Guidelines for the management of Behavioural and Psychological Symptoms of Dementia (BPSD)

Aim of guidance:
These guidelines cover the pharmacological management of Behavioural and Psychological Symptoms of Dementia (BPSD) and to, where possible, reduce unnecessary antipsychotic prescribing in dementia.

Background Information

Behavioural and Psychological Symptoms of Dementia (BPSD)

Behavioural and Psychiatric Symptoms of Dementia (BPSD) are a core part of the syndrome of dementia. These include agitation, aggression, wandering, hoarding, sexual disinhibition, shouting, repeated questioning, sleep disturbance, depression, anxiety and psychosis. They can cause significant distress and harm to patients and their carers and they reduce overall quality of life.

These symptoms are very common, with point prevalence estimates (i.e. the proportion of patients having any of the symptoms at any one point in time) ranging between 60-80%, and a cumulative risk of greater than 90% over the course of the illness. The number, type and severity of BPSD symptoms varies between patients and due to multiple symptoms often occurring at the same time, making it difficult to specifically target each one therapeutically.

Management of BPSD is widely debated due to lack of data from robust, well controlled studies, as well as the majority of available agents being linked to severe adverse drug reactions.

Antipsychotics in Dementia

Antipsychotic drugs have been used to manage these symptoms for many years. At first, typical anti-psychotics (haloperidol, droperidol, thioridazine) were commonly prescribed, but as atypical antipsychotics were developed the older drugs were replaced with the newer agents. In 2004 the Committee on Safety of Medicines advised of a clear increase in the risk of stroke with the use of the atypical antipsychotics risperidone or olanzapine in elderly people with dementia (approximately 3-fold increased risk compared with placebo), and that the magnitude of risk outweighed any likely benefit of treating dementia-related behavioral problems with these drugs. A year later a Europe-wide review concluded that this risk could not be excluded for other antipsychotics (atypical or typical).

Following this evidence, many patients’ antipsychotics were stopped abruptly, often with negative effect. It is now recognized that some people benefit from these medications and there are groups (e.g. where there is severe and complex risk) where clinical trials have not been completed but where there may be specific value in using antipsychotics.

In 2006 NICE produced its guidance, updated in 2018, on treating dementia and included specific recommendations for using antipsychotics in this population. It stated that:

- People with dementia who develop non-cognitive symptoms or challenging behaviour should be offered a pharmacological intervention in the first instance only if they are severely distressed or there is an immediate risk of harm to the person or others.
- People with Alzheimer’s disease, vascular dementia or mixed dementias with mild to moderate non-cognitive symptoms should not be prescribed antipsychotic drugs. Those with Dementia with Lewy Bodies (DLB) are particularly at risk of severe adverse reactions.
- Note that these restrictions apply specifically to BPSD. Antipsychotic prescribing is accepted where there are genuine psychotic symptoms, although the risks may be similar.

In 2009 an independent review concluded that anti-psychotics were over-prescribed in dementia. Since then, the government has pledged to reduce this prescribing by two thirds. The following guidance is designed to reduce unnecessary antipsychotic prescribing in dementia and to ensure that, where unavoidable, they are prescribed according to best practice.
Managing Behavioural and Psychological Symptoms of Dementia

(Does not cover rapid tranquilisation of acutely disturbed patients)

- **Does the patient have Behavioural and Psychiatric Symptoms in Dementia?** (Delusions, hallucinations, agitation, aggression, irritability, sleep disturbance, sexual disinhibition etc with steady decline in cognition over 6/12)

  - **Y**
    - Examine and treat any causative problems:
      - **Physical problems** e.g. infection (NB UTI), pain/discomfort, constipation, other illness.
      - **Activity-related** e.g. dressing, washing
      - **Intrinsic to dementia** e.g. wandering
    - **Depression** – consider SSRI / mirtazapine - monitor for hyponatraemia & any initial ↑ in agitation
    - **Anxiety** – consider SSRI - monitor for hyponatraemia & any initial ↑ in agitation. If severe and SSRI not beneficial, consider short term use of benzodiazepine.
    - **Insomnia** – use sleep hygiene methods Consider a 2-3 week trial of a short acting hypnotic or melatonin.

