

## SHARED CARE AGREEMENT

### Methylphenidate, Atomoxetine, Lisdexamfetamine ▼ & Dexamfetamine (Amfexa ▼) for ADHD – Adults

Amber TLS – 3 Months

#### Principles of Shared Care

Shared care agreements provide a framework for the seamless transfer of care from a hospital or specialist service setting to general practice, where this is appropriate and in the patient's best interest. When a specialist considers a patient's condition to be stable or predictable, they may seek the agreement of the GP (or other primary care prescriber) concerned and the patient to share their care.

Patients and/or carers must be centrally involved in any decision-making process. They should be supported by good quality information that helps them to both come to an informed decision about engagement in a shared care arrangement and sets out the practical arrangements for ongoing supplies of medicines.

The existence of a shared care agreement does not necessarily mean that the GP has to agree to and accept clinical and legal responsibility for prescribing; they should only do so if they feel clinically confident in managing that condition. Clinical responsibility for prescribing is held by the person signing the prescription, who must also ensure adequate monitoring.

#### Responsibilities of Secondary Care Specialist

- To confirm diagnosis following full assessment.
- To undertake:
  - a complete history including medication history
  - a review of physical health including weight measurement
  - an assessment of baseline cardiovascular status, including blood pressure and heart rate before prescribing and seek specialist cardiac advice if appropriate. Liaise with the GP to organise an ECG if the treatment may affect the QT interval.
- After transition to adult services, adult healthcare professionals should carry out a comprehensive assessment of the person with ADHD that includes personal, educational, occupational and social functioning, and assessment of any coexisting conditions, especially drug misuse, personality disorders, emotional problems and learning difficulties.
- Carry out a general social and risk assessment for substance misuse.
- Initiate treatment and prescribe for the length of time agreed (3 months) – this should be a sufficient amount of time to allow optimisation of treatment and demonstrate that the patient's response is consistent.
- Discuss the benefits and side effects of treatment with the patient and provide them with information about the medication.
- Review concurrent medications for potential interactions prior to initiation.
- Undertake the clinical assessment and relevant monitoring at baseline and during the initiation period.
- Communicate details of treatment to GP (in writing or via secure email) within the first month of treatment and ask the GP whether he or she is willing to participate in shared care.
- To look out for signs of diversion (transfer of the medicine from the individual for whom it was prescribed to one for whom it is not prescribed), misuse and abuse of methylphenidate, dexamfetamine or lisdexamfetamine.
- Discuss shared care arrangements with the patient/carer, obtain their consent and explain their responsibilities.
- Review the patient's condition and monitor response to treatment on an annual basis and communicate these results to the GP:
  - Weight
  - Blood pressure and pulse (also following dose adjustments)
  - To refer patients who develop symptoms such as medication related palpitations, exertional chest pain, unexplained syncope, dyspnoea, or other symptoms suggestive of heart disease for prompt cardiac evaluation.
  - The development of new or worsening of pre-existing, psychiatric symptoms (also following dose

adjustments and at every visit)

- Inform the GP after initial clinic attendance about the titration plan and thereafter notify the GP if there is any change to treatment or monitoring.
- To notify GP if patient fails to attend two appointments, informing the GP of the need to discharge the patient with an option to re-refer if required.
- Supply GP with clinic letter or discharge summary within 14 days of an outpatient review or inpatient admission, and inform GP if patient does not attend scheduled clinic appointments.
- To inform the patient of the possible effect on driving (for example, ADHD symptoms may impair a person's driving and ADHD medication may improve this; people with ADHD must declare their diagnosis to the DVLA if their ADHD symptoms or medication affect their ability to drive safely).
- Ensure that clear arrangements exist for GPs to obtain advice and support.
- Report adverse events to the MHRA.
- Stop treatment where appropriate or provide GP with advice on when to stop.

