance |
| **2** | Louder than converstions<br>☐ Mildly disruptive<br>☐ Redirectable | Increased rate of movements:<br>☐ Mildly intrusive<br>☐ Easily redirectable | Threatening gestures<br>☐ No attempt to strike | Verbal or gesture of refusal |
| **3** | Loud<br>☐ Disruptive<br>☐ Difficult to redirect | Rapid movements:<br>☐ Moderately intrusive or disruptive<br>☐ Difficult to redirect in milieu | Physical towards property | Pushing away to avoid task |
| **4** | Extremely loud<br>☐ Screaming or yelling<br>☐ Highly disruptive<br>☐ Unble to redirect | Intense movements:<br>☐ Extremely intrusive or disruptive<br>☐ Not redirectable | Physical towards self or others | Striking out at caregiver |



## VERBAL PAIN SCALE

## VERBAL PAIN SCALE

Verbal Descriptor Scale – Mild to moderate dementia may reliably self-report pain. Always try self report first.


## PAINAD SCALE

Pain Assessment in Advanced Dementia. Observational Pain Assessment Tool – scores from 0-10. Only use if patient cannot self report pain.

| ITEMS | 0 | 1 | 2 | SCORE |
|---|---|---|---|---|
| **Breathing independent of vocalisation** | Normal | Occasional laboured breathing.<br>Short period of hyperventalion. | Noisy laboured breathing<br>Long period of hyperventilation.<br>Cheyne-stokes respirations | **(0-2)** |
| **Negative vocalisation** | None | Occasional moan or groan.<br>Low level speech with negative or disapproving quality. | Repeated troubled calling out.<br>Loud moaning or groaning.<br>Crying. | **(0-2)** |
| **Facial experession** | Smiling or inexpressive | Sad, frightened, frowning | Facial grimacing. | **(0-2)** |
| **Body language** | Relaxed | Tense, distressed pacing, fidgeting | Rigid. Fists clenched. Knees pulled up. Pulling or pushing away. Striking out | **(0-2)** |
| **Consolability** | No need to console | Distracted or reassured by voice or touch. | Unable to console, distract or reassure. | **(0-2)** |
| | | | | **TOTAL (0-10) Record over page** |

**RECORD SCORES ON REVERSE PAGE**

[71] Warden et al (2003)

# PRINCESS ALEXANDRA HOSPITAL BEHAVIOURAL OBSERVATION CHART ©

**PITTSBURGH AGITATION SCALE**

Time in Hours

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aberrant Vocalisation | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6hr score | | | | | | | | | | | | | | | | | | | | | | | | |
| Motor Agitation | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6hr score | | | | | | | | | | | | | | | | | | | | | | | | |
| Aggressiveness | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6hr score | | | | | | | | | | | | | | | | | | | | | | | | |
| Resisting Cares | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | | | | | | | | | | | | | | | | | | | | | | | | |
| Record care & 6hr score | | | | | | | | | | | | | | | | | | | | | | | | |
| **SLEEP** Mark (S) if asleep ≥ 1hr | | | | | | | S | | | | | | | | | | | S | S | S | | | | |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **VERBAL PAIN SCALE** | | | | | | | | | | | | | | | | | | | | | | | | |
| Worst | | | | | | | | | | | | | | | | | | | | | | | | |
| Severe | | | | | | | | | | | | | | | | | | | | | | | | |
| Moderate | | | | | | | | | | | | | | | | | | | | | | | | |
| Mild | | | | | | | | | | | | | | | | | | | | | | | | |
| No Pain | | | | | | | | | | | | | | | | | | | | | | | | |
| **PAINAD** | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | | | | | | | | | | | | | | | | | | | | | | | | |
| RECREATION, TOILET, EXERCISE (R, T, E) | | | | | | | | | T | | | | | | | | | | | | | | | |
| PRN (PO, S/C, IM) | | | IM | | | IM | | | S/C | | IM | | | | | IM | | | | | | | IM | |
| RESTRAINT (X) | | | | | | | X | X | X | | | | | | | | X | X | X | | | | | X |

# PRINCESS ALEXANDRA HOSPITAL BEHAVIOURAL OBSERVATION CHART ©

**PITTSBURGH AGITATION SCALE**

Time in Hours: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

Aberrant Vocalisation
4
3
2
1
0
6hr score

Motor Agitation
4
3
2
1
0
6hr score

Aggressiveness
4
3
2
1
0
6hr score

Resisting Cares
4
3
2
1
0
Record care & 6hr score

**SLEEP** Mark (S) if asleep ≥ 1hr

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

**VERBAL PAIN SCALE**
Worst
Severe
Moderate
Mild
No Pain

**PAINAD**
10
8
6
4
2
0

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

RECREATION, TOILET, EXERCISE (R, T, E)

PRN (PO, S/C, IM) S/C

RESTRAINT (X)