  - **N**
    - Follow relevant Trust guidelines for the treatment of the specific condition.
      - NB: If concomitant diagnosis of dementia and/or is at increased risk of stroke or cerebrovascular (CV) events. Monitor closely for adverse effects.

- **Does the patient have symptoms of Delirium?** (Short history of confusion, hallucination, delusion with fluctuating cognition)

  - **Y**
    - Treat underlying acute medical problems, e.g. UTI, chest infection, side effects of drugs, alcohol and drug withdrawal etc. This usually resolves the behaviour problems.
    - Follow relevant Trust guidelines for the treatment of the specific condition.
      - NB: If concomitant diagnosis of dementia and/or is at increased risk of stroke or cerebrovascular (CV) events. Monitor closely for adverse effects.

  - **N**
    - Is the patient currently being treated for:
      - Schizophrenia,
      - Persistent delusional disorder,
      - Psychotic depression
      - or Bipolar Disorder?

    - **Y**
      - Consider non-pharmacological approaches
        - E.g. Day structure with recreational & social activities; behavioural interventions; psychological & psychosocial interventions; environmental interventions; compensating for sensory impairments and attending to diet & general health.
      - **N**
        - Only consider pharmacological treatment if there are behavioural or psychological symptoms that are severe and pose a risk to the individual or others. Wherever possible, this treatment should be short-term and kept under close review.

- **Is the patient currently being treated for:**
  - Schizophrenia,
  - Persistent delusional disorder,
  - Psychotic depression
  - or Bipolar Disorder?

  - **Y**
    - Follow relevant Trust guidelines for the treatment of the specific condition.
      - NB: If concomitant diagnosis of dementia and/or is at increased risk of stroke or cerebrovascular (CV) events. Monitor closely for adverse effects.

  - **N**
    - No further treatment required. DO NOT use antipsychotic.

If pharmacological treatment is indicated:

- **Start doses low & increase slowly**. Elderly often need only half the normal adult doses.
- **Review regularly & stop if behaviour resolves**. Stopping should be considered after 6 weeks to make a full assessment of ongoing need & benefit.
- **Monitor for side effects & for worsening of cognitive function**.

Pharmacological options for behavioural disturbances (BPSD):

- Paracetamol, 500-1000mg up to QDS, may be beneficial even in patients without overt pain symptoms.
- Acetylcholinesterase inhibitors (First line: Donepezil 5-10mg/day) may be beneficial, if not already prescribed.
- Memantine, 5-20mg/day, may be beneficial, if not already prescribed.
- Trazodone 50 -150mg daily as a single or divided dose may help restlessness and agitation.
- SSRIs, e.g. low dose sertraline, and mirtazapine 15-30mg/day, may be useful in obvious depressive symptoms.
- Lorazepam, 0.5 - 2mg daily in divided doses, may be cautiously considered for short periods in severe acute distress.
- Antipsychotics (be aware of increase stroke risk):
  - First line: Risperidone 0.25-2mg/day (Note – Risperidone is the only licensed antipsychotic for short-term treatment of BPSD).
  - Where risperidone is ineffective/contraindicated consider: Olanzapine 2.5-10mg/day.
  - In patients with Parkinson’s Disease / Dementia with Lewy Bodies or both the above ineffective/contraindicated, consider: Quetiapine 12.5-300mg/day; Aripiprazole 5-15mg/day.
  - Where all other antipsychotics have been ineffective/contraindicated: Amisulpride 25-50mg/day.
  - Clozapine in complex cases or patients with Parkinson’s Disease / Dementia with Lewy Bodies where other options ineffective
- Carbamazepine, up to 400mg/day (divided doses), may be cautiously considered if other options ineffective/contraindicated.

