

# Shared care protocol for the use of Methylphenidate, Dexamfetamine, Lisdexamfetamine dimesylate & Atomoxetine for the management of Attention Deficit Hyperactivity Disorder (ADHD) in Adults (18- 64years)

**City and Hackney and Tower Hamlets Directorates.**

|                             |   |
|-----------------------------|---|
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| Services                  | Applicable |
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| Trustwide                 | X          |
| Mental Health and LD      |            |
| Community Health Services |            |

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## Introduction

This document provides information allowing patients with ADHD to be managed safely via transfer of prescribing across the primary and secondary care interface. It assumes a partnership and an agreement between a hospital specialist, GP and patient, and sets out the responsibilities of each party.

Agreement to shared care is given at point of referral. If a GP is not able to participate fully with the shared care agreement, they should communicate this to the specialist in writing by emailing [elft.adhdservice@nhs.net](mailto:elft.adhdservice@nhs.net).

## Attention Deficit Hyperactivity disorder (ADHD)

ADHD is a neurodevelopmental condition, which manifests as cognitive and behavioural deficits. It is characterised by the core symptoms of persistent hyperactivity, impulsiveness and inattention, with onset in childhood and could continue into adulthood. As well as the presence of the core symptoms identified, there must be clear evidence of psychological, social and/or educational or occupational impairment plus some impairment in two or more settings (home, at work, social, occupational).

As their brains mature, a significant proportion of adolescents will acquire the necessary skills to be able to manage their symptoms without medication. However, some adolescents will still endure significant impairment due to ADHD and will continue to need medication during the transition into adulthood, and during adult life.

ADHD is thought to be a persistent condition and a diagnosis, using the criteria described in both DSM-V and ICD-10 should only be made by a Specialist Psychiatrist or appropriately qualified healthcare professional with training and expertise in the diagnosis of ADHD.

The diagnostic process will be comprehensive, and it includes person's needs, coexisting conditions (especially drug misuse, personality disorders, emotional problems and learning difficulties), social, familial, educational or occupational circumstances and physical health in line with current NICE guideline.

## Identification and referral to Hackney and Tower Hamlets ADHD Clinic

Adults presenting with symptoms of ADHD in primary care with or without previous history of childhood diagnosis of ADHD, should be referred by their GP to CHAMRAS (City and Hackney) and CHMT (Tower Hamlets) Adults presenting with symptoms of ADHD with or without previous history of childhood diagnosis of ADHD, should be directly referred to the ADHD clinic by their psychiatrist providing evidence of assessment report.

CAHMS should refer young people needing adult ADHD service directly to the ADHD Clinic as they approach their 18<sup>th</sup> birthday.

**Please refer to Appendix 7 (page 26) for a summary flowchart of the clinic.**

## Treatment

NICE clinical guideline NG87 recommends that drug treatment of ADHD should form part of a comprehensive treatment programme that focuses on psychological, behavioural and educational or occupational needs.

As well as ADHD in adult being recognised by both ICD-10 and DSM-V, NICE advocates drug treatment for adults with either moderate or severe ADHD. It is recognised that up to 25% of children with ADHD will continue to have symptoms into adulthood and it is appropriate to continue treatment started in childhood in adults whose symptoms remain disabling.

### Supporting people with ADHD

Following a diagnosis of ADHD, healthcare professionals should have a structured discussion with the patient (and their families, if appropriate) about how ADHD could affect their life. This could include understanding of symptoms, improving access to relevant local services, providing psychosocial interventions, providing sources of information about ADHD.

Please see Appendix 5 (page 23) for local and national support websites.

### Pharmacological Treatment

Guideline 87, drug treatment is the first-line treatment for adults with ADHD with either moderate or severe levels of impairment.

Treatment with **Lisdexamfetamine** or **Methylphenidate (must be prescribed by brand)** is first-line pharmacological approach for adults with ADHD.

**Dexamfetamine** or **Atomoxetine** may be tried if the above treatments failed in response or were not tolerated having considered alternative formulations, adequate doses and time. (See Appendix 1, 2, & 3: - pages 11-27).