#### Responsibilities of GP/Primary Care Prescriber

- Initial referral to secondary care with a full history of any diagnosis or history where caution is needed or methylphenidate, atomoxetine, dexamfetamine or lisdexamfetamine are contraindicated.
- Reply to the request as soon as practicable if they are **unable** to support shared care (in writing or via secure email).
- To provide repeat prescriptions after stabilisation of dose. Prescriptions for methylphenidate and dexamfetamine/lisdexamfetamine should be restricted to a maximum of 30 day's supply and are only valid for 28 days from the date of signature as they are schedule 2 controlled drugs. This is because they are controlled drugs subject to safe custody and specific regulations for prescribing.
- Undertake ongoing clinical assessment and relevant monitoring following initiation period.
- To refer patients who develop symptoms such as palpitations, exertional chest pain, unexplained syncope, dyspnoea, or other symptoms suggestive of heart disease for prompt specialist cardiac evaluation.
- To look out for signs of diversion (transfer of the medicine from the individual for whom it was prescribed to one for whom it is not prescribed), misuse and abuse of methylphenidate or dexamfetamine/lisdexamfetamine.
- Review any new concurrent medications for potential interactions.
- Refer promptly to specialist when any loss of clinical efficacy is suspected (e.g. worsening of disease-related symptoms, new symptoms suggestive of disease recurrence or progression) or intolerance to therapy occurs.
- Report to and seek advice from the specialist on any aspect of patient care that is of concern and may affect treatment.
- Report adverse events to the specialist and MHRA.
- Stop treatment on the advice of the specialist.

#### Responsibilities of Patient/Carer

- Report to the specialist or GP if he or she does not have a clear understanding of the treatment.
- Share any concerns in relation to treatment with medicine.
- Report any adverse effects to the specialist or GP whilst taking the medicine.
- Attend appointments for clinical review and monitoring.
- Return any unused or no longer needed medication promptly to the supplying pharmacy for destruction

#### 1. Summary of condition and treatment aims

Include links to relevant clinical guidelines e.g. NICE

Attention deficit hyperactivity disorder is usually diagnosed according to criteria specified in the Diagnostic and Statistical Manual of Mental Disorders 5<sup>th</sup> Edition (DSM-V).

ADHD is a chronic condition, which may require long-term treatment. All adults with ADHD will benefit from behavioural, educational and psychological input. For some this is all that is required, but for others pharmacological measures will also be needed. These are initiated by a specialist and shared care can be used to minimise the disruption caused by multiple and ongoing outpatient appointments.

In September 2019, NICE updated clinical guidance titled "Attention deficit hyperactivity disorder: diagnosis and management." <sup>1</sup>.

	<p>Please consult the NICE quick reference guide for more information:  <a href="https://www.nice.org.uk/guidance/NG87">https://www.nice.org.uk/guidance/NG87</a></p>	
<p><b>2. Details of medicine and indication</b></p> <p>Please state whether licensed or unlicensed (off-label) use. Note that shared care is generally unsuitable for off-label prescribing unless it is a widely recognised use (e.g. included in BNF)</p>	<p><b>First Choice option: Methylphenidate</b>  <u>Methylphenidate (available as immediate or extended release forms).</u> -  Methylphenidate is a central nervous stimulant thought to regulate dopamine and noradrenaline neurotransmission. Methylphenidate is a Schedule 2 controlled drug. It is available in immediate-release tablets (e.g. Ritalin<sup>®</sup>, Equasym<sup>®</sup>, Medikinet<sup>®</sup>) that are usually given in two or three daily doses. Methylphenidate is also available in modified-release formulations that enable once-daily dosing (e.g. Xaggitin<sup>®</sup>, Xenidate<sup>®</sup>, Delmosart<sup>®</sup>, Matoride<sup>®</sup>, Concerta XL<sup>®</sup>, Equasym XL<sup>®</sup>, Medikinet XL<sup>®</sup>, other brands are available). Modified-release brands provide different release profiles of methylphenidate and switching between brands should be only considered with specialist advice. <b>If a Concerta release profile is required, the branded generic XAGGITIN should be used for NEW patients. Concerta XL should only be used for existing patients or if Xaggitin is found to not be effective.</b></p> <p><b>First choice option: Lisdexamfetamine</b>  <u>Lisdexamfetamine (Elvanse &amp; Elvanse Adult) ▼<sup>2</sup></u> is a long acting prodrug of dexamfetamine, a CNS stimulant. The clinical effect of the drug is 12-13hrs, with significant advantages in safety and clinical effect compared to shorter acting compounds. Lisdexamfetamine allows for once daily dosing and has a lower abuse potential than dexamfetamine. It is a schedule 2 controlled drug. Lisdexamfetamine has a black triangle ( ▼ ) status. Serious suspected reactions (even if well recognised or causal link uncertain) should be reported to the MHRA.  Note that the Elvanse adult ▼ preparation is only available in 30mg, 50mg and 70mg preparations. Elvanse also comes in 20mg, 40mg and 60mg preparations which is also used in adults and is licensed for such use.</p> <p><b>Offer atomoxetine to adults if:</b></p> <ul style="list-style-type: none"> <li>• <b>they cannot tolerate lisdexamfetamine or methylphenidate</b></li> <li>• <b>their symptoms have not responded to separate 6-week trials of lisdexamfetamine and methylphenidate, having considered alternative preparations and adequate doses.</b></li> <li>• <b>Note that this is an off-label use for some adults.</b></li> </ul> <p><u>Atomoxetine</u> – Treatment of attention deficit hyperactivity disorder (under specialist supervision) Atomoxetine is a non-stimulant, non-amphetamine inhibitor of noradrenaline reuptake, although the precise mechanism by which it works on ADHD is unknown. It is not a controlled drug. It is occasionally used when CNS stimulants have not been effective or poorly tolerated or concerns are raised over the abuse potential of the CNS stimulants. Atomoxetine usually takes between 4-12 weeks to be fully effective.</p> <p><u>Dexamfetamine:</u> Dexamfetamine is a sympathomimetic amine with a central stimulant and anorectic activity. NICE NG87 states that the specialist can consider dexamfetamine for adults whose ADHD symptoms are responding to lisdexamfetamine but who cannot tolerate the longer effect profile. Note that this is an off-label use and dexamfetamine is a schedule 2 controlled drug. Also note that it is only the Amfexa ▼ brand (Flynn pharma Ltd) that is licensed to treat ADHD, so do not prescribe generically.</p>	
<p><b>3. Pharmaceutical aspects</b></p>	<p>Route of administration:</p> <p>Formulation:</p>	<p>Oral</p> <p>Tablets or capsules</p>

