SHARED CARE GUIDELINE

Drug: Methylphenidate, Dexamfetamine, Atomoxetine, Lisdexamfetamine
For Attention Deficit Hyperactivity Disorder in adults aged 16 years and over

Introduction

Indication:

Attention Deficit Hyperactivity Disorder (ADHD) in adults aged 16 years and over. This Shared Care Guideline relates to patients with ADHD whose condition is stable at hand over from secondary to primary care.
This shared care guideline is in accordance with NICE clinical guideline 72
Treatment with Methylphenidate or Dexamfetamine in adults, and Atomoxetine in adults newly diagnosed with ADHD is in the main unlicensed.
Atomoxetine is licensed for the treatment of ADHD in adult patients when pre-existing symptoms during childhood can be confirmed by a third-party. Lisdexamfetamine is licensed for initiation in adults.

This shared care guideline excludes:

Treatment of adults over 16 years with doses of ADHD medication outside NICE CG 72 or in the case of lisdexamfetamine, the SPC
Treatment using more than one ADHD medication
Treatment of patients with ADHD and substance misuse problems
Treatment of patients with ADHD also on complex mental health medication regimes

It is expected that excluded patients will be retained within specialist services

Background:

- ADHD is a heterogeneous behavioural syndrome characterised by the core symptoms of hyperactivity, impulsivity and inattention. While these symptoms tend to cluster together, some people are predominantly hyperactive and impulsive, while others are principally inattentive.
- Symptoms of ADHD are distributed throughout the population and vary in severity; only those with significant impairment meet criteria for a diagnosis of ADHD. Symptoms of ADHD can overlap with symptoms of other related disorders therefore care in differential diagnosis is needed.
- Diagnosis and initiation of treatment must be made by a specialist in the treatment of ADHD
- Stimulants used to treat ADHD work by increasing dopamine levels in the brain to improve focus and functioning
- Drug treatment, in line with the agreed treatment algorithm (Appendix B), is the first-line treatment for adults with ADHD with either moderate or severe levels of impairment. Psychological interventions without medication may be effective for some adults with moderate impairment, but there are insufficient data to support this recommendation. If there is residual impairment despite some benefit from drug treatment, or there is no response to drug treatment, CBT may be considered.
- There is the potential for drug misuse and diversion in adults with ADHD, especially in some settings, such as prison, although there is no strong evidence that this is a significant problem.
- Symptoms of ADHD become evident during childhood and patients are comprehensively assessed and diagnosed by specialists in the treatment of ADHD in children. For some young people with a sustained diagnosis, symptoms may persist into adulthood requiring treatment. This is addressed in NICE Clinical Guideline 72.
- The service specification for the commissioning of specialist ADHD services for over 16 years (over 18 years in East Lancs Health Economy) includes scope for shared care in prescribing and monitoring with General Practitioners when patients have been diagnosed, initiated on treatment and stabilised.
- **Methylphenidate and Dexamfetamine are both Schedule 2 Controlled Drugs. Normal controlled drugs prescription requirements should be followed.**

Form	**Methylphenidate**	**Atomoxetine** (Strattera®)	**Dexamfetamine**	**Lisdexamfetamine** (Elvanse Adult®)
	Tablets 5mg, 10mg, 20mg Tablets M/R 18mg, 27mg, 36mg (Concerta® XL) Capsules M/R 10mg, 20mg, 30mg (Equasym XL®) Capsules M/R 5mg, 10mg, 20mg, 30mg, 40mg (Medikinet XL®)	Capsules 10mg, 18mg, 25mg, 40mg, 60mg, 80mg, 100mg	Tablets 5mg	Adult Hard Capsules 30mg, 50 mg and 70mg.

