

Shared Care Guidelines

Methylphenidate (immediate release and long acting), Dexamfetamine and Atomoxetine for Attention Deficit Hyperactivity Disorder (ADHD) in Adults

BACKGROUND

ADHD is a neurodevelopmental condition which manifests as cognitive and behavioural deficits. It is characterised by the core symptoms of hyperactivity, impulsivity and inattention. ADHD is thought to be a persistent condition and a diagnosis of adult ADHD should only be made by specialist psychiatrist or appropriately qualified healthcare professional with training and expertise in the diagnosis of ADHD. Drug treatments for adults with ADHD should always form part of a comprehensive treatment programme that focuses on psychological, behavioural and educational or occupational needs.

SHARED CARE CRITERIA

- Prescribing responsibility will only be transferred when it is agreed by the consultant and the General Practitioner (GP) that the patient's condition is reasonably predictable and the treatment regime has been specified.
- Referral of the patient to the GP will be subject to the GP's agreement. If the GP is not confident to undertake this role, then he or she is under no obligation to do so. In such an event, the total clinical responsibility for the patient remains with the specialist.
- The hospital will continue to provide prescriptions until there has been a successful transfer of the responsibilities as outlined below.
- The patient will be commenced and stabilised on methylphenidate, dexamfetamine or atomoxetine prior to referral to GP for shared care.
- The patient on discharge will be supplied sufficient quantity for 4 weeks which is to be continued by GP.

RESPONSIBILITIES

Consultant

- Initiate and stabilise treatment with methylphenidate, dexamfetamine and atomoxetine. Communicate to GP which brand of methylphenidate long acting is prescribed, as different brands are not interchangeable.
- Discuss the benefits and side effects of treatment with patient.
- Confirm with the GP whether he or she is willing to participate in shared care, and agree with the GP as to who will discuss the shared care arrangement with the patient.
- Send a letter to the GP requesting shared care stating the patient's diagnosis.
- Periodically review the patient's condition and communicate promptly with the GP when treatment is changed. Ensure test results are communicated to GP.
- Advise the GP on when to adjust the dose, discontinue treatment, or consult with the consultant.
- Report adverse events to the CSM/MHRA via Yellowcard located in BNF or online www.yellowcard.gov.uk and GP
- Ensure that clear backup arrangements exist for GP to obtain advice and support.

General Practitioner (GP)

- Reply to the request for shared care as soon as practicable
- Prescribe methylphenidate, dexamfetamine and atomoxetine at the dose recommended.
- Adjust the dose as advised by the consultant.
- Report to and seek advice from the consultant on any aspect of patient care that is of concern and may affect treatment.
- Refer back to the consultant if the patient's condition deteriorates, as advised.
- Stop treatment on the advice of the consultant or immediately if an urgent need to stop treatment arises.
- Monitor patient's pulse, BP and weight
- Report adverse events to the consultant and the MHRA/ CSM via Yellowcard located in BNF or online www.yellowcard.gov.uk.
- Communicate any test results to consultant.

Patient

- Report to the consultant or GP if he or she does not have a clear understanding of the treatment.
- Share any concerns in relation to treatment with methylphenidate, dexamfetamine and atomoxetine.
- Inform consultant or GP of any other medication being taken, including over-the-counter products.
- Report any adverse effects or warning symptoms to the consultant or GP whilst taking methylphenidate, dexamfetamine and atomoxetine.

LICENSED INDICATIONS

Currently only atomoxetine is licensed for treatment of adults with ADHD provided that it was started before the age of 18. The prescription of atomoxetine for the first time after the age of 18 and the prescription of stimulants is "off-label". NICE recommends drug treatment as first-line in adults with ADHD with either moderate or severe levels of impairment (see NICE clinical guideline 72).

Methylphenidate and **dexamfetamine** are schedule 2 **controlled drugs (CD)** thus are subject to prescription requirements. Hence prescriptions may be hand written with indelible ink, signed and dated by the prescriber with their address and must always state in the prescriber's own handwriting: name and address of patient; form and strength of preparation (e.g. 20mg capsules); the dose (e.g. 20mg TDS) and total quantity or number of dose units in words **AND** figures (e.g. 420mg = Four Hundred and Twenty milligrams or Twenty One (21) capsules). Alternatively where computer generated

prescriptions for controlled drugs are issued, only the signature has to be in the prescriber's own handwriting. A prescription can be given for a maximum of 28 days.

DOSE AND ADMINISTRATION

Refer to most current BNF (section 4.4)

ADVERSE EFFECTS

For a full list see manufacturer's Summary of Product Characteristics (SPC) www.medicines.org.uk and also current BNF www.bnf.org/bnf.