Treatment efficacy can be assessed and monitored by ADHD clinic and GP using the **ASRS tool**. (See Appendix 6 –page 24)

**Prescribing medicines on and off licence:** Clinicians should be aware that in the UK, only Atomoxetine and Lisdexamfetamine are **licensed** for treatment of adults with ADHD, provided it was started before the age of 18 who have shown clear benefit from treatment. At the time of NICE publication (March 2018), not all preparations of Methylphenidate had a UK marketing authorisation for treating symptoms of ADHD in adults. Dexamphetamine did not have a UK marketing authorisation for this indication in adults. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. Informed consent should be obtained and documented.

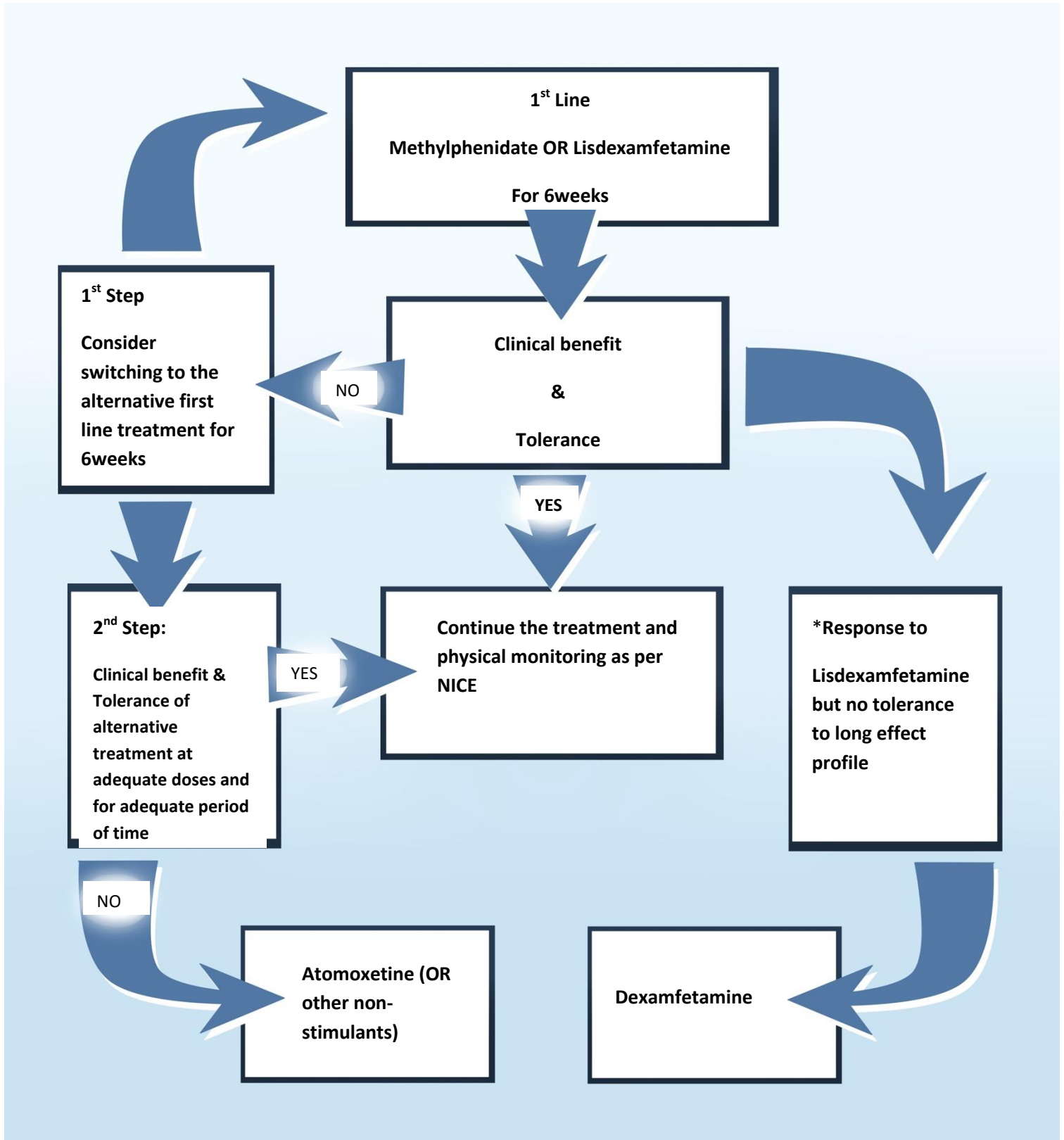
NICE provides information on prescribing medicines that do not have a UK marketing authorisation or medicines with no licence for a particular condition. For example, NICE might do this if there is enough evidence or experience of using the medicine for a condition to show its safety and efficacy. This Shared Care Protocol follows the NICE guidance (reference 1). For more information on prescribing off licence, please see: <https://www.nice.org.uk/about/what-we-do/our-programmes/nice-guidance/nice-guidelines/making-decisions-using-nice-guidelines#prescribing-medicines>