**Monitoring**

Patients should be monitored for worsening of cognitive function, signs of cerebrovascular events (if prescribed antipsychotics) and side effects of medication. All physical monitoring parameters are outlined in appendix 2.

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

Guideline revised by Alexandra Moon, Clinical Services Pharmacist, 2019; approved by OHFT DTC - March 2019

Original guideline written by: Dr Brian Murray, Helen Shaw and Orla Macdonald
1) Assessment of patients’ needs

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

Two potential methods for assessing the potential causes of the patient’s symptoms/behaviours include the PAIN and ABC models:

**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 alongside a complete social and lifestyle history.*

**ABC chart:**
- **A** = Antecedent
- **B** = Behaviour
- **C** = Consequence

*See appendix 1 for an example ABC record sheet.*

2) Management of BPSD

a. Non-Pharmacological Management

Non-pharmacological approaches should always be used as a FIRST LINE in treating behavioural problems associated with dementia.

Due to the number, type and severity of BPSD symptoms varying between patients there is no one management strategy that would be suitable for all patients. Therefore, patients should be assessed individually to establish which approach(es) would be most appropriate.

Examples of non-pharmacological management strategies that could be considered are:

- **Physical presence/Therapeutic touch** may be beneficial for physical non-aggressive behaviours
- **Recreational or social activities** to allow for a sense of structure, meaning and setting for social interaction
- **Behavioural interventions** completing an ABC chart can help establish an appropriate care plan
- **Risk assessment, reduction and intervention**, including appropriate placement
- **Psychological/Psychosocial interventions** for patients, family and/or carers
- **Environmental interventions** design and layout of physical environment and day/night routine
- **Compensating for sensory impairments**, hearing aids/glasses, attending to diet and managing general health
- **Complimentary therapies** (e.g. massage, reflexology, aromatherapy)

b. Pharmacological Management

Pharmaceutical management strategies should be considered on an individual patient basis. When considering the appropriate strategy any predicted benefits must outweigh any anticipated risks for the individual. Pharmacological strategies should only be considered if the BPSD symptoms cause the individual severe distress and/or there is immediate risk of harm to others.

If, based on an individual risk-benefit analysis, pharmacological management is considered appropriate this should be considered as a therapeutic trial. A review date, at least every 6 weeks, should be set for assessing the benefit and adverse effect of the pharmacological management strategy. If there is no benefit or the patient experiences adverse effects by the review date the medication should be withdrawn.

With all medications always start with a low dose and then slowly titrate up gradually (“START LOW AND GO SLOW”).
Pharmacological agents (not including antipsychotics) in BPSD:

The evidence base for the use of any medication in BPSD is conflicting. Given that there are limited treatment options available medications have been included in this guideline which are supported by NICE and/or Maudsley Guidelines, even if there are also some studies suggesting no beneficial effect. Each option should be considered based on the individual patient and regularly reviewed with a view to stopping if no beneficial effect has been seen.