	Administration details:	As per directions
	Other important information:	
<p><b>4. Usual dose and frequency (including details of dose adjustments, e.g. in renal impairment) and duration of therapy</b></p> <p>Transfer of monitoring and prescribing to Primary care is normally after the patient is on regular dose and with satisfactory investigation results. All dose or formulation adjustments will be the responsibility of the initiating specialist unless directions have been discussed and agreed with the primary care clinician. The duration of treatment will be determined by the specialist, based on clinical response and tolerability. Termination of treatment will be the responsibility of the specialist.</p>	<p><b>Please note that adult ADHD medications are unlikely to increase in dosage once the medication dose is stabilised. Patients with a history of drug dependence or alcoholism may increase their dose on their own initiative. Always ensure dose changes have been authorised by the specialist.</b></p> <p><b>Methylphenidate</b> Not all preparations of methylphenidate have a UK marketing authorisation for treating symptoms of ADHD in adults, although the specialist will preferentially use a licensed preparation in adults. Methylphenidate is not currently licensed for initiation in adult patients but <a href="#">NICE NG87</a> supports its use as a first line option in adults. The usual initial dose of the immediate release preparation is 5mg twice daily increased in weekly increments. Occasionally slower starting regimen may be used depending upon the individual patient. The dose should then be titrated to response and is usually divided two or three times a day. The maximum recommended dose for methylphenidate is 100mg daily and this is rarely exceeded in clinical practice. Modified release preparations usually start at the lowest available dose (18mg for Xaggitin® or Concerta® or 10mg for Equasym® XI and Medikinet® XL) and are then increased gradually in weekly increments. The maximum licensed daily dose for e.g. Xaggitin® or Concerta® XL is 54mg daily while for Equasym® and Medikinet® is 60mg per day. <b>N.B: use Xaggitin 1<sup>st</sup> line rather than Concerta XL for NEW patients.</b></p> <p><b>Lisdexamfetamine ▼ (Elvanse &amp; Elvanse Adult®)<sup>2</sup></b> Lisdexamfetamine is licensed for use in adults with symptoms of ADHD that pre-existed in childhood. Although lisdexamfetamine is not currently licensed for initiation in adult patients, <a href="#">NICE NG87</a> supports its use as a first line option in adults. Lisdexamfetamine is usually initiated at 30mg daily and increased by 10-20mg weekly depending on response and tolerability. Occasionally a lower starting dose of 20mg per day is used if clinically indicated. The maximum daily dose is 70mg / day. Although the manufacturer recommends dose increases on a weekly basis, dose adjustment may well be done on a monthly basis in practice.</p> <p><b>Atomoxetine</b> Atomoxetine is licensed for use in adults with symptoms of ADHD that pre-existed in childhood. Atomoxetine should be initiated at a total daily dose of 40 mg. The initial dose should be maintained for a minimum of 7 days prior to upward dose titration according to clinical response and tolerability. The recommended maintenance daily dose is 80mg to 100mg. The maximum recommended total daily dose is 100 mg. Atomoxetine can be administered as a single dose in the morning. Doses can be taken with or after food. For patients that have difficulties tolerating atomoxetine, the dose can be split into a twice daily regimen. Atomoxetine's mechanism of action makes it less likely to have abuse potential or to cause motor ticks. Peak plasma levels are reached 1 -2 hours after ingestion. The effects of atomoxetine last longer than would be expected from its pharmacokinetics, and once a day administration is effective.</p> <p><b>Dexamfetamine ▼ (Amfexa) (off-label in adults) NB Do not prescribe generically as the generic 5mg tablets are not licensed for ADHD.</b> The recommended starting daily dose is 5 mg once or twice daily (e.g. at breakfast and lunch), increasing if necessary by weekly increments of 5 mg in the daily dose according</p>	