The various **brands** of modified-release Methylphenidate available differ in proportions of immediate release and delayed release and are therefore not bio-equivalent. This should be taken into consideration when swapping between brands, as they are not interchangeable. (See Appendix 1 and Appendix 3 for further information).

Treatment with stimulants requires **careful titration** due to marked individual differences in the final dose. Titration to optimal dose usually takes around six weeks.

However, NICE recommends **non-pharmacological approach** for adults who have made an informed choice, have difficulty in adhering to medications, failed in responding to treatment, or not tolerated it. **Treatment strategies as per NICE.**

Treatment strategies as per NICE



### General Prescribing information

1. For **newly diagnosed** adult patients commencing drug treatment, medication should be initiated by the Specialist.
2. For **existing patients** (either adults being transferred from Tertiary care to secondary care or patients being transferred from CAMHS to adult services), medication should be continued **to be offered by the GP** as specified by the Tertiary Care Specialist /CAMHS team (as applicable).
3. Clinicians should refer to the current BNF (<https://bnf.nice.org.uk/>) or SPCs (<https://www.medicines.org.uk/emc>) and Appendix 1 and 3 of this document of each drug for full information on dosage, contraindications / side effects / drug interactions etc.
4. Drug treatment should be continued for as long as clinically effective and reviewed annually to assess need for continued treatment. Effects of missed doses, planned dose reductions, and periods of no treatment should be evaluated. Treatment efficacy can be assessed using the ASRS tool.
5. Prescribers must follow the Schedule 2 controlled drugs requirements when prescribing Methylphenidate, Dexamfetamine or Lisdexamfetamine as these drugs are Schedule 2 controlled drugs. Atomoxetine is not classed as a Schedule 2 controlled drug and normal prescription requirements apply.
6. For prescription requirements for the total quantity schedule 2 controlled drugs please refer to appendix 4.

## Guidance overview

The remit of this protocol is to provide guidance on the shared care of adults who may be prescribed Methylphenidate, Lisdexamfetamine, Dexamfetamine and Atomoxetine and in the following scenarios:

1. Continuation of therapy via a shared care protocol either for adult patients who have been **newly diagnosed** with ADHD and who have been initiated on treatment by the Specialist directly or after referral to a Tertiary centre.
2. Continuation of therapy via a shared care protocol for “**existing**” adult patients who have been under the care of a Tertiary centre (e.g., Maudsley) or private care services who have not been transferred back to the care of the local Specialist.
3. **Continuation of therapy** via a shared care arrangement for patients who have been prescribed ADHD medication under the Children and Adolescent Mental Health service (CAHMS) and who have now been transferred to the adult service.
4. This shared care arrangement **excludes**:
  - Treatment of children and young people (6-17 years)-Please refer to the Shared Care Guideline for children and young people.
  - Treatment of children under 6 years.

- Treatment of adults  $\geq$  65yrs – Please refer to the Adults and Older Persons service.

## Shared care responsibilities

The intention of shared care should be explained to the patient/carer and be accepted by them prior to commencement of shared care. **Agreement to share care is given by the GP at point of referral.** If a GP is not able to participate fully with the shared care agreement, they should communicate this to the specialist in writing. The CCG may be contacted to facilitate shared care with a primary care GP. Intrinsic to the shared care agreement is that the prescribing doctor should be appropriately supported by a system of communication and co-operation in the management of patients.

## Shared care principles

The doctor who prescribes the medicine has clinical responsibility for the drug and the consequences of its use.