<table>
<thead>
<tr>
<th>Treatment options</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Analgesics</strong></td>
<td></td>
</tr>
<tr>
<td>Paracetamol 500mg – 1g up to QDS</td>
<td>• Treatment of potential pain is of great importance in dementia. Therefore, a trial of paracetamol should be considered for all patients with non-cognitive symptoms, even where there are no overt symptoms of pain.&lt;br&gt;• Maximum dosage in frail patients and those weighing &lt;50kg is 500mg QDS.</td>
</tr>
<tr>
<td><strong>Acetylcholinesterase Inhibitors</strong></td>
<td></td>
</tr>
<tr>
<td>Donepezil 5 - 10mg/day</td>
<td>If not already prescribed for cognitive symptoms, then could be considered for non-cognitive symptoms, which cause significant distress or potential harm, in:&lt;br&gt;• Patients with mild to moderate dementia.&lt;br&gt;• Patients with Lewy Body Dementia.*</td>
</tr>
<tr>
<td>Rivastigmine 3 - 12mg/day (in divided doses)</td>
<td></td>
</tr>
<tr>
<td>Galantamine 8 - 24mg/day</td>
<td><em>NB: Donepezil is considered first line acetylcholinesterase inhibitor for dementia within Oxford Health</em></td>
</tr>
<tr>
<td><strong>NMDA Antagonist</strong></td>
<td></td>
</tr>
<tr>
<td>Memantine 5-20mg/day</td>
<td>If not already prescribed for cognitive symptoms, then could be considered for non-cognitive symptoms, which cause significant distress or potential harm, in:&lt;br&gt;• Patients with moderate to severe dementia.&lt;br&gt;• Patients with mild to moderate dementia where acetylcholinesterase inhibitors have been ineffective or contraindicated.</td>
</tr>
<tr>
<td><strong>Benzodiazepines</strong></td>
<td></td>
</tr>
<tr>
<td>Lorazepam 0.5-2mg/day (in divided doses)</td>
<td>• Benzodiazepines should be avoided where possible.&lt;br&gt;• ONLY use in short term severe acute distress.&lt;br&gt;• Lorazepam is the preferred choice (due to quick onset and short half-life).&lt;br&gt;• High risk of sedation. Care in patients at high risk of falls.</td>
</tr>
<tr>
<td><strong>Antidepressants</strong></td>
<td></td>
</tr>
<tr>
<td>SSRIs e.g. low dose sertraline 25-100mg/day or low dose citalopram 10-20mg/day</td>
<td>Low dose SSRI or mirtazapine may be helpful in patients with moderate to severe depressive symptoms.&lt;br&gt;• Low dose sertraline may be a possible first line option.&lt;br&gt;• Please be aware of contraindication between citalopram and all other medications known to cause QTc prolongation (this includes ALL antipsychotics). For this reason citalopram should not be used first line.&lt;br&gt;• Be aware of sedation as an adverse effect of mirtazapine.</td>
</tr>
<tr>
<td>Mirtazapine 15-30mg/day</td>
<td>Trazodone may be beneficial in patients with increased restlessness and agitation.&lt;br&gt;• Be aware of sedation is a possible side effect. Care in patients at high risk of falls.&lt;br&gt;• Trazodone can be given as a single or divided dosage.</td>
</tr>
<tr>
<td>Trazodone 50-150mg/day</td>
<td></td>
</tr>
<tr>
<td><strong>Mood Stabilizers / Anticonvulsants</strong></td>
<td></td>
</tr>
<tr>
<td>Carbamazepine Up to 400mg/day (in divided doses)</td>
<td>• Cautiously consider if all other treatment options (including antipsychotics) have been ineffective/unsuitable for the patient.&lt;br&gt;• High risk of interactions with other medicines, if necessary contact pharmacy for advice.&lt;br&gt;• Be aware of risk of Steven Johnsons Syndrome and stop if patient develops any unexplained rashes.</td>
</tr>
</tbody>
</table>

Monitoring<br><em>See Appendix 2</em>
Antipsychotics:

Antipsychotics should not be routinely used for treatment of agitation and aggression in people with dementia. They should only be considered if the patient is at serious risk of harming themselves/others OR when experiencing agitation, hallucinations, delusions which are causing severe distress.

Before prescribing antipsychotics, prescribers should:

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

2. The choice of antipsychotic should be made following an individual risk/benefit analysis. Including:
   - Reviewing patients cerebrovascular risk factors. (Due concern should be given to those with risk factors such as: aged over 80, obesity, diabetes, hypertension, smoking, cardiac arrhythmias);
   - Previous antipsychotic history;
   - Adverse effect profile (e.g. movement disorders and Parkinson’s Disease/Dementia with Lewy Bodies).