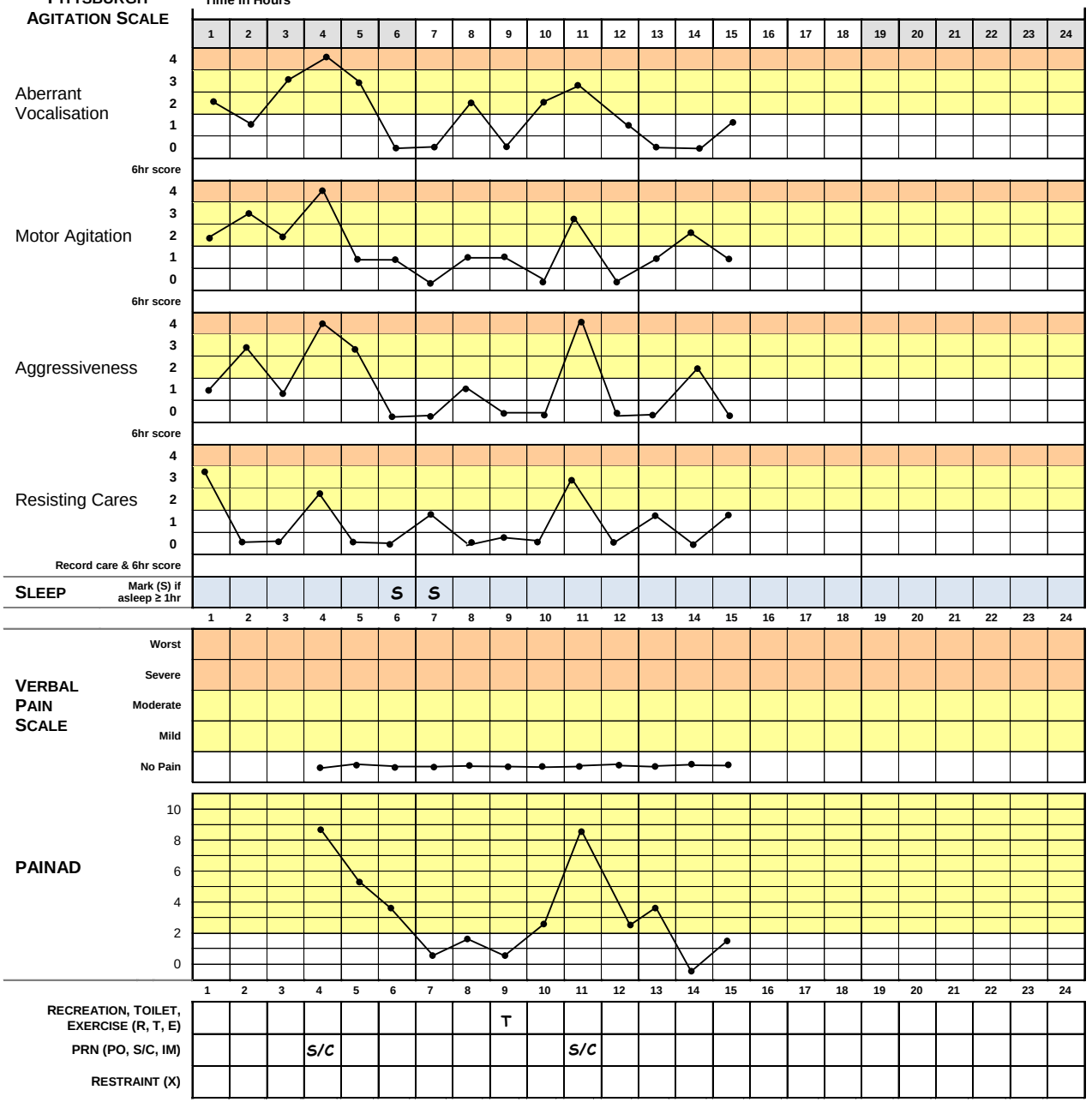
# PRINCESS ALEXANDRA HOSPITAL BEHAVIOURAL OBSERVATION CHART ©

**PITTSBURGH AGITATION SCALE**

Time in Hours

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aberrant Vocalisation 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6hr score | | | | | | | | | | | | | | | | | | | | | | | | |
| Motor Agitation 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6hr score | | | | | | | | | | | | | | | | | | | | | | | | |
| Aggressiveness 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6hr score | | | | | | | | | | | | | | | | | | | | | | | | |
| Resisting Cares 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | | | | | | | | | | | | | | | | | | | | | | | | |
| Record care & 6hr score | | | | | | | | | | | | | | | | | | | | | | | | |
| **SLEEP** Mark (S) if asleep ≥ 1hr | | | | | | S | S | | | | | | | | | | | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| **VERBAL PAIN SCALE** Worst | | | | | | | | | | | | | | | | | | | | | | | | |
| Severe | | | | | | | | | | | | | | | | | | | | | | | | |
| Moderate | | | | | | | | | | | | | | | | | | | | | | | | |
| Mild | | | | | | | | | | | | | | | | | | | | | | | | |
| No Pain | | | | ~ | ~ | ~ | ~ | ~ | ~ | ~ | ~ | | | | | | | | | | | | | |
| **PAINAD** 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| RECREATION, TOILET, EXERCISE (R, T, E) | | | | | | | | | T | | | | | | | | | | | | | | | |
| PRN (PO, S/C, IM) | | | | S/C | | | | | | | S/C | | | | | | | | | | | | | |
| RESTRAINT (X) | | | | | | | | | | | | | | | | | | | | | | | | |

