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# MOH Protocols for the Management of Behavioral and Psychological Symptoms of Dementia (BPSD)

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- **Introduction**

Dementia is a gradual degenerative neurological syndrome that affects about 5% of people over 65, increasing to 20% in the over-80s. This age-related syndrome is marked by cognitive deterioration, impaired memory and thinking, and a gradual loss of skills required to perform daily activities. Other mental functions, such as mood, personality, and social interaction, are usually affected. The different kinds of dementia are categorized based on the various disease processes that impact the brain. Alzheimer's disease (AD) is the leading cause of dementia, accounting for roughly 60% of all cases. The majority of other cases are caused by vascular dementia and dementia with Lewy bodies (DLB). Alzheimer's disease and vascular dementia may exist simultaneously and are often difficult to distinguish clinically. Dementia also affects nearly 30–70% of Parkinson's disease patients. [1].

Aggression, hoarding, agitation, wandering, sexual disinhibition, delusions, hallucinations, apathy, and yelling, [2] as well as less externally challenging symptoms including poor mood and worry are examples of behavioral and psychological symptoms of dementia (BPSD). More than 90% of patients have these symptoms in different degrees. [3] The number, type, and intensity of these symptoms differ among patients, and the fact that numerous types exist at the same time in individuals make it hard to target specific ones therapeutically. The effective and safe management of these symptoms is the topic of a longstanding controversy because treatment is not adequately informed by well-conducted studies [4], and several existing medicines have been associated with severe adverse effects.

We use the word dementia throughout this protocol since it was used in the evidence examined in creating these guidelines. These guidelines are also intended for people with serious neurocognitive disorders, as described by the American Psychological Association's Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5).

## A. Purpose

Management of BPSD is controversial due to a lack of data from well-designed studies and the fact that the majority of available drugs have been associated with severe adverse drug reactions in certain patients. Due to highly variable

practice and unnecessary use of psychotropics in dementia, it is clear that a MOH protocol for the management of BPSD is required. As a consequence of an initiative by the Ministry of Health of the Kingdom of Saudi Arabia, a group of expert psychiatrists examined numerous published protocols of management of BPSD and created an adapted protocol for MOH health care providers.

## B. Aim & scope

These protocols aim to deliver evidence-based recommendations on the non-pharmacological and pharmacological management of Behavioral and Psychological Symptoms of Dementia (BPSD). This protocol also aims to reduce unnecessary use of some psychotropics in dementia and ensure that, were unavoidable, they are prescribed according to best practice**.**

## C. Targeted population/Audience

The protocol is intended to be a practical protocol and ready reference for health professionals who work in settings where they will be caring for patients with dementia and BPSD. Given the extensive range of expertise, disciplines, and positions of employees at the MOH, it's impossible to capture the whole scope of specialist practice that can be used by experienced professionals across different disciplines and settings. As a result, this protocol can be applied in several cases. It provides an overview of fundamental principles and practical resources for less experienced employees, which they may implement and discuss with their superiors. Multidisciplinary teams can utilize it as a shared reference point to aid in coordinated treatment, and more experienced professionals can use it as a refresher or training resource. The protocol should be applied within a framework of local policies and procedures.

## D. Setting

- Iradah Complex / Hospital and Mental Health.
- Psychiatric clinics in MOH General Hospitals.

## E. Methodology

This is the first version of the Saudi practical protocol on the management of Behavioral and Psychological Symptoms of Dementia (BPSD). This protocol development completed through 2 phases**:**

**Phase 1**: Literature review, and the MOH formulary adaptation along with reviewing multiple published protocols by the teamwork of a group of psychiatric consultants. The published protocols were evaluated using the Appraisal of Protocols, Research and Evaluation II (AGREE II) scale. A total of 4 protocols were reviewed including The Maudsley Prescribing Guidelines in Psychiatry 2018, Oxford Health NHS Foundation Trust 2019, UK National Institute for Health and Care Excellence (NICE) Guidelines, 2018, and the American Psychiatric Association Practice Guideline on the Use of Antipsychotics to Treat Agitation or Psychosis in Patients with Dementia 2016, and found the " Oxford Health NHS Foundation Trust 2019 Protocol" meet the criteria for use in the development this protocol.

**Phase 2**: The protocol was sent to a group of experts in adult psychiatry to put their input and provide their review. Their input was collected over three weeks, followed by further meetings and assessments for feedback by the committee.

## F. Updating

The first version of this protocol was created in 2021. The protocol will be updated every three years or if any changes or updates are released by international/national protocols, pharmacotherapy references, or MOH formulary.

## G. Conflict of Interest

This protocol developed based on valid scientific evidence. No financial relationships with pharmaceutical, medical device, and biotechnology companies.

## H. Funding

No fund was provided.