Adverse Effect	Frequency	Management
Methylphenidate		
Nervousness and insomnia	>10%	Review dose and/or omit afternoon/evening dose if using TDS regime
Decreased appetite	1-10%	Usually transient. Try taking medicine concomitantly with food if it persists
Headache, drowsiness, dizziness	1-10%	
Abdominal pain, nausea & vomiting, dry mouth	1-10%	Occurs at initiation. May be alleviated by concomitant food intake.
Tachycardia, palpitations, increased blood pressure	1-10%	Discontinue if significant. Refer back to consultant
Tic, aggression, anxiety, irritability	1-10%	Discontinue if significant (N.B dose titration should be slower if tics/seizures are already present). Refer back to consultant
Drug induced psychosis (e.g hallucinations, restlessness), depression, mood swings	<1%	Discontinue. Refer back to consultant
Dexamfetamine		
Aggressive behaviour, anxiety, confusion, delirium, depression, euphoria ,insomnia ,irritability, tics, night terrors,	Not stated	Reduce dose, ensure not given too near bedtime. Discontinue if tics develop. Refer back to consultant
Paranoia, psychosis		Withdraw drug. Refer back to consultant

Adverse Effect	Frequency	Management
Palpitations, tachycardia, Change in blood pressure, cardiomyopathy, chest pain, death due to cardiovascular collapse	Not stated	Check pulse after every dose change. Do an ECG if necessary
Atomoxetine		
Appetite decreased, dry mouth, nausea	>10%	Usually settles after 1 st month of therapy
Insomnia	>10%	
Abdominal pain, constipation, dyspepsia, flatulence,	1-10%	
Weight decrease	1-10%	Usually settles after initial weight loss
Palpitations, tachycardia,	1-10%	
Libido decreased, sleep disorder, dizziness, sinus headache, tremor, fatigue, lethargy	1-10%	
Dysuria, urinary hesitation, urinary retention	1-10%	
Dysmenorrhoea, ejaculation disorder, erectile dysfunction, irregular menstruation, male genital pain,	1-10%	
Blood pressure increased	0.1-1%	Monitor. Discontinue if clinically indicated
Liver toxicity	0.001-0.1%	Discontinue drug. Refer back to consultant
Post-Marketing Experience Spontaneous Reports (Atomoxetine)		
Suicide-related events, aggression, hostility and emotional lability, psychosis (including hallucinations), agitation, Seizure, QT interval prolongation, Abnormal liver function tests, jaundice, hepatitis	Not stated	

CAUTIONS

Methylphenidate: Pregnancy, breast feeding, history of seizures, avoid abrupt withdrawal.

Dexamfetamine: Anorexia, mild hypertension, psychosis or bipolar disorder, renal impairment, history of epilepsy, tics or Tourette syndrome, avoid abrupt withdrawal.

Atomoxetine: Cardiovascular disease, structural cardiac abnormalities, QT interval prolongation, psychosis/mania, history of seizures, aggressive behaviour/hostility/emotional lability, hepatic impairment, pregnancy and lactation.

CONTRAINDICATIONS

Methylphenidate: Anxiety/agitation/tension, tics or family history of Tourette or other movement disorders, known drug dependence/history of drug dependence/alcoholism, depression, psychosis, anorexia nervosa, psychopathological personality structure, history of aggression, suicidal ideation, severe hypertension, hyperthyroidism, angina pectoris, cardiac arrhythmia, glaucoma, concomitant use or use within 2 weeks of MAOI

Dexamfetamine: Symptomatic cardiovascular disease, structural cardiac abnormalities/moderate or severe hypertension, advanced arteriosclerosis, concomitant use or use within 2 weeks of MAOI, history of drug/alcohol abuse, hyperthyroidism, glaucoma, hyperexcitability, pregnancy and lactation.

Atomoxetine: Concomitant use or use within 2 weeks of MAOI, narrow-angle glaucoma.

INTERACTIONS

- Adrenergic Neurone Blockers- Dexamfetamine antagonises hypotensive effect of guanethidine.
- Alcohol- Effects of methylphenidate possibly enhanced by alcohol.
- Analgesics- Increased risk of ventricular arrhythmias with concomitant use of atomoxetine and methadone. Possible increased risk of convulsions with concomitant use with tramadol.
- General Anaesthetics (GA)-Increased risk of hypertension when methylphenidate given with volatile liquid GA
- Anticoagulants- Methylphenidate possibly enhances anticoagulant effect of coumarins.
- Antidepressants- Risk of hypertensive crisis when methylphenidate/dexamfetamine/atomoxetine given with MAOI/moclobemide. Methylphenidate possibly inhibits metabolism of SSRI's and TCA's. Metabolism of atomoxetine possibly inhibited by fluoxetine and paroxetine. Increased risk of convulsions with atomoxetine and antidepressants
- Antipsychotics- Dexamfetamine possibly antagonises antipsychotic effects of chlorpromazine, methylphenidate possibly increases side effects of risperidone. Increased risk of ventricular arrhythmias when atomoxetine given with antipsychotics that prolong QT interval.
- Clonidine- Serious adverse events reported with concomitant use of methylphenidate and clonidine.
- Increased risk of cardiovascular side-effects when parenteral salbutamol given with atomoxetine. Increased risk of ventricular arrhythmias with concomitant use of atomoxetine and amiodarone, disopyramide, moxifloxacin, parenteral erythromycin, mefloquine, sotalol, diuretics (due to hyperkalaemia).
- See Summary of Product Characteristics for further details (www.medicines.org.uk).