	<p>to tolerability and degree of efficacy observed.</p> <p>In the treatment of hyperkinetic disorders / ADHD, the times at which the doses of Amfexa 5 mg Tablets are administered should be selected to provide the best effect when it is most needed to combat social behavioural difficulties. Normally the first increasing dose is given in the morning. Amfexa 5 mg Tablets should not be taken too late after lunch time to avoid disturbances of sleep.</p> <p>The regimen that achieves satisfactory symptom control with the lowest total daily dose should be employed. The maximum daily dose in children and adolescents usually is 20 mg, although doses of 40 mg may in rare cases be necessary for optimum titration.</p> <p><b>Duration of treatment:</b></p> <p>Patients can choose to try stopping the medication every 1-5 years, with the guidance of the specialist clinic if desired. There is no criterion with specific predictivity on this point, except that patients will generally report definitively either way, if they feel they still need the medication once they are off it for longer than a few days.</p>																																							
<p><b>5. Monitoring requirements</b></p>	<p><b>Monitoring for methylphenidate and dexamfetamine/lisdexamfetamine:</b></p> <table border="1" data-bbox="427 824 1473 1742"> <thead> <tr> <th>Parameter</th> <th>Frequency</th> <th>Action</th> <th>By whom</th> </tr> </thead> <tbody> <tr> <td>Full blood count</td> <td>As clinically indicated</td> <td>Low threshold for investigation rather than schedule for routine testing e.g. if recurrent infections or purpuric rash occur</td> <td>Specialist/GP as agreed</td> </tr> <tr> <td>Blood pressure and pulse</td> <td>At initiation, every 6 months or following a dose change</td> <td>Monitor whilst taking medication &amp; if necessary do an ECG. If the pulse is &gt;100, contact the specialist team.</td> <td>Specialist/GP as agreed</td> </tr> <tr> <td>Weight</td> <td>At initiation, every 6 months or following a dose change.</td> <td>If adversely affected consideration should be given to dose reduction or interrupting therapy in those on long- term treatment.</td> <td>Specialist/GP as agreed</td> </tr> <tr> <td>Monitor for insomnia, mood and appetite changes and the development of tics</td> <td>Ongoing basis and at follow up</td> <td>If adversely affected consideration should be given to dose reduction or interrupting therapy in those on long- term treatment.</td> <td>Specialist/GP as agreed</td> </tr> <tr> <td>Patients should be monitored for the risk of diversion, misuse, and abuse of <b>dexamfetamine</b></td> <td>At initiation, every 6 months or following a dose change.</td> <td>If diversion, misuse or abuse is suspected, contact the specialist for advice.</td> <td>Specialist/GP as agreed</td> </tr> </tbody> </table> <p><b>Monitoring for atomoxetine:</b></p> <table border="1" data-bbox="427 1794 1473 2128"> <thead> <tr> <th>Parameter</th> <th>Frequency of monitoring</th> <th>Action</th> <th>By whom</th> </tr> </thead> <tbody> <tr> <td>Appearance of suicidal behaviour, self-harm or hostility</td> <td>Ongoing basis and at follow up</td> <td>Patients/parents should be advised of this risk and made aware of possible signs/symptoms to report back to the specialist immediately if noticed</td> <td>Specialist</td> </tr> <tr> <td>Blood pressure and pulse</td> <td>At initiation, 6 monthly or following a</td> <td>Monitor whilst taking medication</td> <td>Specialist/GP as agreed</td> </tr> </tbody> </table>				Parameter	Frequency	Action	By whom	Full blood count	As clinically indicated	Low threshold for investigation rather than schedule for routine testing e.g. if recurrent infections or purpuric rash occur	Specialist/GP as agreed	Blood pressure and pulse	At initiation, every 6 months or following a dose change	Monitor whilst taking medication & if necessary do an ECG. If the pulse is >100, contact the specialist team.	Specialist/GP as agreed	Weight	At initiation, every 6 months or following a dose change.	