Dose & Administration **(For full details see NICE CG72 and the individual SPCs)**	**Methylphenidate** Aged 16-18: Initially 5mg 1-2 times daily. Increase as needed at weekly intervals by 5-10mg daily. Maximum 60mg daily Adults: Initially 5mg three times daily Increase over 4-6 weeks titrated against symptoms and side effects. Maximum 100mg daily given in up to 4 divided doses. *MR preparations are not interchangeable. Prescribe by brand. For dosing see SPCs.*	**Atomoxetine** (Strattera®) Weight <70kg: Initially 0.5mg/kg daily for 7 days Increase according to response. Usual maintenance 1.2mg/kg daily Weight >70kg: Initially 40mg daily for 7 days Increase according to response Usual maintenance 80-100mg daily *Single daily dose in the morning but may be divided, second dose no later than early evening*	**Dexamfetamine** Aged 16-18: Initially 2.5mg 2-3 times daily. Increase as needed at weekly intervals by 5mg daily. Maximum 1mg/kg daily (40mg daily has been needed by older children) Adults: Initially 5mg twice daily Increase over 4-6 weeks titrated against symptoms and side effects Maximum 60mg daily. ***All** maintenance doses given in 2-4 divided doses*	**Lisdexamfetamine** (Elvanse Adult ®) Adults: Initially 30mg once daily in the morning. May be increased by 20mg increments, at approximately weekly intervals. Maximum recommended dose is 70 mg/day. In patients with severe renal insufficiency (CrCl<30 mL/min) maximum dose should not exceed 50mg/day; further dosage reduction should be considered in patients undergoing dialysis.

Secondary Care Responsibilities

Secondary Care Responsibilities are:

1. To conduct pre-treatment assessments in line with NICE Clinical Guideline 72 namely:
   - A full mental health and social assessment
   - A full history and physical examination, including:
     - assessment of history of exercise syncope, undue breathlessness and other cardiovascular symptoms
     - heart rate and blood pressure (plotted on a centile chart), weight and height
     - family history of cardiac disease and examination of the cardiovascular system
     - an electrocardiogram (ECG) if there is past medical or family history of serious cardiac disease, a history of sudden death in young family members or abnormal findings on cardiac examination
     - Risk assessment for substance misuse and drug diversion.
2. To initiate treatment in line with NICE clinical guideline 72.
3. To provide information about the medication to patients, including common side effects, necessary monitoring, and where that monitoring will take place.
4. To advise patients of the rare reports of hepatic disorders providing guidance on suggestive symptoms, and rare reports of suicidal ideation with Atomoxetine and instruct patients as to whom they should report these, should they occur.
5. To titrate doses according to the NICE CG 72 recommendations for the medication prescribed.
6. To continue all necessary physical health monitoring during the titration period and monitor for side effects
7. To prescribe and monitor the patient for a minimum period of three months and until the patient is on a stable dose.
8. To write to the General Practitioner once this state is achieved and ask that they consider prescribing under shared care arrangements, providing full details of the medication, brand and formulation prescribed, dose, response, side effects experienced, baseline monitoring assessments and on-going monitoring required. A further supply of medication will be provided at this point to enable consideration of the request by the GP and give time for the practice to make any necessary changes to their prescribing systems.
9. To keep the patient informed of the process at all stages to ensure continuity of treatment.
10. To explain to the patient their role in the provision of appropriate and safe treatment, ensuring the patients understanding of their condition, drug treatment and need for compliance; their need to share any concerns and to participate in the monitoring of therapy and assessment of outcomes of treatment.
11. To conduct an annual face to face medication review for all patients covered by this shared care guidance, and consider discontinuation if the patient has been stable in the preceding year. Inform GP of any decisions made, monitoring performed and results.
12. To contact the GP within 3 days of a patient missing a specialist face to face appointment to advise whether treatment should be withheld
13. To resume prescribing and monitoring of the patient when a decision for managed withdrawal of treatment has been taken.
14. To provide prompt on-going advice to General Practitioners as required.
15. To provide advice promptly about on-going monitoring requirements to the GPs on discharge from the service.
16. To continue to provide emergency appointments where patients are receiving prescriptions from their GP and they feel that a prompt assessment or review of their ADHD treatment is required. E.g. new or worsening seizures, development of psychotic symptoms, suicidal thinking and self-harm of an urgent nature with Atomoxetine or if diversion of medication is suspected with methylphenidate dexamfetamine or lisdexamfetamine.
17. Accept referrals back from primary care for medication discontinuation.
18. Provide advice to the GP as to the changes in parameters that should trigger urgent referral back to the specialist.