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## I. DISCLAIMER

This Clinical protocol is an evidence-based decision-making tool for managing health conditions. It is based on the best information available at the time of writing, and is to be updated regularly. This protocol is not intended to be followed as a rigid treatment protocol. It is also not meant to replace clinical judgment of practicing physicians but is the only tool to help manage patients with BPSD. Treatment decisions must always be made on an individual basis, and prescribing physicians must customize care and tailor treatment regimens to patients' unique situations and health histories. For dosage, special warnings and precautions for usage, contraindications, and monitoring of side effects and potential risks, physicians should check the approved product monographs within their institution's formulary. When choosing treatment options, take into account any constraints imposed by the institution's formulary. During the decision-making process for picking specific drugs within a recommended specialized class, prescribing physicians should consult their institution's formularies.

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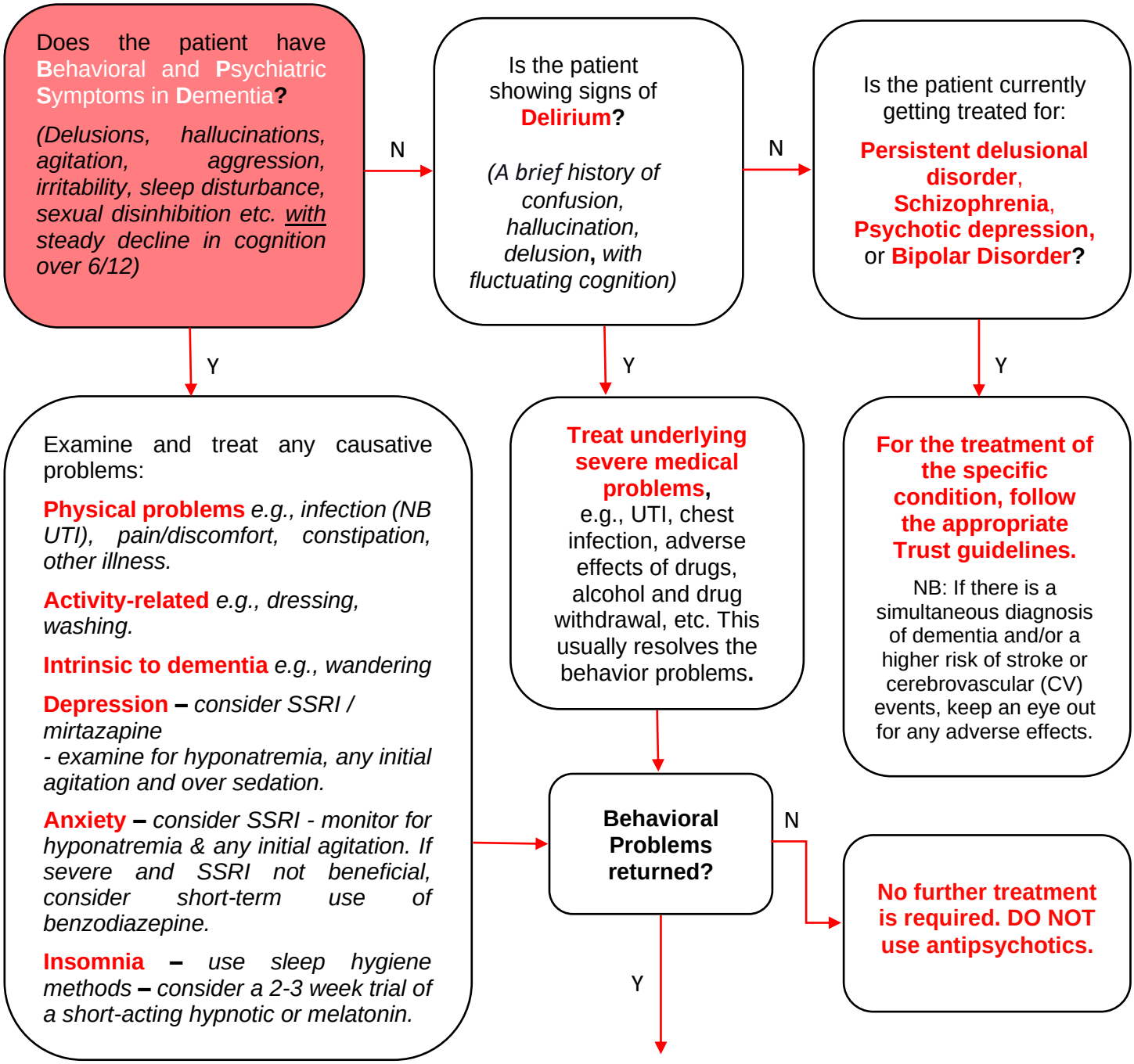
# • Managing Behavioural and Psychological Symptoms of Dementia (Summary)

*(Does not cover rapid tranquilization of acutely disturbed patients)*



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**Consider non-pharmacological approaches**

*For example, day structure with recreational and social activities; behavioral interventions; psychological and psychosocial interventions; environmental interventions; compensating for sensory impairments and paying attention to diet and general health.*

**Only consider pharmacological treatment if there are severe behavioral or psychological symptoms that pose a risk to the individual or others.**
If possible, this treatment should be short-term and closely monitored.