# PRINCESS ALEXANDRA HOSPITAL BEHAVIOURAL OBSERVATION CHART ©



# PRINCESS ALEXANDRA HOSPITAL BEHAVIOURAL OBSERVATION CHART ©

**PITTSBURGH AGITATION SCALE**

Time in Hours: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

Aberrant Vocalisation — 4 3 2 1 0 — 6hr score

Motor Agitation — 4 3 2 1 0 — 6hr score

Aggressiveness — 4 3 2 1 0 — 6hr score

Resisting Cares — 4 3 2 1 0 — Record care & 6hr score

**SLEEP** — Mark (S) if asleep ≥ 1hr: S (6), S (7)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

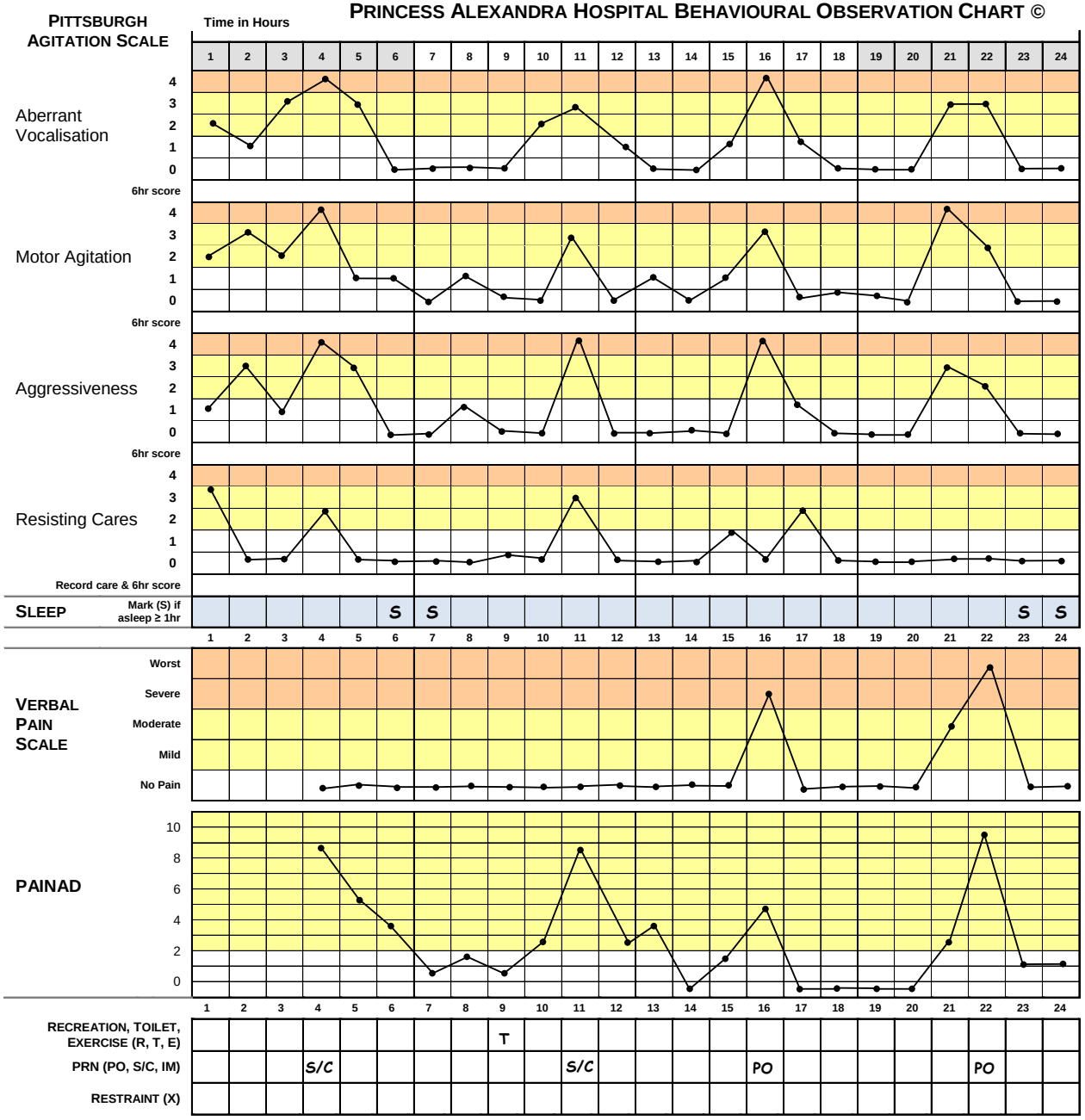
**VERBAL PAIN SCALE**: Worst / Severe / Moderate / Mild / No Pain

**PAINAD**: 10 8 6 4 2 0

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECREATION, TOILET, EXERCISE (R, T, E) | | | | | | | | | T | | | | | | | | | | | | | | |
| PRN (PO, S/C, IM) | | | | S/C | | | | | | | S/C | | | | | PO | | | | | | | |
| RESTRAINT (X) | | | | | | | | | | | | | | | | | | | | | | | |