Primary Care Responsibilities	**Primary Care Responsibilities are:** ***Ensure that shared care arrangements are all in place before taking over prescribing/monitoring*** 1. To consider requests to prescribe under shared care arrangements and reply in a timely manner. 2. To provide continuation prescriptions, or identify any concerns about the request to the prescriber in the specialist team. 3. To monitor the patient in accordance with Appendix A and the section below and contact the specialist team if results give rise to concern. 4. To contact specialists within the team where concerns arise about a patient's presentation or when advice is needed. E.g. new or worsening seizures, development of psychotic symptoms, suicidal thinking and self-harm of an urgent nature with Atomoxetine or if diversion of medication is suspected with methylphenidate dexamfetamine or lisdexamfetamine. 5. To refer back to secondary care if withdrawal of treatment might be indicated. This could be because the patient is: • Well controlled and has been free of ADHD symptoms for at least one year whilst taking medication • ADHD symptoms are not evident on days when medication is forgotten or missed • There is evidence of misuse or diversion of ADHD medication ***Discontinuation of treatment in Primary Care arrangements*** *As a joint decision with specialist team providing specific advice in case of adverse effect pending assessment.* *Following non-attendance at annual specialist team review pending that review taking place or if there is failure to engage with the review process.*
Monitoring Required in Primary Care	**See Appendix A for more detailed information** Any ongoing monitoring requirements for individual patients discharged from the service will be identified by the specialist service as part of the discharge information to the GP. Primary care should contact specialists within the team where concerns arise about a patient's presentation or when advice is needed. E.g. new or worsening seizures, development of psychotic symptoms, suicidal thinking and self-harm of an urgent nature with Atomoxetine or if diversion of medication is suspected with methylphenidate dexamfetamine or lisdexamfetamine.
Common Adverse Effects	**Please refer to the SPC or BNF for full list.** **Methylphenidate and Dexamfetamine:** Decreased appetite, weight loss, growth retardation, insomnia, mood changes, headache, dizziness, drowsiness, tachycardia, increased blood pressure, cough, gastrointestinal side effects, rashes, delusions, hallucinations, anxiety, panic, stimulant related tics, sexual dysfunction. **Atomoxetine:** Emergence of suicidal behaviour, self-harm or hostility; serious liver damage; decreased appetite, weight loss, insomnia, irritability, headache, drowsiness, dizziness, gastrointestinal side effects, lethargy, increased heart rate and blood pressure, dysmenorrhoea, sexual dysfunction, rashes. **Lisdexamfetamine:** Decreased appetite, insomnia, headache, dry mouth, agitation, anxiety, decreased libido, psychomotor hyperactivity, bruxism, dizziness, restlessness, tremor, tachycardia, palpitation, dyspnoea,diarrhoea, constipation, upper abdominal pain, nausea, hyperhidrosis, erectile dysfunction, irritability, fatigue, feeling jittery, increased blood pressure, decreased weight. Patients should be aware of the possible side effects of the medication they are taking and what to do and who to contact should they experience any.
Potentially Serious Drug Interactions (as listed in the BNF)	**Methylphenidate:** Adrenergic neurone blockers: antagonism of hypotensive effect Coumarins: possible increased anticoagulant effect MAOIs and Moclobemide: risk of hypertensive crisis SSRIs and tricyclic antidepressants: Methylphenidate may inhibit metabolism of the antidepressants **Dexamfetamine:** Guanethidine: antagonism of hypotensive effect MAOI's and Moclobemide: risk of hypertensive crisis **Atomoxetine:** Methadone, Amiodarone, Disopyramide, Moxifloxacin, parenteral erythromycin, mefloquine, antipsychotics which prolong QTc interval, sotalol, hypokalaemia secondary to diuretics : Increased risk of ventricular arrhythmias Antidepressants: increased risk of seizures. Additionally: SSRIs: Potential for increased Atomoxetine levels with paroxetine and fluoxetine. MAOIs: Two week washout period required between and MAOI and Atomoxetine prescriptions. Tricyclics: Increased risk of ventricular arrhythmias. **Lisdexamfetamine:** Guanethidine: antagonism of hypotensive effect MAOI's and Moclobemide: risk of hypertensive crisis Chlorpromazine: effects of lisdexamfetamine possibly reduced by chlorpromazine. **Please refer to the BNF or other texts for full list.**