**If pharmacological treatment is indicated:**

- **Start with low doses and gradually increase them**. In many cases, the elderly need only half of the usual adult doses.
- **Review the situation frequently and stop if the behavior improves**. After six weeks, Stopping should be considered to make a comprehensive assessment of continued need & benefit.
- **Monitor for adverse effects and a decline in cognitive function.**

**Pharmacological options for behavioral disturbances (BPSD):**

- Paracetamol, 500-1000mg up to QDS, may be useful even in patients with no overt pain symptoms.
- Acetylcholinesterase inhibitors (e.g. Donepezil 5-10mg/day) could be effective, if not already prescribed.
- Memantine, 5-20mg/day, may be effective, if not already prescribed**.**
- Trazodone 50 -150mg a day, in a single or divided dose, may help with restlessness and agitation.
- In cases of apparent depressive symptoms, SSRIs such as low-dose sertraline and mirtazapine (15-30 mg/day) may be helpful.
- In extreme acute distress, lorazepam, 0.5 to 2 mg daily in divided doses, may be tried cautiously for short periods.
- **Antipsychotics** (be aware of increase stroke risk):
  - → First line: Risperidone 0.25-2mg a day.
  - → Consider Olanzapine 2.5-10mg/day if risperidone is ineffective or contraindicated.
  - → Consider Quetiapine 12.5-300mg a day; Aripiprazole 5-15mg a day in patients with Parkinson's Disease / Dementia with Lewy Bodies or if both the above are ineffective/contraindicated.
  - → Amisulpride 25-50mg/day is used when all other antipsychotics have been ineffective/contraindicated.
  - → *Clozapine is used in complex cases or patients with Parkinson's disease or dementia with Lewy Bodies who have exhausted all other options.*
- Carbamazepine, up to 400mg a day (divided doses), maybe tried cautiously if other options are ineffective or contraindicated.

**Monitoring:**
Patients should be watched for changes in cognitive function, symptoms of cerebrovascular events (if antipsychotics are taken), and side effects of the drug. Appendix 2 contains all physical monitoring parameters.

Many patients will be unable to consent to treatment. The principles of Mental Capacity Act apply: including considering the patient's past wishes & involving the family in a 'best interests' decision.

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- # General Principles in Assessment and Management of Dementia (BPSD)

## A. Assessment of patients with BPSD:

Those who develop severe and distressing non-cognitive symptoms or behaviors should first be assessed to rule out alternative causes, such as physical health issues (pain/infection), side effects of medication, environmental factors, psychosocial factors, individual biography (e.g., religious beliefs), etc.

The PAIN and ABC models are two potential methods for assessing the possible causes of the patient's symptoms/behaviors:

1. **PAIN:**

   **P = Physical Problems?** *(E.g. infection, pain)*
   **A = Activity related?** *(E.g. dressing, personal care, eating)*
   **I = Iatrogenic?** *(E.g. medication adverse effects)*
   **N = Noise and other environmental factors?** *(E.g. lighting)*

   *PAIN should be used in conjunction with a thorough social and lifestyle history.*

2. **ABC chart:**

   **A = Antecedent**
   **B = Behavior**
   **C = Consequence**

   *An example ABC record sheet can be seen in Appendix 1.*

Role of Non-psychiatrist in the Assessment and management of BPSD to assess and treat of the underlying causative physical problems e.g., infection (UTI), pain/discomfort, constipation, or other illness.

The primary care physicians and other Non-psychiatrist will consider referral of all of cases with BPSD for further specialized care.

## B. Management of BPSD:

1. Non- Pharmacological Management:

**In the treatment of behavioral difficulties linked with dementia, nonpharmacological methods should always be tried first.**

Because the type, number, and severity of BPSD symptoms differ from patient to patient, no single management strategy is appropriate for all patients. As a result, each patient should be assessed individually to determine which approach(es) is best.

The following are some non-pharmacological management strategies that could be considered:

- **Physical presence/Therapeutic touch** *may be effective for physical non-aggressive behaviors.*
- **Recreational or social activities** *provide a sense of structure, meaning and setting for social interaction.*
- **Behavioral interventions** *such as completing out an ABC chart can aid in the development of an effective care plan.*
- **Risk assessment, mitigation, and intervention**.
- **Psychological/Psychosocial therapies** *for patients, family, and/or carers*.
- **Environmental interventions** *physical environment design and layout, as well as day/night routine.*
- **Compensating for sensory impairments***, hearing aids/glasses, and paying attention to diet and general health*.
- **Complimentary therapies** *(e.g. massage)*.