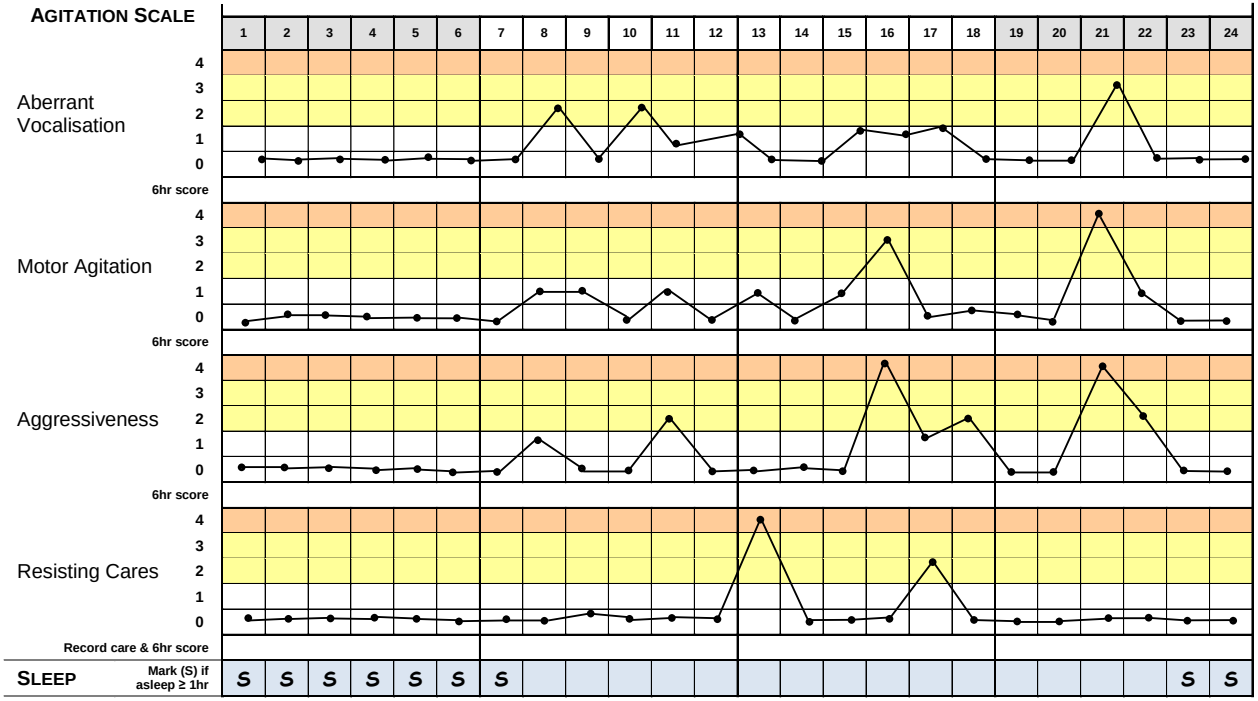
# PRINCESS ALEXANDRA HOSPITAL BEHAVIOURAL OBSERVATION CHART ©



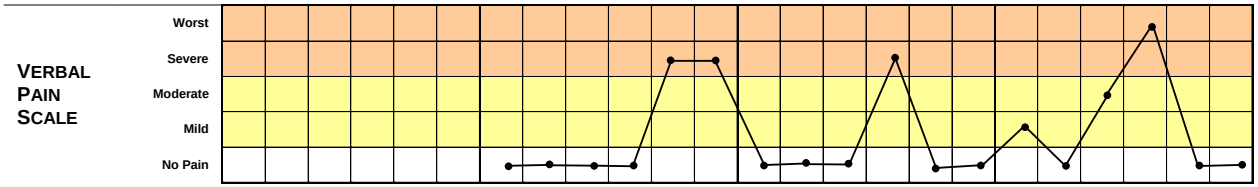
# PRINCESS ALEXANDRA HOSPITAL BEHAVIOURAL OBSERVATION CHART ©

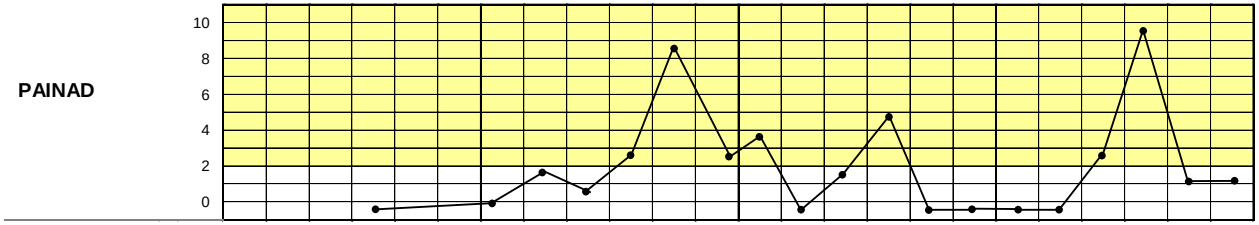
**PITTSBURGH AGITATION SCALE**

Time in Hours: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

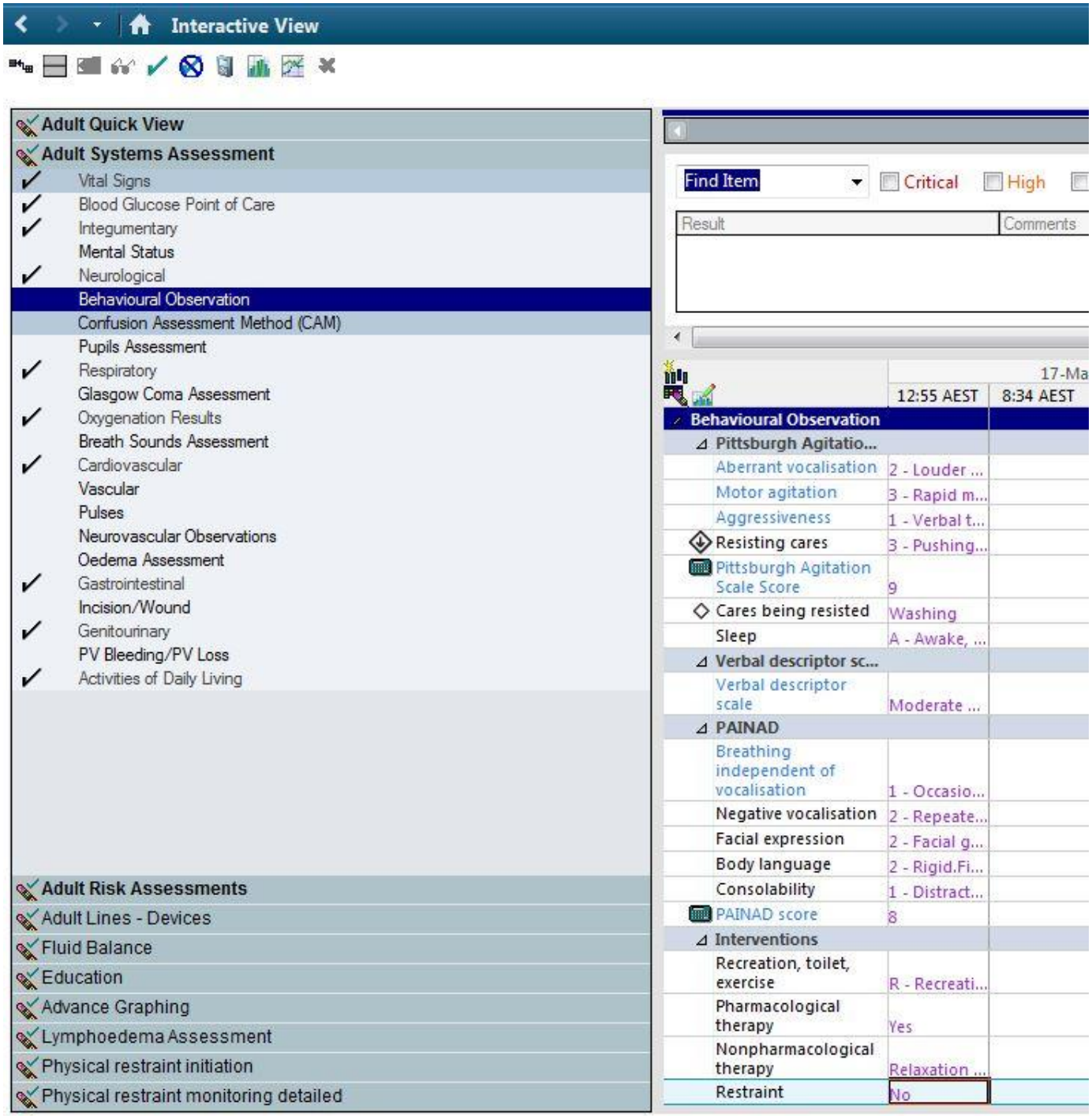



| SLEEP (Mark (S) if asleep ≥ 1hr) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | S | S | S | S | S | S | S | | | | | | | | | | | | | | | | S | S |




| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RECREATION, TOILET, EXERCISE (R, T, E) | | | | | | | | | T | | | | | | | | T | | | | | | | |
| PRN (PO, S/C, IM) | | | | | | | | | | | PO | S/C | | | | PO | | | | | | PO | | |
| RESTRAINT (X) | | | | | | | | | | | | | | | | | | | | | | | | |