1. The diagnosis of ADHD will be made and confirmed by the Specialist in writing to the patient's GP.
2. The Specialist will commence, titrate and stabilise the patient on Methylphenidate, Dexamfetamine, Lisdexamfetamine, or Atomoxetine. The Specialist will also ensure patient's reviews as per NICE recommendation.
3. The prescribing responsibility and subsequent follow up care will be transferred to the GP when the patient's condition is clinically considered reasonably stable and predictable with a specified treatment regime.

## Consultant/Specialist Team Responsibilities

1. Establish or confirm ADHD diagnosis, devise a management plan, and assess patient suitability for pharmacological treatment.
2. Discuss pharmacological treatment with patient and possibly their carers and provide patients with a patient information leaflet on the medication prescribed. Ensure and document that they have a clear understanding of potential benefits, side effects, frequency of administration and monitoring requirements.
3. Baseline BP/pulse/weight to be taken and to be repeated after any dose increases or medication changes, and these baseline tests should be shared with the GP.
4. Conduct a careful history taking to assess any history or presence of cardiovascular disease and risk of substance misuse or diversion.
5. Consider whether laboratory investigations and monitoring (such as blood tests, ECG, etc.) or a cardiologist's opinion are required prior to commencing pharmacological treatment. See NICE guidance for further details (<https://www.nice.org.uk/guidance/ng87>) and appendix 2. Inform GP of abnormal monitoring results and any changes in treatment.
6. Initiate treatment and titrate the dose against symptoms until dose optimisation is achieved offering regular reviews.

7. Once titration has been completed, and the patient's condition is stable or predictable, **prescribing should be handed over to GP**. The target is to stabilise the patient within 8 to 12 weeks but that could vary depending on the patient's individual response and tolerance to medications.

The information provided to the GP at handover should include a copy of the shared care guidelines with the relevant amendments made detailing the following:

- Drug which will involve shared care thereafter.
  - Information on when the patient will next be reviewed and by whom.
  - Details of the medication and to specify the brand if methylphenidate is being prescribed.
  - Details of BP/pulse/weight and recommendations for future monitoring.
8. Send written correspondence to the GP after each clinic attendance ensuring current dose is stated. Inform the GP of any changes to the prescription in writing.
  9. Evaluate any reported adverse effects by the GP or patient.
  10. Ensure that advice and support is available for the patient and GP at all times.
  11. Advise the GP when ADHD treatment should be discontinued and provide necessary supervision and support during the discontinuation phase.
  12. Report adverse events to the MHRA.
  13. To support GP and patient with patient's annual review receipt notification from GP.

## Patient Responsibilities

1. Report to the Specialist or GP if they do not have a clear understanding of the treatment.
2. Share any concerns in relation to treatment with stimulants or atomoxetine or any other medication being prescribed for ADHD.
3. Inform the Specialist or GP of any other medication being taken, including over-the-counter products, alternative therapies or recreational drugs.
4. Inform community Pharmacists that they are taking ADHD treatments before purchasing medication over-the-counter.
5. Attend all hospital and GP appointments, including for monitoring of blood pressure/pulse/weight.
6. Take medicines as agreed and take steps to ensure that no doses are missed and do not share medicine with others.
7. Ensure medication is stored correctly and safely, and be aware medication is only for personal use.



8. Read the patient information leaflet included with the medication.
9. Report to GP if pregnant or breastfeeding (or planning to become pregnant).
10. Inform GP and Specialist of any changes in addresses or telephone contact numbers.
11. Request the need for repeat prescriptions in a timely manner to allow appropriate processing of the script.
12. Report any adverse effects to the Specialist or GP whilst taking ADHD medication.
13. To inform DVLA if ADHD affects ability to drive safely.
14. Liaising with GP and attending annual review with the relevant specialist as directed by the GP.