If adversely affected consideration should be given to dose reduction or interrupting therapy in those on long- term treatment.	Specialist/GP as agreed	Monitor for insomnia, mood and appetite changes and the development of tics	Ongoing basis and at follow up	If adversely affected consideration should be given to dose reduction or interrupting therapy in those on long- term treatment.	Specialist/GP as agreed	Patients should be monitored for the risk of diversion, misuse, and abuse of <b>dexamfetamine</b>	At initiation, every 6 months or following a dose change.	If diversion, misuse or abuse is suspected, contact the specialist for advice.	Specialist/GP as agreed	Parameter	Frequency of monitoring	Action	By whom	Appearance of suicidal behaviour, self-harm or hostility	Ongoing basis and at follow up	Patients/parents should be advised of this risk and made aware of possible signs/symptoms to report back to the specialist immediately if noticed	Specialist	Blood pressure and pulse	At initiation, 6 monthly or following a	Monitor whilst taking medication	Specialist/GP as agreed
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	LFTs	As clinically indicated - If physical examination reveals jaundice or other signs of liver abnormalities	Atomoxetine should be discontinued in patients with jaundice or laboratory evidence of liver injury, and should not be restarted	Specialist/GP as agreed
	<p><b>If a person taking ADHD medication has sustained resting tachycardia (more than 120 beats per minute), arrhythmia or systolic blood pressure greater than the 95th percentile (or a clinically significant increase) measured on 2 occasions, reduce their dose and refer them to a specialist (<a href="#">NICE NG87</a>). Local specialists however recommend that a threshold of 100 beats per minute is used to contact the specialist for advice.</b></p>			
<p><b>6. Cautions and contraindications</b></p> <p>Please note this does not replace the Summary of Product Characteristics (SPC) and should be read in conjunction with it.</p>	<p><b>Cautions and contra-indications</b></p> <p><b>Methylphenidate</b></p> <ul style="list-style-type: none"> <li>• Anxiety or agitation; severe depression, suicidal ideation; tics or a family history of Tourette’s syndrome; drug or alcohol dependence ; psychosis; hyperthyroidism; cardiovascular disease; breast feeding.</li> <li>• Diagnosis or history of severe depression, anorexia nervosa or anorexic disorders, suicidal tendencies, psychotic symptoms, mania, schizophrenia, severe mood disorders, or psychopathic or borderline personality disorder.</li> <li>• Diagnosis or history of severe and episodic (type1) bipolar (affective) disorder that is not well- controlled.</li> <li>• Pre-existing cerebrovascular disorders – e.g cerebral aneurysm and vascular abnormalities, including vasculitis or stroke. Unless specialist cardiac advice has been obtained: in pre-existing cardiovascular disorders, including severe hypertension, heart failure, arterial occlusive disease, angina, haemodynamically significant.</li> <li>• Congenital heart disease, cardiomyopathies, myocardial infarction, potentially life-threatening arrhythmias, and dysfunction of cardiac ion channels.</li> <li>• Misuse and cardiovascular events: Misuse of stimulants of the central nervous system may be associated with sudden death and other serious cardiovascular adverse events.</li> <li>• Seizures: Methylphenidate may lower the convulsive threshold and should be used with caution in patients with epilepsy.</li> <li>• Concomitant use of monoamine oxidase inhibitors (MAOIs) or within 14 days after treatment (due to risk of hypertensive crisis).</li> </ul> <p><b>Lisdexamfetamine</b></p> <ul style="list-style-type: none"> <li>• As for methylphenidate above and hyperthyroidism or thyrotoxicosis, moderate to severe hypertension, glaucoma.</li> </ul> <p><b>Atomoxetine</b></p> <ul style="list-style-type: none"> <li>• Cardiovascular disease including hypertension and tachycardia; monitor growth in children; QT interval prolongation (avoid concomitant administration of drugs that</li> </ul>			