Interactive View
Adult Quick View
Adult Systems Assessment
Vital Signs
Blood Glucose Point of Care
Integumentary
Mental Status
Neurological
Behavioural Observation
Confusion Assessment Method (CAM)
Pupils Assessment
Respiratory
Glasgow Coma Assessment
Oxygenation Results
Breath Sounds Assessment
Cardiovascular
Vascular
Pulses
Neurovascular Observations
Oedema Assessment
Gastrointestinal
Incision/Wound
Genitourinary
PV Bleeding/PV Loss
Activities of Daily Living
Adult Risk Assessments
Adult Lines - Devices
Fluid Balance
Education
Advance Graphing
Lymphoedema Assessment
Physical restraint initiation
Physical restraint monitoring detailed
Find Item
Critical
High
Result
Comments
17-Ma
12:55 AEST
8:34 AEST
Behavioural Observation
Pittsburgh Agitatio...
Aberrant vocalisation
2 - Louder ...
Motor agitation
3 - Rapid m...
Aggressiveness
1 - Verbal t...
Resisting cares
3 - Pushing...
Pittsburgh Agitation Scale Score
9
Cares being resisted
Washing
Sleep
A - Awake, ...
Verbal descriptor sc...
Verbal descriptor scale
Moderate ...
PAINAD
Breathing independent of vocalisation
1 - Occasio...
Negative vocalisation
2 - Repeate...
Facial expression
2 - Facial g...
Body language
2 - Rigid.Fi...
Consolability
1 - Distract...
PAINAD score
8
Interventions
Recreation, toilet, exercise
R - Recreati...
Pharmacological therapy
Yes
Nonpharmacological therapy
Relaxation ...
Restraint
No

# “Brad” (Case 7)

## Results of Analgesic Trial

- 3-doses of morphine used overnight
- Resolved agitation and orientated (MSQ 9/10)
- Moved bowels well

Delirium Service review (3-days later)

- Daughter present
- Not overtly delirious
- Daughter feels cognition close to baseline

Ongoing nocturnal confusion for next three weeks

## Multi-modal delirium prevention and management strategies (Eat, walk and engage)

- Mobilisation (as able)
- Sleep enhancement
- Orientation
- Hearing and visual aids
- Hydration
- Therapeutic activity
- Environmental modification

## Suspected cause (based on daughter collateral)

- 1-week prior to admission, prescribed Endone for chronic back pain in setting of epilepsy and past head trauma
- Constipation developed +/- interactions with anti-seizure medication leading to collapse and injury
- Delirium and BPS exacerbated by pain

# Case 8 – “Steven”

## Presentation

- 80-yr male with VaD (4-yrs) admitted from RACF with high level aggression in setting of PTSD (Vietnam veteran).
- Recent admission (2-weeks ago) - discharged on citalopram

## Observed symptoms (past 5 days)

- Periodic high level agitation usually around wanting to leave and no insight as to admission
- Fixation on army tasks and timelines - not responding to redirection.
- Escalation to aggression when feeling constrained or diverted.
- Security required and IM haloperidol on multiple occasions over 5 days.
- Difficult to engage in activity other than military context themes.

## Plan

- Noted to affirm pain in knee after enquiry post- behavioural crisis.
- Commence analgesic trial with regular Targin (5mg)

## 5-day outcome

- Nil behavioural crisis
- Agitation and PTSD themes occurred but able to be redirected without medication or security.
- Discharged back to RACF on regular Targin
- While responsive behaviours and PTSD still an issue, easier to redirect and de-escalate

## Medications

Regular

- Citalopram 20mg (nocte)
- Valproate 300mg,
- Olanzapine 5mg (BD).

PRN

- Oxazepam 7.5mg
- Haloperidol 0.5 -1 mg (PO + IM)

## Biography

- Brisbane man.
- Military career.
- Served in Korea (aged 16yrs)
- 2-tours of Vietnam .
- 25 years in the military.
- Married with two children. Very few hobbies outside of the military and all things military according to his son.

# Consider Drug Toxicities

Pre-existing Anti-epileptic Medications

Phenytoin

Carbamazapine

Valproate

- Drowsiness
- Slurred speech
- Hallucinations
- Confusion
- Irritabilty/agitation
- Paradoxical seizure

Valproate Induced Hyperammonemic Enceplopathy:

- NH4 elevations, CTH cerebral pseudoatrophy

- Patient nutrition (albumin levels) intricately linked to toxicity potential (valp, phenytoin)