2. Pharmacological Management

**Pharmacological treatment is NOT an alternative to non-pharmacological strategies. Non-pharmacological approaches should be continued along with pharmacological management.**

Pharmaceutical management approaches should be considered on an individual patient basis. Any anticipated benefits must outweigh any expected risks for the

individual when deciding on the proper approach. Pharmacological treatments should only be used if the individual's BPSD symptoms are causing them severe distress and/or if there is an extreme risk of harm to others.

If pharmacological intervention is deemed appropriate based on an individual risk-benefit analysis, this should be considered as a therapeutic trial. A review date should be arranged at least every six weeks to assess the benefit and side effects of the pharmacological management approach. By the review date, if there is no benefit or the patient has experiencing adverse effects, the medication should be stopped.

For all medications, always begin with a low dose and gradually increase it ("START LOW AND GO SLOW").

## • Pharmacological Agents (not including antipsychotics) in BPSD

*The evidence for using any drug to treat BPSD is conflicting. Because there are few treatment options, medications that are supported by NICE and/or Maudsley Guidelines have been included in this protocol, even though some studies suggest they have no benefit. Each option should be considered individually for each patient and reviewed frequently with the purpose of withdrawing if no beneficial effect is observed.*

| | ***Treatment options*** | ***Comment*** |
|---|---|---|
| **Analgesics** | Paracetamol<br>Oral*: 500mg – 1g up to QDS* | • In dementia, it's essential to treat any potential pain. As a result, paracetamol should be tried in all patients with non-cognitive symptoms, even if there are no explicit pain sensations.<br>• In frail patients and those weighing less than 50 kg, the maximum dosage is 500mg QDS. |
| **Acetylcholinesterase Inhibitors** | Donepezil<br>Oral: 5 - 10mg/day | If it hasn't already been prescribed for cognitive symptoms, it could be used for non-cognitive symptoms that cause severe distress or potential harm in the following cases:<br>• Patients with mild to moderate dementia.<br>• Patients with Lewy Body Dementia.<br><br>** NB: In Oxford Health, donepezil is considered a first-line acetylcholinesterase inhibitor for dementia** |
| | Rivastigmine<br>Oral: 3 - 12mg/day<br>*(in divided doses)*<br><br>Transdermal: 9.5 mg/day | |

| | | |
|---|---|---|
| **NMDA Antagonist** | Memantine<br>Oral: 5-20mg/day | If it hasn't already been prescribed for cognitive symptoms, it could be used for non-cognitive symptoms that cause severe distress or potential harm in the following cases:<br>• Patients with moderate to severe dementia.<br>• Patients who suffer from mild to moderate dementia *where acetylcholinesterase inhibitors are contraindicated or ineffective*. |
| **Benzodiazepines**[1] | Lorazepam<br>Oral: 0.5-2mg/day<br>*(in divided doses)* | • Benzodiazepines should be avoided where possible.<br>• ONLY use in short term severe acute distress.<br>• Lorazepam is the preferred choice (due to quick onset and short half-life)<br>• High risk of sedation. Be careful in patients at high risk of falls. |
| **Antidepressants** | SSRIs:<br>Escitalopram 5-10mg/day | Low-dose SSRI or mirtazapine may be helpful in patients with moderate to severe depressive symptoms.<br>• Please be aware of contraindication between citalopram and all other medications known to cause QTc prolongation (including ALL antipsychotics). As a result, citalopram should not be used as a first-line treatment.<br>• Be aware that mirtazapine can cause sedation as a side effect.<br><br>Trazodone may be effective in patients with increased restlessness and agitation.<br>• Be aware that sedation is a possible adverse effect. Be careful in patients at high risk of falls.<br>• Trazodone can be given as a single dosage or divided doses. |
| | Mirtazapine<br>Oral: 15-30mg/day | |
| | Trazodone<br>Oral: 50-150mg/day | |
| **Mood Stabilizers / Anticonvulsants**[1] | Carbamazepine<br>Oral: Up to 400mg/day<br>*(in divided doses)* | • Cautiously consider if all other treatment options *(including antipsychotics)* have been ineffective/unsuitable for the patient.<br>• High risk of interactions with other medicines, if necessary, ask advice from your pharmacist.<br>• Be aware of the risk of Steven Johnsons Syndrome and stop if the patient develops any unexplained rashes. |

1. Off label use (Not approved by FDA), however these medications are supported by evidence to be used in management of BPSD.

* Monitoring: *See Appendix 2*

## • Antipsychotics

***Antipsychotics should not be used to treat agitation and aggression in people with dementia regularly. They should only be considered if the patient is in grave danger of harming themselves/others, or when experiencing agitation, hallucinations, and delusions, causing severe distress.***

The antipsychotics used as Off label (Not approved by FDA), however it is supported by evidence to be used in management of BPSD.