3. There should be a full discussion with the patient and/or carers regarding possible benefits/risks of treatment. Cerebrovascular risk factors should be assessed and the possible increased risk of stroke/transient ischaemic attack and possible adverse effects on cognition discussed. (Consider if a decision aid may be useful)

4. A review date must be set at least every 6 weeks, or sooner if patient is an inpatient, to review target symptoms, adverse effects and cognition. (Stop treatment if no clear benefit, adverse effects occur, or cognition worsens).

5. Documentation of rationale for prescribing antipsychotic, discussion with patient/carer and each review/outcome MUST be fully documented in the patient’s notes AND risk assessment. (This will allow for it to be clearly identified for future care planning and for audit purposes)

In the UK, risperidone is the only antipsychotic which holds a license for management of BPSD. Where risperidone is contraindicated or ineffective other antipsychotics, including olanzapine, quetiapine, aripiprazole and amisulpride, may be considered. The use of clozapine and first-generation antipsychotics is not routinely recommended in patients with BPSD and should only be considered where all other options have been ineffective and potential benefit outweighs risk.

<table>
<thead>
<tr>
<th>Antipsychotic</th>
<th>Usual dose range in dementia</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risperidone</td>
<td>0.25 – 2mg/day</td>
<td>First line antipsychotic. Only antipsychotic licensed for use in BPSD in the UK.</td>
</tr>
<tr>
<td>Olanzapine</td>
<td>2.5 – 10mg/day</td>
<td>Second line antipsychotic, where risperidone is either contraindicated or ineffective.</td>
</tr>
<tr>
<td>Quetiapine</td>
<td>12.5-300mg/day</td>
<td>Could be considered for first line for patients with Parkinson’s Disease or Lewy Body Dementia as lower risk of movement disorders or May be considered third line where risperidone and olanzapine are ineffective or contraindicated.</td>
</tr>
<tr>
<td>Aripiprazole</td>
<td>5 – 15mg/day</td>
<td>Could be considered second line for patients with Parkinson’s disease or Lewy Body Dementia as lower risk of movement disorders (where quetiapine is ineffective or contraindicated); or May be considered third line where risperidone and olanzapine are ineffective or contraindicated.</td>
</tr>
<tr>
<td>Amisulpride</td>
<td>25 – 50mg/day</td>
<td>Should only be considered where all other antipsychotic options have been ineffective or are contraindicated.</td>
</tr>
</tbody>
</table>
Although it should not be routinely used in BPSD, clozapine 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 the treatment of psychosis in Parkinson’s Disease.

<table>
<thead>
<tr>
<th>Clozapine</th>
<th>12.5-25mg/day</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Not routinely recommended for treatment of BPSD.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>For reference in Parkinson’s Disease psychosis licensed dose is between 12.5 – 50mg/day (with the potential to increase in severe cases doses can be increased to a maximum of 100mg/day). Patient should be closely monitored for sedation and other adverse effects at any dose increase.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Very slow titration needed</strong> in patients with Parkinson’s Disease or Lewy Body Dementia, e.g. 6.25mg for 7 days then 12.5mg for 7 days then review and any further increase should be done in steps of 12.5mg every 7 days.</td>
<td></td>
</tr>
</tbody>
</table>

**Withdrawing antipsychotics**

*It is prudent to remove antipsychotics gradually to prevent a sudden re-emergence of symptoms therefore a slow reduction of the dose over 4 weeks or more, is usually most appropriate.*

The prescriber should plan to review and consider withdrawing the antipsychotic after 6 weeks, although specialist psychiatrists have indicated that continuous use, for up to 3 months, may be appropriate in some individuals.

If patients have experienced side effects such as dizziness, hypotension or tachycardia on initiation of the antipsychotic, then their blood pressure and pulse should be monitored as it is withdrawn.

The prescriber should also review any additional medication prescribed to counteract antipsychotic side effects e.g. anticholinergic medications. Rarely, this can lead to the emergence of pre-existing tardive dyskinesia (usually associated with long term antipsychotic use). This may settle spontaneously, but for advice on management please contact the Medicines Advice Service (medicines.advice@oxfordhealth.nhs.uk or 01865 904365).