## GP Responsibilities

1. State in the patient's records that the medicine is being prescribed under a Shared Care agreement.
2. Prescribe maintenance dose as recommended once the patient's condition is stable or predictable, as directed by the Specialist.
3. When prescribing Methylphenidate **continue with the same brand** specified by the Specialist.
4. Regularly monitor the patient's pulse, BP and weight (heart rate and blood pressure should be monitored before and after each dose change and routinely every 3 months. Weight should be measured every 6 months after drug treatment has started. See appendix 2.
5. Check for drug interactions when prescribing new or stopping existing medication.
6. Discuss any suspected adverse events or abnormal results with the Specialist and agree on any action required (this could be a telephone discussion).
7. Refer the patient back to the ADHD clinic if their condition deteriorates, when clinically indicated or when there are other clinical concerns regarding their ADHD treatment including switching medications or for treatment breaks
8. Ensure that the patient attends annual review via an annual notification for review of medication. The annual review may be carried out by the primary liaison psychiatrist or at the ADHD clinic. The GP can complete a yearly review notification and send it to the ADHD clinic email address ([elft.adhdservice@nhs.net](mailto:elft.adhdservice@nhs.net)). The ADHD clinic will then offer a review appointment to the patient as per NICE Guideline.
9. Encourage people with ADHD to discuss any preferences to stop or change medication and to be involved in any decisions about stopping treatments. If ADHD medication needs to be discontinued, contact the Specialist for advice on a withdrawal regimen (as ADHD medication needs to be withdrawn slowly).

10. Inform the Specialist if there is suspicion of abuse of their ADHD medication.
11. Methylphenidate, Lisdexamfetamine and Dexamfetamine are **Controlled Drugs** and prescriptions must be issued on a monthly basis. Medication requests for longer than a month (e.g., covering holidays) should be discussed with the Specialist and can be issued at the prescriber's discretion.
12. Refer any patient who becomes pregnant or who wishes to plan a pregnancy to the Specialist team.
13. Report adverse events to the Specialist and the MHRA/CSM via Yellow card located in the current BNF or online [www.yellowcard.gov.uk](http://www.yellowcard.gov.uk)

## Contact details

In case of any issues or queries with respect to this shared care, GPs should initially contact the individual Specialist who has initiated therapy (details as stated on the initial clinic letter). Other point of contact is:

|                    |  |
|--------------------|--|
| <b>ADHD clinic</b> | <a href="mailto:elft.adhdservice@nhs.net">elft.adhdservice@nhs.net</a> |
|--------------------|--|

**APPENDIX 1: Summary of main features of treatment options for ADHD**

For full up to date details and licensing information clinicians should refer to individual drug SPCs at [www.medicines.org.uk](http://www.medicines.org.uk) or visit BNF website at <https://bnf.nice.org.uk/>

| <b>Adverse Reactions</b><br><small>very common (<math>\geq 1/10</math>) or common (<math>\geq 1/100</math> to <math>&lt; 1/10</math>)</small><br>If paradoxical aggravation of symptoms or other serious adverse events occur, the dosage should be reduced or discontinued<br>Reporting of suspected ADR: <a href="http://www.mhra.gov.uk/yellowcard">www.mhra.gov.uk/yellowcard</a> |   |  |   |
|---|---|--|---|
| Atomoxetine   | Methylphenidate   | Dexamfetamine  | Lisdexamfetamine  |
| Appetite decreased, anorexia, irritability, mood swings, insomnia, agitation, anxiety, depression depressed mood, tics, headache, somnolence, dizziness, mydriasis, abdominal pain, vomiting, nausea, constipation, dyspepsia, dermatitis, pruritus, rash, fatigue, lethargy, chest pain  | Nasopharyngitis, cough, pharyngolaryngeal pain, Anorexia, decreased appetite, Insomnia, nervousness, affect lability, aggression, agitation, anxiety, depression, irritability, abnormal behaviour, headache, dizziness, dyskinesia, psychomotor hyperactivity, somnolence, arrhythmia, tachycardia palpitations, hypertension, dry mouth alopecia, pruritis, rash, urticarial, arthralgia, changes in blood pressure and heart rate,<br><br>Abdominal pain, diarrhoea, nausea, stomach discomfort and vomiting. <i>These usually occur at the beginning of treatment and may be alleviated by concomitant food intake.</i> | Arrhythmia, palpitations, tachycardia, changes in blood pressure and heart rate (usually increase), decreased appetite, reduced weight gain and weight loss, arthralgia, vertigo, dyskinesia, headache, hyperactivity, Insomnia, nervousness, abnormal behaviour, aggression, excitation, anorexia, anxiety, depression, irritability<br><br>Abdominal pain and cramps, nausea, vomiting, dry mouth <i>(These effects usually occur at the beginning of treatment and may be alleviated by concomitant food intake).</i> | Decreased appetite, insomnia, agitation, anxiety, libido decreased, affect lability, psychomotor hyperactivity, bruxism, headache, dizziness, restlessness, tremor, dyspnoea, dry mouth, diarrhoea, constipation, upper abdominal pain, nausea, hyperhidrosis, erectile dysfunction, chest pain, irritability, fatigue, feeling jittery, blood pressure increased, weight decreased |
| <b>Withdrawal symptoms:</b> dysphoric mood, fatigue, vivid and unpleasant dreams, insomnia or hypersomnia, increased appetite, psychomotor retardation or agitation, anhedonia, and drug craving.   |   |  |   |