**Prescribers should do the following before prescribing antipsychotics:**

1. Target symptoms should be identified and other causes for these symptoms should be ruled out.

2. An individual risk/benefit analysis should be used to determine which antipsychotic to use. Including:
   - *Examining the cerebrovascular risk factors of patients. (Due concern should be given to those with risk factors such as aged over 80, obesity, hypertension, diabetes, cardiac arrhythmias, smoking);*
   - *Previous antipsychotic history;*
   - *Side effect profile (e.g. movement disorders and Parkinson's Disease/Dementia with Lewy Bodies).*

3. There should be a comprehensive conversation with the patient and/or caregivers about the treatment's potential benefits/risks. Cerebrovascular risk factors should be evaluated, and the possibility of an increased risk of stroke/transient ischemic attack, as well as the potential for cognitive impairment, should be discussed.
   (*Consider if a decision aid may be useful)*

4. A review date must be arranged at least every six weeks, or sooner if the patient is an inpatient, to examine target symptoms, adverse effects and cognition.
   *(*Stop treatment *if there is no apparent benefit, side effects emerge, or cognition deteriorates).*

5. Documentation of the rationale for prescription an antipsychotic, as well as discussion with the patient/carer**.**

Risperidone is preferred as 1st line to treat BPSD. Other antipsychotics, including olanzapine, quetiapine, aripiprazole, and amisulpride, may be considered if risperidone is contraindicated or ineffective. Clozapine and first-

generation antipsychotics are not regularly suggested in patients with BPSD; they should only be used if all other options have been ineffective and the possible benefit outweighs the risk.

Although clozapine should not be used regularly in BPSD, it may sometimes be considered necessary in complex cases or in patients with Parkinson's Disease / Dementia with Lewy Bodies. Clozapine has a low propensity for movement disorders and holds a license for treating psychosis in Parkinson's Disease.

| ***Antipsychotic*** | ***Usual dose range in Dementia (Route of Administration is oral)*** | ***Comments*** |
|---|---|---|
| **Risperidone** | 0.25 – 2mg/day | • **First-line** antipsychotic.<br>• The only antipsychotic licensed for use in BPSD in the UK. |
| **Olanzapine** | 2.5 – 10mg/day | • **Second-line** antipsychotic, where risperidone is either contraindicated or ineffective. |
| **Quetiapine** | 12.5-300mg/day | • It could be considered as a **first-line** antipsychotic for **patients with Parkinson's Disease or Lewy Body Dementia** to reduce the risk of movement disorders.<br>or<br>• It may be considered as a **third-line** antipsychotic where risperidone and olanzapine are ineffective or contraindicated. |
| **Aripiprazole** | 5 – 15mg/day | • It could be considered as a **second-line** antipsychotic for **patients with Parkinson's Disease or Lewy Body Dementia** to reduce the risk of movement disorders *(where quetiapine is ineffective or contraindicated);*<br>or<br>• It may be considered as a **third-line** antipsychotic where risperidone and olanzapine are ineffective or contraindicated. |
| **Amisulpride** | 25 – 50mg/day | • It should only be tried where all other antipsychotic options have been ineffective or contraindicated. |
| ***Clozapine*** | *12.5-25mg/day* | • *Not routinely recommended for treatment of BPSD.*<br>• *For reference, the licensed dose for Parkinson's Disease psychosis is between 12.5 and 50 mg/day (with the possibility of increasing the dose to a maximum of 100 mg/day in severe cases). At any dose increase, the patient should be thoroughly monitored for sedation and other side effects.*<br>• ***Very slow titration is required*** *in individuals with Parkinson's Disease or Lewy Body Dementia, e.g., 6.25mg for seven days, then 12.5mg for seven days, then review, and any further increase should be done in steps of 12.5mg every seven days.* |

- **Withdrawing Antipsychotics**

***Antipsychotics should be tapered off gradually to avoid a recurrence of symptoms; therefore, a slow reduction of the dose over four weeks or more is usually most appropriate.***

Although specialist psychiatrists have indicated that continuous use, for up to three months, may be appropriate in some cases, the prescriber should plan to review and consider withdrawing the antipsychotic after six weeks.

If patients have side effects such as dizziness, tachycardia, or hypotension when they first started taking the antipsychotic, their blood pressure and pulse should be monitored while it is withdrawn.

The prescriber should also review any additional medication prescribed to prevent antipsychotic side effects, e.g., anticholinergic drugs. This can rarely result in the emergence of pre-existing tardive dyskinesia (usually associated with long-term antipsychotic use).

- **Long Term Treatment**

Although it is a core concept of the NICE Guideline to use antipsychotics for as short a period as feasible, this is not always achievable.