prolong QT interval); history of seizures; susceptibility to angle-closure glaucoma; hepatic impairment or hepatic disorders; pregnancy; breast-feeding. Seizures are a potential risk with atomoxetine and therefore it should be used with caution in patients with a history of seizure. Discontinuation of atomoxetine should be considered in any patient developing seizure or if there is an increase in seizure frequency.

- Reports of QT interval prolongation have been received in association with atomoxetine. Therefore, it should be used with caution in those with congenital or acquired long QT or a family history of QT prolongation. This risk may be increased if atomoxetine is used concomitantly with other drugs that produce QT prolongation, drugs that can cause electrolyte disturbances and those that inhibit cytochrome P450 2D6 (may increase atomoxetine plasma levels).
- Due to concerns about an increased risk of suicidal thoughts and behaviour, patients should be monitored for signs of depression, suicidal thoughts or suicidal behaviour and referred for appropriate treatment if necessary. Patients and their carers should be informed about the risk and told to report clinical worsening, suicidal thoughts or behaviour, irritability, agitation, or depression.
- There is a risk of rare, but sometimes severe, hepatic disorders. Atomoxetine should be discontinued in patients with jaundice or laboratory evidence of liver injury, and should not be restarted. Patients and carers should be advised of the risk and be told how to recognise symptoms; prompt medical attention should be sought in case of abdominal pain, unexplained nausea, malaise, darkening of the urine or jaundice.
- Concomitant use of monoamine oxidase inhibitors (MAOIs) or within 14 days after treatment (due to risk of hypertensive crisis).

**Dexamfetamine**

- Known hypersensitivity to the active substance or any of the excipients
- Known hypersensitivity to sympathomimetic amines
- Glaucoma
- Pheochromocytoma
- Symptomatic cardiovascular disease, structural cardiac abnormalities and/or moderate or severe hypertension, heart failure, arterial occlusive disease, angina, haemodynamically significant congenital heart disease, cardiomyopathies, myocardial infarction, potentially life-threatening arrhythmias and channelopathies (disorders caused by the dysfunction of ion channels)
- Advanced arteriosclerosis
- Concomitant use of monoamine oxidase inhibitors (MAOI) or within 14 days of MAOI treatment
- Hyperthyroidism or thyrotoxicosis.
- Severe depression, anorexia nervosa/anorexic disorders, suicidal ideation, hyperexcitability, psychotic symptoms, severe and episodic (Type I) Bipolar (affective) Disorder (that is not well-controlled), schizophrenia, psychopathic/borderline personality disorder
- Gilles de la Tourette syndrome or similar dystonias.
- Cerebrovascular disorders (cerebral aneurysm, vascular abnormalities including vasculitis or stroke)
- Porphyria
- History of drug abuse or alcohol abuse