| Special Precautions & Contraindications |   |   |  |   |
|---|---|---|--|---|
|   | Atomoxetine   | Methylphenidate<br><u>MUST BE PRESCRIBED BY<br/>BRAND NAME</u>  | Dexamfetamine  | Lisdexamfetamine  |
| <b>Special Precautions</b>              | <p>Allergic reactions, hypertension, tachycardia, cardiovascular/cerebrovascular disease. Cardiomyopathy. Liver damage.</p> <p>Seizures. Suicidal thoughts/behaviour. Growth/development. Pre-existing psychosis, bipolar illness, aggression.</p> <p>Abuse and dependence.</p> | <p>Monitor blood pressure and heart rate; history of drug or alcohol dependence; psychosis; epilepsy; avoid abrupt withdrawal; pregnancy;</p> <p>GI narrowing (m/r preps).</p> <p>Abuse and dependence</p>                                  | <p>Patients receiving guanethidine, mild hypertension or a family history of dystonia. Tics, epilepsy, monitor growth, impaired kidney function or unstable personality. Psychosis</p> <p><i>Avoid abrupt withdrawal.</i></p>  | <p>anorexia; history of cardiovascular disease or abnormalities; psychosis or bipolar disorder; monitor for aggressive behaviour or hostility</p> <p>history of drug or alcohol abuse;</p> <p>seizure threshold - <i>discontinue if seizures occur</i>;</p> <p>tics and Tourette's syndrome</p> <p>(use with caution) — <i>discontinue if tics occur</i>;</p> <p>in children (see also below); susceptibility to angle-closure glaucoma;</p> <p><i>Avoid abrupt withdrawal.</i></p> |
| <b>Contraindications</b>                | <ul style="list-style-type: none"> <li>Not to be used in combination with Monoamine Oxidase Inhibitors (MAOIs).</li> <li>Narrow angle glaucoma</li> </ul>   | <ul style="list-style-type: none"> <li>Anxiety or agitation;</li> <li>Tics or a family history of Tourette's syndrome; hyperthyroidism,</li> <li>Severe angina;</li> <li>Cardiac arrhythmias; glaucoma;</li> <li>Breast-feeding;</li> </ul> | <ul style="list-style-type: none"> <li>During, or for 14 days after treatment with a Monoamine Oxidase Inhibitor (MAOI).</li> <li>History of drug abuse</li> <li>Symptomatic cardiovascular disease and/or moderate or severe hypertensive disease.</li> <li>Hyperthyroidism,</li> </ul> | <ul style="list-style-type: none"> <li>Hypersensitivity to sympathomimetic amines.</li> <li>Concomitant use of monoamine oxidase inhibitors (MAOI) or within 14 days after MAOI treatment (hypertensive crisis may result)</li> <li>Hyperthyroidism or thyrotoxicosis.</li> <li>Agitated states.</li> </ul>   |