According to some evidence, the cerebrovascular risks are largest during the first few weeks of antipsychotic treatment, then gradually return to baseline after three months. However, long-term antipsychotic treatment (more than 12 months) carries cumulative risks of increased mortality, cognitive deterioration, falls, and other adverse effects.

Only in the following cases may long-term treatment be considered:

- People who still suffer from continuing BPSD
- Where it is believed that discontinuing them will have serious negative consequences
- Where no other treatment options are appropriate or have proven to be effective

**At each review, the decision to continue antipsychotics should be extensively documented in the patient's notes and risk assessment, including the factors considered in making the decision.**

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# • Appendix 1 – Example ABC Record Form

**Consequences: What happened right after the behavior occurred? (Check all of the boxes that apply)**

**What actions did you take to mitigate the situation? Was it effective?**

☐ **Validation of feelings (Effective: Yes ☐ / No ☐)**

☐ **Offering a cup of tea/ drink as a diversion (Effective: Yes ☐ / No ☐)**

☐ **Sitting with the patient and shifting focus to another topic or activity (Effective: Yes ☐ / No ☐)**

☐ **Guiding to another place for safety (Effective: Yes ☐ / No ☐)**

☐ **Eliminating the stimuli causing distress and returning to the patient after a short time (Effective: Yes ☐ / No ☐)**

☐ **Making the area secure for the patient to be in (including moving other residents away) (Effective: Yes ☐ / No ☐)**

☐ **Turning on music / distracting the patient (Effective: Yes ☐ / No ☐)**

☐ **Other (please indicate what: )**

_____

_____ **(Effective: Yes ☐ / No ☐)**

Please write a summary of the incident in the space provided below:

# • Appendix 2 – Monitoring Requirements

## Antipsychotics:

Biological monitoring should be performed on all patients who are taking antipsychotic medication in accordance with the trust's local antipsychotic monitoring policy.

Any inexplicable dizziness, loss of balance, or changes in consciousness that occur while taking atypical antipsychotics should be considered potential symptoms of a cerebrovascular adverse effect, and the patient should be advised to seek medical assistance if any of these symptoms occur.

The treatment should be reviewed at least every six weeks to see if the intended goals are being met. At each review, cognition should be tested to see if the antipsychotic is having a negative impact on the person's cognitive function.

## Other Psychotropic medications:

- General monitoring requirements:

| **Baseline** | **Annually *(unless otherwise stated)*** |
|---|---|
| • BP and pulse<br>• Bloods including:<br>  ○ FBC<br>  ○ U&Es<br>  ○ LFTs<br>  ○ TSH<br>  ○ Fasting lipid profile<br>  ○ Fasting glucose *(random if not possible)*<br>• Basic urine screen<br>• BMI *(Weight and Height)*<br>• Pregnancy test *(If appropriate e.g., early onset)*<br>• ECG *(if indicated by individual risk factors)* | • BMI<br>• BP<br>• Pulse<br>• If the patient is on a medication known to affect lipids or glucose, then fasting lipids & glucose (random if not possible) |

*Adapted from OHFT Psychotropic Monitoring Protocols, 2010*

- Specific Monitoring Requirements:

| | ***Specific monitoring requirements*** *(in conjunction with general monitoring)* |
|---|---|
| **Paracetamol** | No specific monitoring requirements. |
| **Acetylcholinesterase Inhibitors** *(Donepezil, Rivastigmine, Galantamine)* | • **Pulse** – *Bradycardia can occur; so pulse should be checked at every review or more frequently if the patient is symptomatic or has risk factors for bradycardia.*<br>• **Weight** – *Because weight loss can occur, a pre-treatment baseline weight should be established, followed by a 6 – 12 monthly review.* |
| **NMDA Antagonist** *(Memantine)* | No specific monitoring requirements. |
| **Benzodiazepines** | If being used for rapid tranquilization, please follow monitoring protocol in the rapid tranquilization policy. |

## Appendix 2 – Monitoring Requirements

| | |
|---|---|
| **Antidepressant – SSRI** | No specific monitoring requirements, although you may need to consider:<br>• **Sodium** – *SSRIs can cause hyponatremia. Be cautious and watch sodium levels in those with recognized risk factors.*<br>• **Suicide/suicidal thoughts** – *Be aware of the possibility for increased risk, particularly when starting the treatment or increasing the dose. Keep an eye on patients for indicators of increased suicidal ideation.*<br>CITALOPRAM AND ESCITALOPRAM ONLY<br>• **ECG** – *This isn't required because of the risks associated with QTc prolongation, but it may be prudent, especially for people with known risk factors.* |
| **Antidepressant – Mirtazapine** | No specific monitoring requirements, although you may need to consider:<br>• **Bone Marrow Depression** – *Mirtazapine can, in rare cases, cause blood dyscrasias, which can be fatal in some instances; patients over 65 are at the highest risk. Therefore, patients who have started on mirtazapine and experience flu-like symptoms should have their mirtazapine stopped and an FBC as a matter of urgency.* |