CLINICAL MONITORING

To be done by the GP (if in agreement with this guideline) in accordance with NICE recommendations:

Weight: Weight to be measured 3rd and 6th month after initiation and six months thereafter. If evidence of weight loss monitor BMI, if weight loss persists refer back to consultant.

Heart rate and Blood pressure: Chart before and after each dose change and routinely every three months. Sustained resting tachycardia, arrhythmia or clinically significant high systolic blood pressure after two measurements consider dose reduction and refer to physician.

Sexual dysfunction: Erectile and ejaculatory dysfunction also dysmenorrhoea should be monitored as potential side effects of atomoxetine.

COMPARATIVE COSTS

Atomoxetine (Strattera®) 10mg,18mg,25mg,40mg,60mg x 28 = £60.06 ; 80mg x 28 = £80.08

Dexamfetamine (Dexedrine® CD) 5mg x 28 = £3.00

Methylphenidate (Immediate release CD):

a) Generic 10mg x 30 = £ 5.80

b) Ritalin® 10mg x 30 =£ 5.57

c) Equasym® 5mg x 30 = £2.67, 10mg x 30 = £4.99, 20mg x 30 = £9.59

d) Medikinet® 5mg x 30 = £2.78, 10mg x 30 = £4.99, 20mg x 30 =£ 9.98

Methylphenidate (Long acting CD):

a) Concerta XL® 18mg x 30 = £31.19, 27mg x 30= £36.81, 36mg x 30= £42.45

b) Equasym XL® 10mg x 30=£25.00, 20mg x 30=£30.00, 30mg x 30=£35.00

c) Medikinet XL® 10mg x 28=£20.18, 20mg x 28=£26.91, 30mg x 28= £31.39, 40mg x 28 =£43.20

(Based on MIMS Oct 2009 Prices)

CONTACT NUMBERS

Ensure contact details including addresses, telephone numbers, fax machine numbers and email addresses are included on documentation or communication between primary care and secondary care.

Contact details and numbers for this agreement should be added below

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REFERENCES

1. NICE Clinical guideline 72; Attention Deficit Hyperactivity Disorder; Sep 2008
2. D.J. Nutt et al; Evidence-based Guidelines for Management of Attention-deficit/Hyperactivity Disorder in Adolescents in Transition to Adult Services and in Adults: Recommendations from the British Association for Psychopharmacology, BAP Guidelines Adult ADHD, 2006
3. St Mary's NHS Trust and Central North West London NHS Foundation Trust; PCT Westminster, Kensington and Chelsea and Brent- Shared Care Guidelines for Methylphenidate, Dexamfetamine and Atomoxetine, 2007
4. East London NHS Foundation Trust and City and Hackney Teaching PCT; Shared Care Guidelines for Methylphenidate, Mar 2008
5. Barnet, Enfield and Haringey Mental Health NHS Trust and Barnet PCT; Shared Care Guidelines for the Management of Children with ADHD
6. Cumbria PCT and Cumbria Partnerships NHS Foundation Trusts; Draft Shared Care Guidelines for Methylphenidate, Atomoxetine and Dexamfetamine
7. BNF – September 2009.
8. <http://www.medicines.org.uk>

Appendix 1

SHARED CARE AGREEMENT FORM

NAME OF PATIENT.....

DOSE AND FREQUENCY OF DRUG

NAME AND ADDRESS OF HOSPITAL CONSULTANT

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NAME AND ADDRESS OF GP

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I.....(PLEASE PRINT) AGREE TO UNDERTAKE THE RESPONSIBILITY OF SHARED CARE INCLUDING CLINICAL MONITORING OF THIS PATIENT AND TO SHARE RESULTS WITH SECONDARY CARE, AS REQUIRED IN ACCORDANCE WITH THE METHYLPHENIDATE, DEXAMFETAMINE AND ATOMOXETINE SHARED CARE GUIDELINES

SIGNED

DATE

Shared Care Agreement Proforma

**Barnet, Enfield & Haringey MHT February 2010.
Review date February 2012.**