<p><b>7. Significant medicine and food interactions and management</b></p> <p>For a comprehensive list, consult the BNF or Summary of Product Characteristics (<a href="#">SPC</a>)</p>	<ul style="list-style-type: none"> <li>• Please consult the relevant SPC or the BNF for relevant information concerning drug interactions. Issues to note are:-</li> <li>• <b>Atomoxetine</b></li> <li>• Undergoes biotransformation primarily through the cytochrome P450 2D6. Caution in CYP2D6 inhibitors such as fluoxetine, paroxetine, quinidine and terbinafine.</li> <li>• <b>Methylphenidate and dexamfetamine/lisdexamfetamine</b></li> <li>• Contraindicated in patients treated with an MAOI, caution when administering with dopaminergic drugs (such as antipsychotics).</li> <li>• CNS effects of methylphenidate &amp; lisdexamfetamine possibly enhanced by alcohol. Anti-hypertensives: Lisdexamfetamine may reduce the effect of antihypertensives.</li> </ul>
<p><b>8. Adverse effects and management</b></p> <p>Include details of incidence, identification, importance and management.</p>	<p style="text-align: center;"><b>Adverse Effect</b></p> <ul style="list-style-type: none"> <li>• <b>Methylphenidate</b></li> <li>• Very common (<math>\geq 1/10</math>): Headache (usually transient. If it persists, consider stopping treatment and seek advice), insomnia (may be transient, refer back to specialist if it persists), nervousness</li> <li>• Common (<math>\geq 1/100</math> to <math>\geq 1/10</math>): Nasopharyngitis, tic, aggression, anxiety, affect lability, mood swings, depressed mood, dizziness, cough, pharyngo-laryngeal pain, abdominal pain, vomiting, nausea, diarrhoea, stomach discomfort (seek advice if this persists), irritability, pyrexia, decreased weight and appetite (usually transient, try taking medication after meals to improve appetite). Growth retardation during prolonged use and changes in blood pressure and heart rate (usually an increase). If the pulse is <math>&gt;100</math>, contact the specialist team. Erectile dysfunction (contact specialist team for advice).</li> <li>• <b>Lisdexamfetamine</b></li> <li>• Very common (<math>\geq 1/10</math>): Decreased appetite (usually transient, weight loss is rare in adults), insomnia (usually transient. If it persists, consider stopping treatment and seek advice), headache (usually transient. If it persists, consider stopping treatment and seek advice), dry mouth.</li> <li>• Common (<math>\geq 1/100</math> to <math>\geq 1/10</math>): Agitation, anxiety, tics, aggression, tremor, dizziness, somnolence, tachycardia, hypertension, palpitations, diarrhoea, constipation, nausea, vomiting, irritability, libido reduced, erectile dysfunction, fatigue, dyspnoea.</li> <li>• Very Rare (<math>&lt; 1/10,000</math>): Neuroleptic Malignant syndrome - Stop drug and refer. This can be characterised by: hyperthermia, fluctuating conscious level, muscular rigidity, autonomic dysfunction with pallor, tachycardia, labile blood pressure and urinary incontinence, Leucopaenia, thrombocytopenia and anaemia - Refer to specialist team drug may need to be stopped.</li> <li>• <b>Effects on ability to drive and use machines:</b></li> <li>• Methylphenidate and lisdexamfetamine can cause dizziness, drowsiness and visual disturbances including difficulties with accommodation, diplopia and blurred vision. It may have a moderate influence on the ability to drive and use machines. Patients should be warned of these possible effects and advised that if affected, they should avoid potentially hazardous activities such as driving or operating machinery.</li> <li>• This medicine can impair cognitive function and can affect a patient's ability to drive safely. This class of medicine is in the list of drugs included in regulations under 5a of the Road Traffic Act 1988. When prescribing this medicine, patients should be told:</li> <li>• The medicine is likely to affect your ability to drive</li> <li>• Do not drive until you know how the medicine affects you</li> <li>• It is an offence to drive while under the influence of this medicine</li> <li>• However, you would not be committing an offence (called 'statutory defence') if:</li> <li>• The medicine has been prescribed to treat a medical or dental problem and</li> </ul>