| | |
|---|---|
| **Antidepressant – Trazodone** | No specific monitoring requirements, although you may need to consider:<br>• **Bone Marrow Depression** – *Trazodone can, in rare cases, cause blood dyscrasias, which can be fatal in some instances; patients over 65 are at the highest risk. Therefore, patients who have started on mirtazapine and experience flu-like symptoms should have their mirtazapine stopped and an FBC as a matter of urgency*.<br>• **LFTs** – The hepatic function has been reported to be affected by trazodone in a few cases (e.g., jaundice and hepatocellular damage). Therefore, monitoring LFTs, especially after beginning and dose increase, may be advisable in patients with higher risk factors. *Discontinue if such adverse effects occur.* |
| **Carbamazepine** | **Bloods**<br>Baseline:<br>• FBC including platelets<br>• LFTs<br>• U&Es<br>• Pregnancy test<br>Follow up at 6 months:<br>• FBC including platelets<br>• LFTs<br>• U&Es<br>Then every 6 months:<br>• U&Es<br>• Plasma levels*<br>** In psychiatry, there are no set plasma levels. As a result, levels are ineffective in determining efficacy. However, as therapeutic and toxic plasma levels are so close, it is prudent to measure plasma levels to rule out toxicity. The therapeutic levels range is typically 4-12 mg/L or 17-50 micromol/L.*<br>• **Suicide/suicidal thoughts** – *Be aware of the possibility for increased risk, particularly when starting the treatment or increasing the dose. Keep an eye on patients for indicators of increased suicidal ideation.*<br>• **Effects on the bone** – *Known to cause osteomalacia, and long-term use is also linked to decreased bone mineral density and osteopenia, which increases the risk of fracture.* High-risk patients include those immobilized for long periods, those with inadequate sun exposure, and those who have consumed insufficient calcium through their diet (consider vitamin D supplementation).<br>• **Infections and rashes** – *Patients who experience a rash or flu-like symptoms should have their medication reviewed as a matter of urgency.* |

*Adapted from OHFT Psychotropic Monitoring Protocols, 2010*

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## References


(The Maudsley Prescribing Guidelines P.529)
1. National Institute for Health and Care Excellence. Dementia: supporting people with dementia and their carers in health and social care. Clinical Guideline 42, 2011; updated September 2016.

(The Maudsley Prescribing Guidelines P.570)
2. National Institute for Health and Care Excellence. Dementia. Supporting people with dementia and their carers in health and social care. Clinical Guideline 42, 2011; updated September 2016.

3. Steinberg M et al. Point and 5-year period prevalence of neuropsychiatric symptoms in dementia: the Cache County Study. Int J Geriatr Psychiatry 2008; 23:170–177.

4. Salzman C et al. Elderly patients with dementia-related symptoms of severe agitation and aggression: consensus statement on treatment options, clinical trials methodology, and policy. J Clin Psychiatry 2008; 69:889–898.

Ballard C et al. The dementia antipsychotic withdrawal trial (DART-AD): long term follow up of a randomised placebo controlled trial. The Lancet Neurology, 2009;8(2):151-157.

Ballard C et al. Management of agitation and aggression associated with Alzheimer disease. Nature reviews. Neurology, 2009;5(5):245-255.

Ballard C et al. Management of agitation and aggression associated with Alzheimer's disease: Controversies and possible solutions. Current Opinion in Psychiatry, 2009;22(6):532-540.

Banerjee S et al. Study of the use of antidepressants for depression in dementia: the HTA-SADD trial- a multicentre, randomised, DB, PC trial of the clinical effectiveness and cost-effectiveness of sertraline and mirtazapine. Health Technol Assess 2013;17(7).

Bazire S. Psychotropic Drug Directory. Lloyd-Reinhold Publications. 2018. Warwickshire, UK.

Cakir S, Kulaksizoglu I. The efficacy of mirtazapine in agitated patients with Alzheimer's Dementia: A 12-week open label pilot study. Neuropsychiatric Disease and Treatment 2008 4(5) 963-966.

Corbett A.; Smith J.; Creese B.; Ballard C. Treatment of behavioral and psychological symptoms of Alzheimer's disease Current Treatment Options in Neurology, 2012, vol./is. 14/2(113-125).

Department of Health. The use of antipsychotic medication for people with dementia. Time for action. 2009.

Department of Health. Quality Outcomes for People with Dementia: Building on the work of the National Dementia Strategy. Sep 2010

Duff G. Atypical antipsychotic drugs and stroke – Committee on safety of medicines. 2004.

Durán JC, Greenspan A, Diago JI, Gallego R, Martinez G. Evaluation of risperidone in the treatment of behavioral and psychological symptoms. 2005; 17: 591–604.