**Long term treatment**

Although the central tenet of the NICE guidance is that antipsychotics should be used for as short a period as possible, this is not always possible.

Some evidence suggests the cerebrovascular risks are highest in the first few weeks of treatment with an antipsychotic, but then gradually returning to baseline after 3 months of treatment. However, long term treatment (≥12 months) with antipsychotics carries cumulative risks of increased mortality, cognitive decline, falls and other adverse effects.

Long term treatment should only be considered in:
- People who still have continuing BPSD
- Where it is felt that severe adverse consequences may occur if they are discontinued
- Where no alternative treatment approaches are suitable/have been beneficial

At each review the decision to continue antipsychotics should be fully documented, including the factors considered in making the decision, in the patients notes and risk assessment.

**Monitoring**

See Appendix 2
Bibliography


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


# Appendix 1 – Example ABC Record Form

## ABC Recording Form

*Please complete both sides of this form*

### Name of Patient:

<table>
<thead>
<tr>
<th>Date Behaviour Occurred:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Time Behaviour Occurred:</th>
</tr>
</thead>
</table>

### Location of Behaviour:

- Lounge/Hub
- Bedroom
- Corridor
- Dining room
- Garden
- Outside of the unit
- Bathroom
- Office
- Another patient’s bedroom
- Other (please state where) __________________________

### Antecedents: What was happening immediately prior to the behaviour?

**Patient was... (tick all that apply)**

- Being offered medication
- With family member
- Noisy environment
- Interacting with others
- Walking in garden
- Environment temperature
- Food taken away/brought
- TV turned off /changed
- Receiving Personal Care
- Being overtaken whilst walking around
- Eating
- Being Hoisted
- Other (please state what) __________________________

### Behaviour: What behaviour occurred? (tick all that apply)

- Shouting
- Swearing
- Making Threats
- Hitting
- Choking
- Kicking
- Grabbing
- Pinching
- Spitting
- Digging in nails
- Putting self on floor
- Throwing Objects
- Pouring a drink over someone/on the floor
- Other (please state what) __________________________
**Consequences: What happened immediately after the behaviour occurred? (tick all that apply)**
What did you try to do to de-escalate the situation? Was it effective?

- [ ] Feelings validated (Effective: Yes [ ] / No [ ])
- [ ] Offered a cup of tea/ drink as distraction (Effective: Yes [ ] / No [ ])
- [ ] Sat with patient redirected attention to another topic/activity (Effective: Yes [ ] / No [ ])
- [ ] Guided to another area for safety (Effective: Yes [ ] / No [ ])
- [ ] Removed stimulus that was causing distress and returned to patient after a short period (Effective: Yes [ ] / No [ ])
- [ ] Made area safe for patient to be in (including moving other residents away) (Effective: Yes [ ] / No [ ])
- [ ] Turned on music / distracted patient (Effective: Yes [ ] / No [ ])
- [ ] Other (please state what:) ________________________________ (Effective: Yes [ ] / No [ ])

Please write a brief description of the incident below:
Appendix 2 – Monitoring Requirements

Antipsychotics:

All patients who are prescribed antipsychotic medication should have physical monitoring carried out in line with the trusts local antipsychotic monitoring policy.

Oxford antipsychotic monitoring guidelines can be found here. Buckinghamshire antipsychotic monitoring guidelines can be found here.

Clinicians should regard any unexplained dizziness, loss of balance or alterations of consciousness occurring while taking atypical antipsychotics as potential symptoms of a cerebrovascular adverse effect and the patient should be advised to seek medical attention should any symptoms of cerebrovascular adverse effects occur.

Treatment should be reviewed at least every 6 weeks, to assess whether target goals are being achieved. Cognition should also be assessed at each review to establish whether the antipsychotic is having a detrimental effect on the individual’s cognitive function.