|   |  |   |   |   |
|---|--|---|---|---|
|   |  | <ul style="list-style-type: none"> <li>• Monoamine oxidase inhibitors (concomitant use, or use within the last two weeks)</li> </ul>  | <ul style="list-style-type: none"> <li>• Hyperexcitability or glaucoma.</li> <li>• Tourette's syndrome or similar dystonia. Porphyrria.</li> <li>• History of alcohol abuse.</li> </ul> | <ul style="list-style-type: none"> <li>• Symptomatic cardiovascular disease.</li> <li>• Advanced arteriosclerosis.</li> <li>• Moderate to severe hypertension.</li> <li>• Glaucoma.</li> </ul>  |
|   |  |   |   |   |
|   | <b>Atomoxetine</b>   | <b>Methylphenidate (Brand)</b>  | <b>Dexamfetamine</b>  | <b>Lisdexamfetamine</b>   |
| <b>Can be used in common ADHD comorbidities such as tics and Tourette's and marked anxiety</b>  | YES  | NO  | NO  | Stimulants have been reported to Exacerbation of motor and phonic tics and Tourette's syndrome.<br><br><i>Therefore, Clinical evaluation for tics and Tourette's syndrome in children and their family prior treatment with stimulants.</i> |
| <b>Evidence of abuse potential</b>  | NO   | YES   | YES   | YES   |
| <b>Controlled Drug</b>  | NO   | YES   | YES   | YES   |
| <b>Ongoing monitoring</b><br><br>Current reference guidelines for hypertension should be followed – see <a href="https://www.nice.org.uk/guidance/cg127">https://www.nice.org.uk/guidance/cg127</a> | Cardiovascular status should be regularly monitored with blood pressure and pulse recorded after each adjustment of dose and at least every 6 months thereafter. | <ul style="list-style-type: none"> <li>• Psychiatric and cardiovascular status should be continually monitored.</li> <li>• Blood pressure and pulse should be recorded on a centile chart at each adjustment of dose and at least every six months.</li> <li>• Weight and appetite should be recorded at least six-monthly.</li> <li>• Development of <i>de novo</i> or worsening of pre-existing psychiatric disorders should be monitored at every adjustment of dose and then at least every six months and at every visit. Patients should be monitored for the risk of diversion, misuse, and abuse of methylphenidate, dexamfetamine and lisdexamfetamine.</li> </ul> |   |   |

**APPENDIX 2: Monitoring Standards (in line with current NICE guidance)**

| Parameter                         | Frequency of monitoring/medication  | Action  | By Whom                               |
|-----------------------------------|---|---|---------------------------------------|
| <b>Efficacy</b>                   | At each appointment and when doses are changed. At least once a year.     | Rating scales may be used such as Adult Self Report Scale (ASRS) – (see appendix 6).  | Specialist / GP                       |
| <b>Non-specific side effects</b>  | At each appointment   | Review and monitor adverse effects, possible drug interactions, changes to medication regime, deteriorating behaviour. Communicate any relevant medical information to consultant/GP.   | Specialist/ GP                        |
| <b>Weight</b>                     | Baseline then 6 monthly thereafter  | If evidence of weight changes as result of treatment, monitor and refer back to specialist.<br><br>Consider BMI index, patient's baseline.  | Specialist – baseline /GP – 6 monthly |
| <b>Height</b>                     | <i>No required for adults</i>   |   |                                       |
| <b>Growth Development</b>         |   |   |                                       |
| <b>Pulse &amp; Blood Pressure</b> | Baseline, before and after dose change and then every 6 months thereafter | If sustained resting tachycardia (more than <b>120</b> beats per minute), arrhythmia or <b>systolic blood pressure greater than the 95th percentile</b> (or a clinically significant increase) measured on 2 occasions: <ul style="list-style-type: none"> <li>1. Consider patient's medical history and clinical status</li> <li>2. Monitor BP as per NICE guidelines.</li> <li>3. Consider dose reduction of ADHD medication and refer to ADHD specialist for full assessment.</li> <li>4. Consider referring to hypertension specialist</li> </ul> <b>Offer antihypertensive drug treatment to people of any age with stage 2 hypertension and stop ADHD medications in case of severe hypertension (systolic &gt;180 diastolic &gt;110)</b> | Specialist – baseline/ GP – 6 monthly |