Contraindications	**Methylphenidate:** Severe depression, suicidal ideation, anorexia nervosa, psychosis, uncontrolled bipolar disorder, hyperthyroidism, cardiovascular disease, structural cardiac abnormalities, phaeochromocytoma, vasculitis, cerebrovascular disorders. **Dexamfetamine:** cardiovascular disease including moderate to severe hypertension, structural cardiac abnormalities, advanced arteriosclerosis, hyper excitability or agitated states, hyperthyroidism, history of drug or alcohol abuse. **Atomoxetine:** Phaeochromocytoma. **Lisdexamfetamine:** Advanced arteriosclerosis, agitated states, hyperexcitability, hyperthyroidism, thyrotoxicosis, moderate hypertension, severe hypertension, symptomatic cardiovascular disease, glaucoma.
This guidance does not replace the SPCs, which should be read in conjunction with this guidance.	
References	NICE Clinical Guideline 72. Attention deficit hyperactivity disorder: Diagnosis and Management of ADHD in children, young people and adults. September 2008. http://www.nice.org.uk/guidance/CG72 NICE Quality Standard QS39. Attention Deficit Hyperactivity Disorder. July 2013. http://www.nice.org.uk/guidance/QS39/chapter/introduction **Dexamfetamine SPC** http://www.mhra.gov.uk/home/groups/spcpil/documents/spcpil/con1360040118026.pdf **Methylphenidate SPCs** Concerta modified release http://www.medicines.org.uk/emc/medicine/8382/ Equasym modified release http://www.medicines.org.uk/emc/medicine/15804/ Medikinet immediate release tablets http://www.medicines.org.uk/emc/medicine/19664/ Medikinet modified release http://www.medicines.org.uk/emc/medicine/19510/ Ritalin immediate release tablets http://www.medicines.org.uk/emc/medicine/1316/ **Atomoxetine SPC** Strattera http://www.medicines.org.uk/emc/medicine/14482 **Lisdexamfetamine SPC** Elvanse adult hard caps, 30 50 & 70mg https://www.medicines.org.uk/emc/medicine/30377

Version Control

Version Number	Date	Amendments Made	Author
Version 2.0	February 2016	Lisdexamphetamine Incorporated	Susan McKernan Midlands and Lancashire CSU

APPENDIX A: Monitoring Requirements

Baseline and initial monitoring until the patient is on a stable dose will be carried out by LCFT.

Monitoring to be carried out by GPs under shared care

Monitoring required per intervention	Methylphenidate	Atomoxetine	Dexamfetamine	Lisdexamfetamine
Cardiac function and blood pressure • Ensure heart rate and blood pressure are monitored every 6 months • Sustained resting tachycardia, arrhythmia or systolic blood pressure greater than the 95th percentile (or a clinically significant increase) should prompt referral to LCFT	✓	✓	✓	✓
Weight Ensure weight is monitored every 6 months Strategies to reduce weight loss, include: • Taking medication either with or after food, rather than before meals • Eating additional meals or snacks early morning or late evening when stimulant effects have worn off • Obtaining dietary advice and eating high-calorie foods of good nutritional value.	✓	✓	✓	✓
New or worsening psychotic symptoms (delusions, hallucinations, anxiety, panic) • Monitor every 6 months and refer to LCFT for full assessment and review of treatment if this develops	✓	✓	✓	✓
Monitoring in response to symptoms only				
Full blood count To be carried out if recurrent infections or development of purpuric rash • GP to arrange test and copy to specialist	✓	✓	✓	✓
Blood tests for liver function If abdominal pain, unexplained nausea, jaundice, darkened urine or malaise. • If an adverse effect is suspected LCFT should be contacted for advice and an urgent assessment • GP to copy in specialist to any blood tests undertaken	N/A	✓	N/A	N/A
Cardiac evaluation Ifdevelop symptoms such as exertional chest pain, unexplained syncope, or other symptoms suggestive of cardiac disease during treatment.	N/A	N/A	N/A	✓

Annual face to face medication review by LCFT

Medication review	Methylphenidate	Atomoxetine	Dexamfetamine	Lisdexamfetamine
An annual medication review to assess the patient for ongoing treatment. Carried out by LCFT and to also include all physical monitoring.	✓	✓	✓	✓

APPENDIX B: Adult ADHD Treatment Algorithm