Other Psychotropic medications:

General monitoring requirements:

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

Adapted from OHFT Psychotropic Monitoring Guidelines, 2010

Specific monitoring requirements:

<table>
<thead>
<tr>
<th>Specific monitoring requirements (in conjunction with general monitoring)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paracetamol</td>
</tr>
<tr>
<td>Acetylcholinesterase Inhibitors (Donepezil, Rivastigmine, Galantamine)</td>
</tr>
<tr>
<td>• Pulse – Bradycardia can occur, pulse should be monitored at each review or more frequently if symptomatic/the patient has risk factors for bradycardia.</td>
</tr>
<tr>
<td>• Weight – Weight loss can occur so a pre-treatment baseline weight is recommended followed by 6 – 12 monthly review.</td>
</tr>
<tr>
<td>NMDA Antagonist (Memantine)</td>
</tr>
<tr>
<td>Benzodiazepines</td>
</tr>
</tbody>
</table>
### Appendix 2 – Monitoring Requirements

<table>
<thead>
<tr>
<th>Antidepressant – SSRI</th>
<th>No specific monitoring requirements although you may wish to consider:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• <strong>Sodium</strong> – SSRIs can cause hyponatraemia. Be cautious and monitor sodium in those with known risk factors.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Suicide/suicidal thoughts</strong> – Be aware of increased risk especially when initiating treatment or increasing dose. Monitor patients for potential signs of increased suicidal ideation.</td>
</tr>
</tbody>
</table>

**CITALOPRAM AND ESCITALOPRAM ONLY**

|                           | **ECG** – Due to the warnings around QTc prolongation. This is not compulsory but may be prudent especially in those with known risk factors. |

<table>
<thead>
<tr>
<th>Antidepressant – Trazodone</th>
<th>No specific monitoring requirements although you may wish to consider:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• <strong>Bone Marrow Depression</strong> – Trazodone can in rare cases cause blood dyscrasias, which in some cases can be fatal, highest risk in patients over 65. Patients started on trazodone who report/exhibit flu like symptoms should have their trazodone reviewed as a matter of urgency.</td>
</tr>
<tr>
<td></td>
<td>• <strong>LFTs</strong> – There are rare reports of trazodone affecting hepatic function (e.g. jaundice and hepatocellular damage). In patients with increased risk factors monitoring LFTs particularly after initiation and dose increase may be prudent. Discontinue if such adverse effects occur.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Carbamazepine</th>
<th><strong>Bloods</strong> Baseline:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• FBC including platelets</td>
</tr>
<tr>
<td></td>
<td>• LFTs</td>
</tr>
<tr>
<td></td>
<td>• U&amp;Es</td>
</tr>
<tr>
<td></td>
<td>• Pregnancy test</td>
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<tr>
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<td>Follow up at 6 months:</td>
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<tr>
<td></td>
<td>• FBC including platelets</td>
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<td>• LFTs</td>
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<td>• U&amp;Es</td>
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<td>Then every 6 months:</td>
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<tr>
<td></td>
<td>• U&amp;Es</td>
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<tr>
<td></td>
<td>• Plasma levels*</td>
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* There are no established plasma levels for use in psychiatry. Therefore, levels are of little use in assessing efficacy. However, as therapeutic and toxic plasma levels are so close it is prudent to measure the plasma levels to exclude toxicity. Therapeutic levels generally fall in the range 4-12mg/L or 17-50micromol/L.

|                             | • **Suicide/suicidal thoughts** – Be aware of increased risk especially when initiating treatment or increasing dose. Monitor patients for potential signs of increased suicidal ideation. |
|                             | • **Effects on the bone** – Known to cause osteomalacia, long term use also associated with decreased bone mineral density and osteopenia leading to increased fracture risk. High risk patients include: those immobilised for long periods of time, those with inadequate sun exposure, those with inadequate dietary calcium intake (consider vitamin D supplementation). |
|                             | • **Infections and rashes** – The medication should be reviewed as a matter of urgency in patients who develop a rash or flu like symptoms. |

Adapted from OHFT Psychotropic Monitoring Guidelines, 2010