	<ul style="list-style-type: none"> <li>You have taken it according to the instructions given by the prescriber and in the information provided with the medicine and</li> <li>It was not affecting your ability to drive safely.</li> <li><b>Atomoxetine</b></li> <li><b>Increase in pulse and BP:</b> Patients may experience a modest increase in pulse (mean &lt;10 bpm) and/or increase in blood pressure (mean &lt;5 mmHg). In most cases these are not clinically important. Due to potential for additive pharmacological effects, caution is advised in patients with hypertension, tachycardia, cardiovascular or cerebrovascular disease.</li> <li>Very common (<math>\geq 1/10</math>): decreased appetite, headache, somnolence, abdominal pain, vomiting, nausea, blood pressure and heart rate increased. GI disturbance is usually transient.</li> <li>Common (<math>\geq 1/100</math> to <math>\geq 1/10</math>): Anorexia, irritability, mood swings, insomnia, agitation, anxiety and depression, tics, dizziness, mydriasis, constipation, dyspepsia, rash, fatigue, lethargy, weight decreased, decreased libido, erectile or ejaculatory disorder, dysmenorrhoea or menstrual irregularities, hot flushes, rash.</li> <li>Suicidal ideation is a rare side-effect which has been reported.</li> <li><b>Effects on ability to drive and use machines:</b></li> <li>Data on the effects on the ability to drive and use machines are limited. Atomoxetine has a minor influence on the ability to drive and use machines. Atomoxetine has been associated with increased rates of fatigue, somnolence, and dizziness relative to placebo. Patients should be advised to use caution when driving a car or operating hazardous machinery until they are reasonably certain that their performance is not affected by atomoxetine.</li> <li><b>Dexamfetamine</b></li> <li>Very common (<math>\geq 1/10</math>): Decreased appetite, reduced weight gain and weight loss during prolonged use in children, Insomnia, nervousness</li> <li>Common (<math>\geq 1/100</math> to <math>\geq 1/10</math>): Arrhythmia, palpitations, tachycardia, Abdominal pain and cramps, nausea, vomiting, dry mouth, Changes in blood pressure and heart rate (usually increases), Arthralgia, Vertigo, dyskinesia, headache, hyperactivity, Abnormal behaviour, aggression, excitation, anorexia, anxiety, depression, irritability.</li> <li>Cessation of, or reduction in amphetamine use that has been heavy and prolonged can result in withdrawal symptoms. Symptoms include dysphoric mood, fatigue, vivid and unpleasant dreams, insomnia or hypersomnia, increased appetite, psychomotor retardation or agitation, anhedonia, and drug craving.</li> </ul>						
<p><b>9. Pregnancy and breast feeding</b></p> <p>It is the responsibility of the specialist to provide advice on the need for contraception to male and female patients on initiation and at each review but the ongoing responsibility for providing this advice rests with both the GP and the specialist.</p>	<p><b>Pregnancy and Lactation</b></p> <ul style="list-style-type: none"> <li>Females of child-bearing potential (females post-menarche) should use effective contraception. Please take expert advice if dealing with patient groups likely to be affected by pregnancy and lactation.</li> </ul>						
<p><b>10. Specialist contact information</b></p>	<table border="1"> <thead> <tr> <th>Contact details</th> <th>Telephone number/e-mail</th> </tr> </thead> <tbody> <tr> <td>Dr Dietmar Hank, Consultant Psychiatrist, AWP Adult ADHD clinic, Petherton Resource Centre, Hengrove, Bristol, BS914 9BP</td> <td>01275 796262 <a href="mailto:Awp.specialisedADHDservices@nhs.net">Awp.specialisedADHDservices@nhs.net</a></td> </tr> <tr> <td>Tania Thomas, RMN, Independent</td> <td></td> </tr> </tbody> </table>	Contact details	Telephone number/e-mail	Dr Dietmar Hank, Consultant Psychiatrist, AWP Adult ADHD clinic, Petherton Resource Centre, Hengrove, Bristol, BS914 9BP	01275 796262 <a href="mailto:Awp.specialisedADHDservices@nhs.net">Awp.specialisedADHDservices@nhs.net</a>	Tania Thomas, RMN, Independent	
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Tania Thomas, RMN, Independent							

**BSW APC:** BaNES, Swindon & Wiltshire (BSW) CCG, Avon & Wiltshire Mental Health Partnership NHS Trust (AWP), Royal United Hospitals Bath NHS Foundation Trust, Great Western Hospitals NHS Foundation Trust, Salisbury NHS Foundation Trust, Virgin Care, Swindon Community Health Services, Wiltshire Health & Care

	Nurse Prescriber, AWP Adult ADHD service, address as above.	
<b>11. References</b>	<ul style="list-style-type: none"> <li>• Summary of Product Characteristics for (Methylphenidate, lisdexamfetamine, atomoxetine, dexamfetamine) via <a href="https://www.medicines.org.uk/emc">https://www.medicines.org.uk/emc</a></li> <li>• BNF online via <a href="https://bnf.nice.org.uk/">https://bnf.nice.org.uk/</a></li> <li>• National Institute for Health and Care Excellence. Attention deficit hyperactivity disorder: diagnosis and management. NG87; March 2018; available at: <a href="https://www.nice.org.uk/guidance/NG87">https://www.nice.org.uk/guidance/NG87</a></li> </ul>	
<b>12. To be read in conjunction with the following documents</b>	<ul style="list-style-type: none"> <li>• NHS England: Responsibility for Prescribing Between Primary &amp; Secondary/ Tertiary Care. Ref 07573, Version 1.0, Published January 2018. Accessed via: <a href="https://www.england.nhs.uk/publication/responsibility-for-prescribing-between-primary-and-secondary-tertiary-care/">https://www.england.nhs.uk/publication/responsibility-for-prescribing-between-primary-and-secondary-tertiary-care/</a></li> </ul>	

<b>Written by (Author Name, Organisation &amp; Role):</b>	Dr Rachel Hobson
<b>Contributors:</b>	Dr Dietmar Hank
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Version number	Author	Purpose/change	Date
2.0	Rachel Hobson	<ul style="list-style-type: none"> <li>• Added in dexamfetamine as a treatment option</li> </ul>	11/5/21

*Shared Care Agreement template adapted with agreement from AWP by Rachel Hobson, October 2020. Version 0.1*