# Stepwise analgesia protocol for BPSD (8 wk RCT)

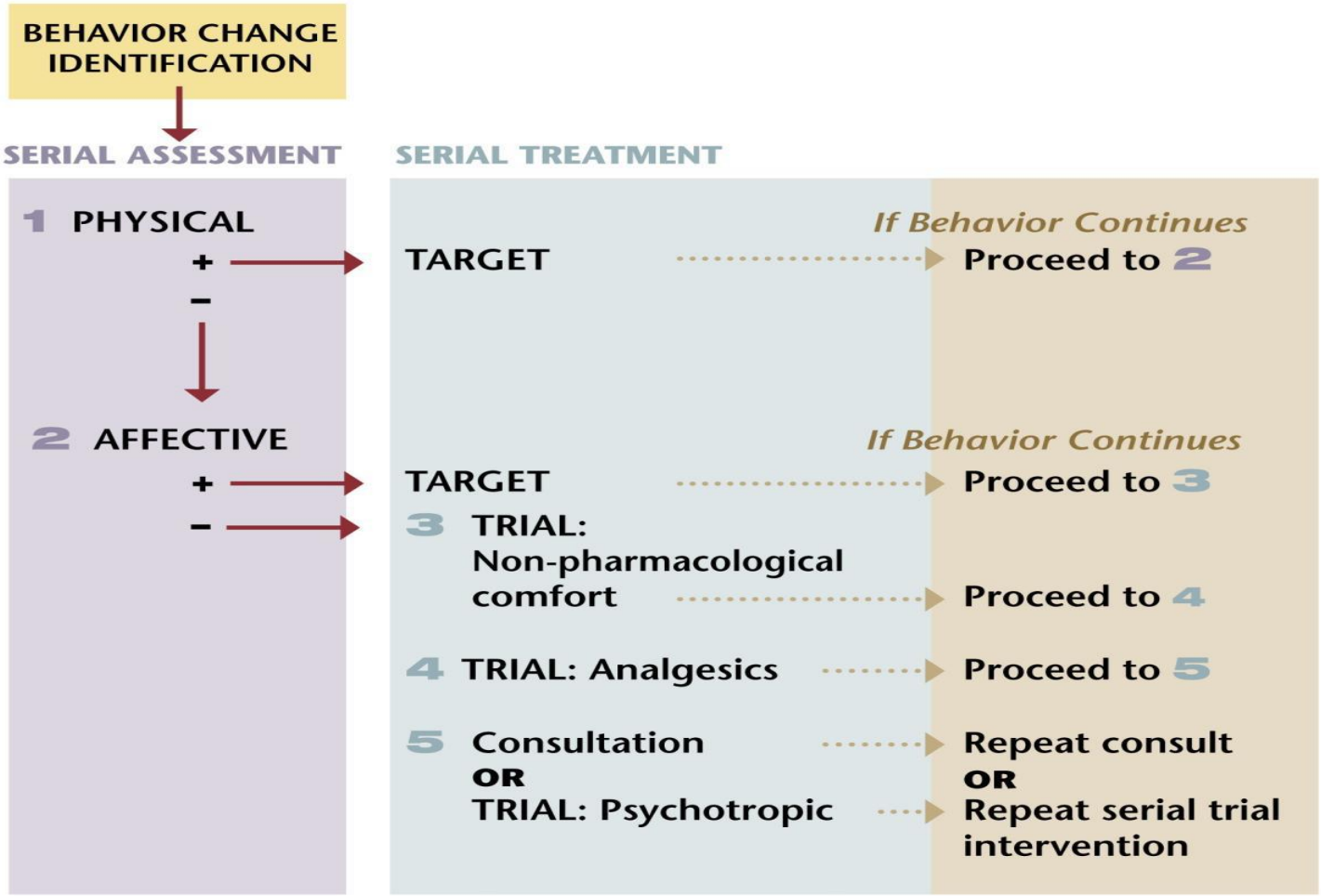
- Reduced agitation  by 17% and aggression (Husebo et al 2011)
- Symptoms returned 4 weeks after trial (Husebo et al 2011)
- Increase mobilisation and engagement in activity (Sadvik et al 2010)
- Reduced depression and another mood symptoms (Habiger et al 2016)
- Decreased psychosis in pts with psychotic features (Habiger et al 2016)


Husebo, B. S., Ballard, C., Sandvik, R., Nilsen, O. B., & Aarsland, D. (2011). Efficacy of treating pain to reduce behavioural disturbances in residents of nursing homes with dementia: cluster randomised clinical trial. BMJ (British Medical Journal), 343(7), d4065-d4065.

Habiger, T. F., Flo, E., Achterberg, W. P., & Husebo, B. S. (2016). The Interactive Relationship between Pain, Psychosis, and Agitation in People with Dementia: Results from a Cluster-Randomised Clinical Trial. Behavioural Neurology, 2016, 7036415-7036415. doi:10.1155/2016/7036415

Sandvik, R. K., Selbaek, G., Seifert, R., Aarsland, D., Ballard, C., Corbett, A., & Husebo, B. S. (2014). Impact of a stepwise protocol for treating pain on pain intensity in nursing home patients with dementia: a cluster randomized trial. European Journal Of Pain (London, England), 18(10), 1490-1500. doi:10.1002/ejp.523

# SERIAL TRIAL INTERVENTION




Kovach, C. R., Noonan, P. E., Schlidt, A. M., Reynolds, S., & Wells, T. (2006). The serial trial intervention: an innovative approach to meeting needs of individuals with dementia. Journal of Gerontological Nursing, 32(4), 18-27.

Pieper, M. J. C., Francke, A. L., van der Steen, J. T., Scherder, E. J. A., Twisk, J. W. R., Kovach, C. R., & Achterberg, W. P. (2016). Effects of a stepwise multidisciplinary intervention for challenging behavior in advanced dementia: A cluster randomized controlled trial. Journal of the American Geriatrics Society, 64(2), 261-269. doi:10.1111/jgs.13868

# Dementia, Delirium superimposed on Dementia, Delirium

## Non-pharmacological

Identify unmet needs - (NDB)

Reduce stressors - (PLST)

Multimodal delirium prevention and management strategies

Find and alleviate causes:

- Medical: drugs, infection, metabolic
- Physiological: constipation, pain
- Optimize address multifactorial factors
- Implement multimodal delirium prevention/management strategies

## 2nd line Pharmacological

Temporary – this should complement, not replace, non-pharmacological approaches.

As last resort while *always searching for non-pharmacological solution*

- SSRIs – mirtazapine, sertraline, citalopram
- Risperidone (max 2mg, oral)
- Olanzapine (max 10mg oral)
- Haloperidol (max 2mg, oral)
- Quetiapine (max 100mg)
- Olanzapine (max 5mg IM)
- Haloperidol (max 2mg, IM)
- Avoid benzos however oxazepam can be considered as rescue medication

Exception – the person, their carer(s) or family is severely distressed; ***pain*** is the suspected cause; there is immediate risk of harm to the person with dementia or others **(very severe symptoms).** In such cases medication may be considered as an initial response alongside non-pharmacological approaches.