Dyer et al. An overview of systematic reviews of pharmacological and non-pharmacological interventions for the treatment of behavioural and psychological symptoms of dementia. Int psychogeriatr, 2018; vol/is 30/3(295-309).

Finkel et al. Effects of rivastigmine on behavioral and psychological symptoms of dementia in Alzheimer's disease. Clin Ther. 2004; 26: 980–90.

Fox C, Crugel M, Maidment I *et al.* Efficacy of memantine for agitation in Alzheimer's Dementia: A randomised double-blind placebo controlled trial. PLoS ONE 2012 7(5): e35185 doi:10.1371/journal.pone.0035185.

Herrmann N, Rabheru K, Wang J et al. Galantamine treatment of problematic behavior in Alzheimer disease: post-hoc analysis of pooled data from three large trials. Am J Geriatr Psychiatry 2005; 13: 527–34.

Herrmann N, Lanctot K. Pharmacological management of neuropsychiatric symptoms of Alzheimer disease. Can J Psychiatry 2007;52:630-46.

Husebo et al. Efficacy of treating pain to reduce behavioural disturbances in residents of nursing homes with dementia: cluster randomised clinical trial. BMJ 2011;343.

Kales H, et al. Risk of mortality among individual antipsychotics in patients with dementia. Am J Psychiatry. 2012;169(1):71-79.

Konovalov S, Muralee S, Tampi R. Anticonvulsants for the treatment of behavioral and psychological symptoms of dementia: a literature review. Int Psychogeriatr. 2008;20:293–308.

Lockhart et al. The Efficacy of Licensed-Indication Use of Donepezil and Memantine Monotherapies for Treating Behavioural and Psychological Symptoms of Dementia in Patients with Alzheimer's Disease: Systematic Review and Meta-Analysis. Dementia and geriatric cognitive disorders extra 07/2011;1(1):212-27.

Medcines and Healthcare products Regulatory Agency. Drug Safety Update. Antipsychotics – use in elderly people with dementia. Vol 2. Issue 8. Mar 2009.

National Institute for Health and Clinical Excellence. Dementia: assessment, management and support for people living with dementia and their carers (NG97). 2018.

National Institute for Health and Clinical Excellence. Management of aggression, agitation and behavioural disturbance in dementia: valproate preparations. 2015.

National Institute for Health and Clinical Excellence. Management of aggression, agitation and behavioural disturbance in dementia: carbamazepine. 2015.

National Prescribing Service, The role of antipsychotics in managing BPSD. Prescribing Practice Review 37. 2007.

O'Brien J et al. Clinical Practice with anti-dementia drugs: A revised (third) consensus statement from the British Association for Psychopharmacology. Journal of Psychopharmacology. 2017;1-22. DOI: 10.1177/0269881116680924.

Oxford Health NHS Foundation Trust. Psychotropic Monitoring Guidelines. 2010.

Pollock B et al. A double-blind comparison of citalopram and risperidone for the treatment of behavioral and psychotic symptoms associated with dementia The American journal of geriatric psychiatry, 2007;15(11):942-952.

Pollock B et al. Comparison of citalopram, perphenazine, and placebo for the acute treatment of psychosis and behavioral disturbances in hospitalized, demented patients American Journal of Psychiatry, 2002;159(3):460-465.

Porsteinsson A et al. Effect of citalopram on agitation in Alzheimer disease: the CitAD randomized control trial. JAMA, 2014;311(7):682-691.

Rodda J, Morgan S, Walker J. Are cholinesterase inhibitors effective in the management of the behavioural and psychological symptoms of dementia in Alzheimer's disease? A systematic review of randomized, placebo-controlled trials of donepezil, rivastigmine and galantamine. Int psychogeriatr, 2009;21(5):813-824.

Soyinka A, Lawley D. Antipsychotic prescribing for behavioural and psychological symptoms of dementia. BJ Psych Bulletin. 2007;31(5):176-178.

Street J et al. Olanzapine treatment of psychotic and behavioral symptoms in patients with Alzheimer disease in nursing care facilities: a double-blind, randomized, placebo-controlled trial. Arch Gen Psychiatry. 2000;57(10):968-76.

Rainer M et al. Quetiapine versus risperidone in elderly patients with behavioural and psychological symptoms of dementia: efficacy, safety and cognitive function. European Psychiatry 2007;22:395–403.

RCPsych Atypical antipsychotics and behavioural and psychiatric symptoms of dementia. 2007.

Seitz D et al. Antidepressants for agitation and psychosis in dementia. *Cochrane Database of Systematic Reviews* 2011, Issue 2. Art. No.: CD008191.

Taylor D, Paton C, Kapur S. Maudsley Prescribing Guidelines. Wiley Blackwell. 2018 13th Edition. UK