# Delirium - Find and Treat Causes

**P**ain

**I**nfection

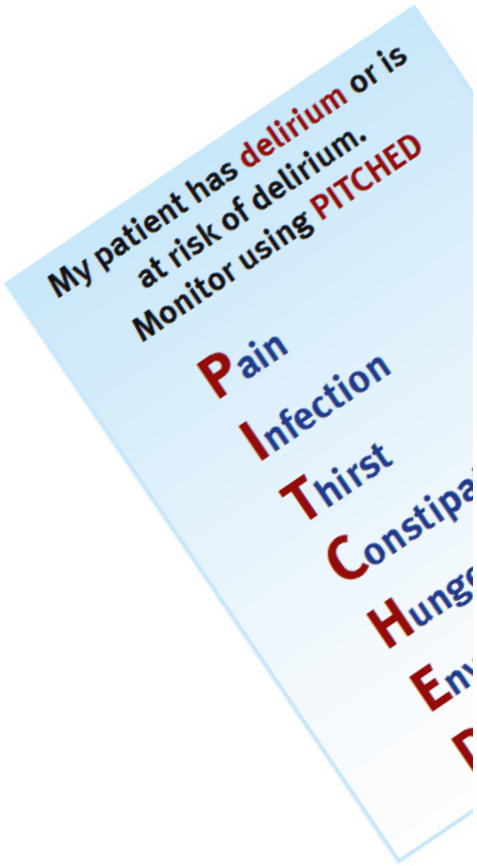
**T**hirst - *hydration*

**C**onstipation

**H**unger - *nutrition*

**E**nvironment

**D**rugs




## PITCHED

**Pain**
- Ensure regular assessment and management of pain
- Assess pain on the Behaviour Observation chart (Verbal scale + PAINAD)

**Infection**
- Monitor for potential signs and sources of infection
- Pressure injury prevention

**Thirst**
- Maintain fluid balance and encourage oral intake (water within reach)

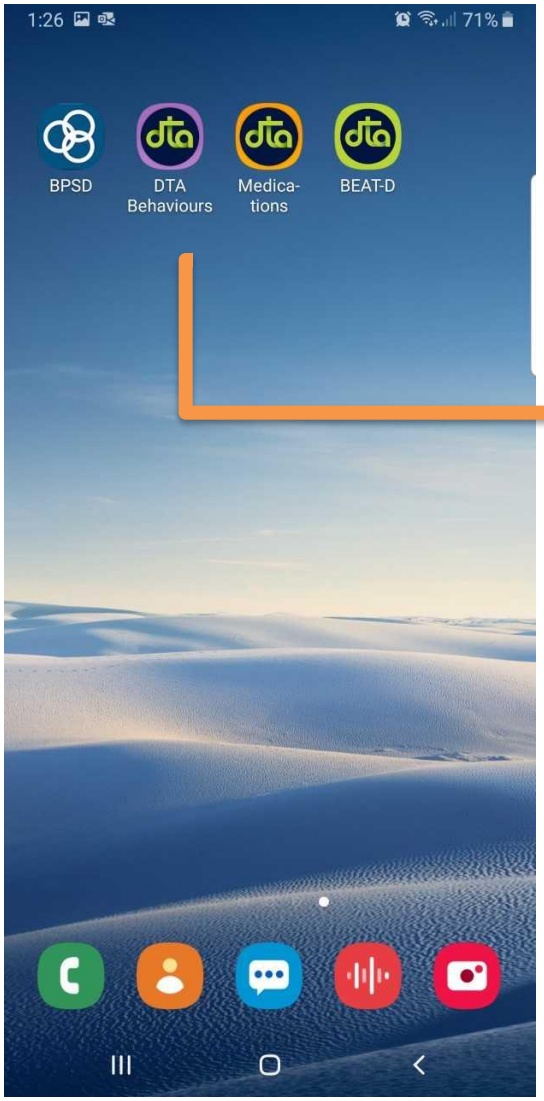
**Constipation**
- Monitor bowels and consider aperients

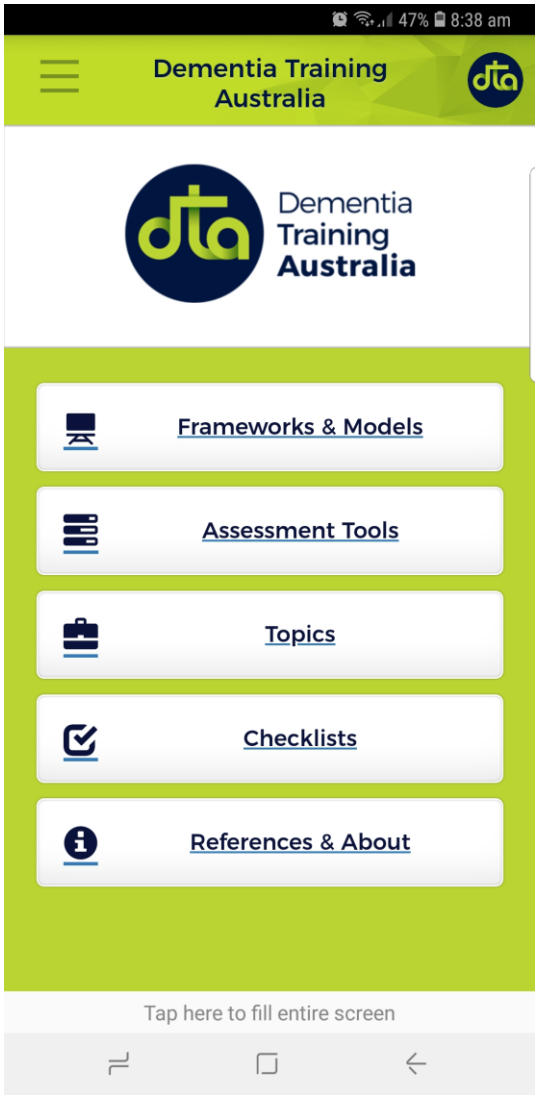
**Hunger**
- Maintain nutrition: ensure meal set up, provide dentures & oral care
- Monitor weight
- Consider dietician referral

**Environment**
- Promote normal sleep/wake patterns
- Promote social & recreational activity (use Cognition Corner)
- Encourage mobility
- Orientation
- Hearing and visual aids
- Sunlight during the day
- Have family provide familiar possessions from home
- Ensure a calm and soothing atmosphere and decrease sensory input

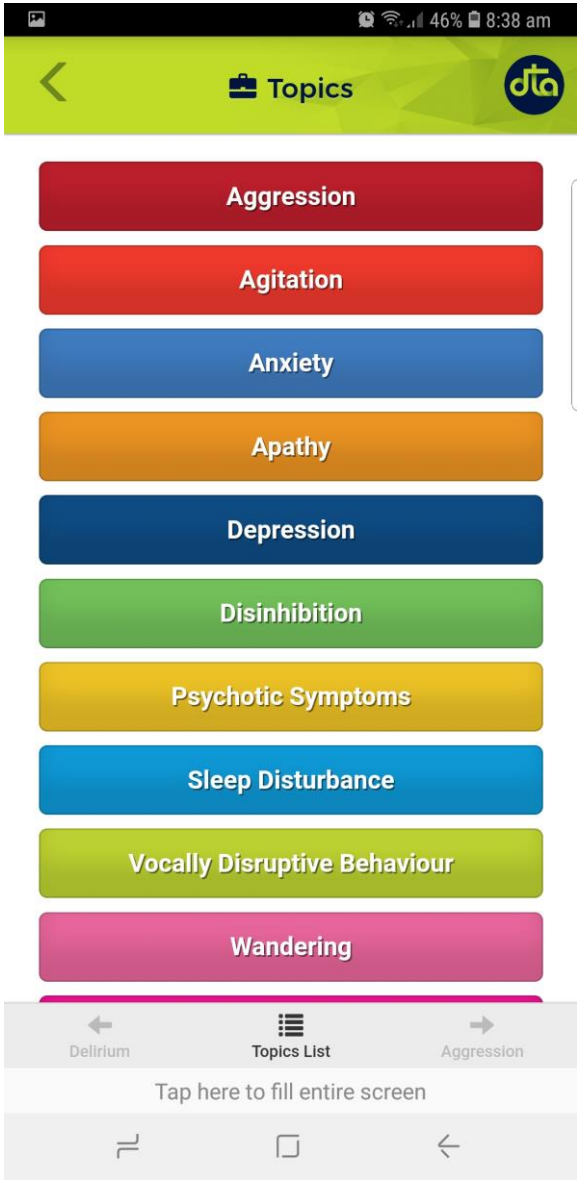
**Drugs**
- Maintain normal oxygen saturation
- Consider need for pharmacy medication review
- Avoid or minimise psychotropic, sedative or hypnotic drugs

# DTA Responsive Behaviours App

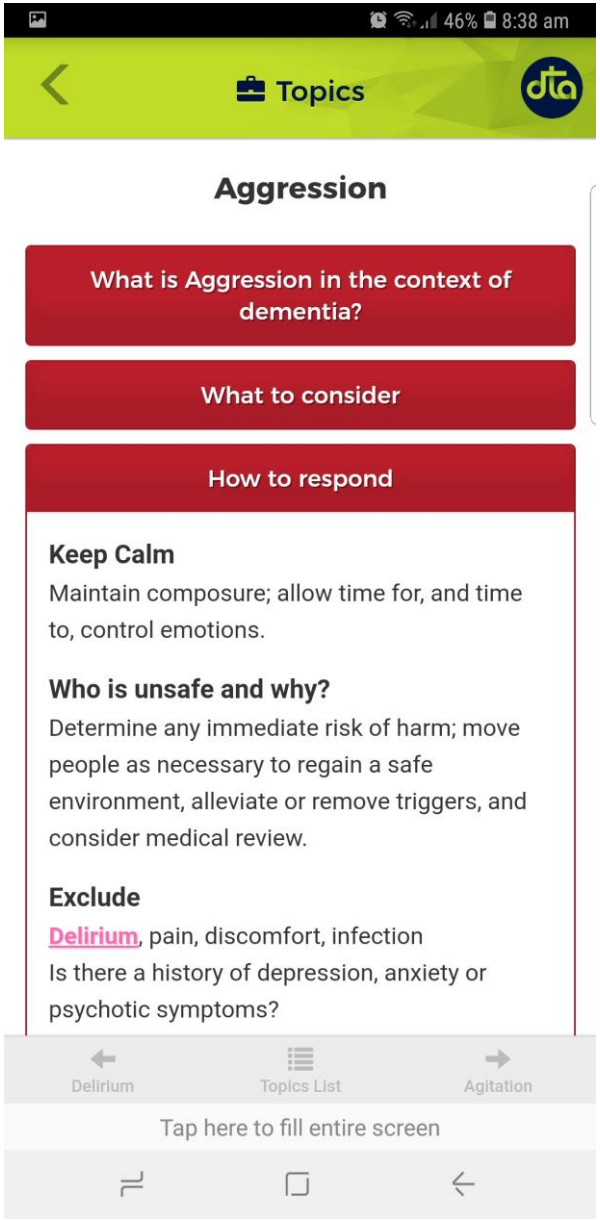


# DTA Responsive Behaviours App







# Summary

1. Diane – rhythmic agitation and anxiety relieved by targeted psychosocial activities
2. Patricia – paranoid delusions preventing psychosocial care
3. Donald – underlying seizures preventing psychosocial care
4. Jack – DsD from polypharmacy and effective use of SSRI for anxiety
5. Sandro – DsD polypharmacy as response to wandering behaviour
6. Peter – resistance-to-cares (serious assault)solved through change of care delivery
7. Brad – behavioural crisis in multi-factorial delirium exacerbated by pain
8. Steven – aggression in dual diagnosis dementia and PTSD exacerbated by pain