| Parameter  | Frequency of monitoring/medication  | Action  | By Whom   |
|--|---|---|---|
| <b>Full Blood Count (FBC)</b>                          | Baseline only if indicated<br>( <u>Methylphenidate</u> )  | Low threshold for repeat FBC rather than routine e.g. recurrent infections, purpuric rash or based on medical history   | GP  |
| <b>Cardiovascular risk assessment</b>                  | Baseline & Throughout the therapy   | To include: enquiry about a history of cardiac symptoms such as syncope (fainting), breathlessness, palpitations, or congenital cardiac abnormalities, family diagnosis of cardiovascular disease/sudden cardiac death before the age of 40 years.  | Specialist at baseline/ GP while on medications |
| <b>ECG</b>   | It is a clinical decision whether or not an ECG is indicated. Baseline will be required and, if deemed clinically indicated, in course of treatment | Referral to cardiologist.   | Specialist/ GP                                  |
| <b>Liver Function</b>                                  | Throughout the therapy be aware that symptoms and signs of liver dysfunction may be related to Atomoxetine.   | Be vigilant for abdominal pain, unexplained nausea, malaise, darkening of urine or jaundice. Liver Function test is not routinely needed for any of the NICE approved treatment – NICE guidance Sec 1.8.10<br><br>Offer further investigation to clarify nature of the above symptoms and consider stopping ADHD medications if still in doubt. | Specialist/ GP                                  |
| <b>Suicidal thinking and self-harming behaviour</b>    | During the initial months or after a change of dose (Atomoxetine)   | Patients and carers should be warned about the potential for suicidal thinking and self-harming behaviour.<br><br>Refer to Specialist.  | Specialist/ GP/ Patient                         |
| <b>Risk assessment of substance misuse (diversion)</b> | Baseline<br><br>Duration of treatment Throughout the therapy  | Enquire about known substance use in patient or that of close family member or carer<br><br>Concerns about requests for frequent prescriptions deemed unnecessary should be communicated to consultant/specialist.  | Specialist/ GP                                  |

| Parameter                               | Frequency of monitoring/medication | Action   | By Whom        |
|---|------------------------------------|--|----------------|
| <b>Sexual Dysfunction (Atomoxetine)</b> | Throughout the therapy             | Be aware that young people and adults with ADHD may develop sexual dysfunction (i.e. erectile and ejaculatory dysfunction) as potential adverse effects of atomoxetine.<br><br>Explore other possible causes and then refer to ADHD specialist.  | Specialist/ GP |
| <b>Changes in sleep patterns</b>        | Throughout the therapy             | Monitor changes in sleep pattern (for example: with a sleep diary) and adjust the medication accordingly.  | Specialist     |
| <b>Seizures</b>                         | Throughout the therapy             | If a person with ADHD develops new seizures or a worsening of existing seizures, GP to refer back to Specialist for review of ADHD medications and to stop any medications that might be contributing to the seizures. After investigation, the ADHD may be cautiously reintroduced if it is unlikely to be the cause of seizures. | Specialist/ GP |
| <b>Tics</b>                             | Throughout the therapy             | If a person taking stimulants develops tics, Specialist to rule out risk benefit balance based on whether the tics are due to stimulants (tics naturally wax and wane) <b>and</b> the impairment associated with the tics.   | Specialist     |



**APPENDIX 3: MEDICATIONS SUMMARY**

For full up to date details and licensing information clinicians should refer to individual drug SPCs at [www.medicines.org.uk](http://www.medicines.org.uk) or visit BNF website at <https://bnf.nice.org.uk/>



|                           |  |  |   |   |   |   |   |                                  |  |
|---------------------------|--|--|---|---|---|---|---|----------------------------------|--|
|                           | <b>Methylphenidate hydrochloride</b><br><br><b>Immediate-release tablets</b>                         | <b>Methylphenidate modified- release</b><br><br><b>MUST BE PRESCRIBED BY BRAND NAME</b>  |   |   |   |   | <b>Atomoxetine capsules</b>                     | <b>Lisdexamfetamine capsules</b> | <b>Dexamfetamine tablets</b>                         |
| <b>Duration of action</b> | <b>Methylphenidate</b><br><br><b>(Ritalin®, Equasym®)</b><br><b>&lt;12 hours</b>                     | <b>Concerta XL®</b> , <b>Xaggitin XL®</b> , <b>Delmosart®</b> - 12 hours<br><br><b>Equasym XL®</b> <b>Medikinet XL®</b> - 8 hours<br><br><i>Xaggitin XL and Delmosart are both bioequivalent to Concerta XL – Xaggitin XL and Delmosart replace Concerta XL on the formulary</i> |   |   |   |   | <b>Strattera®</b><br><br>24 hours               | <b>Elvans®</b><br><br>– 8 hours  | <b>Dexedrine®/ Dexamfetamine</b><br><br>4 - 24 hours |
| <b>Formulation</b>        | Ritalin® 10mg<br><br>Medikinet®<br><br>5mg, 10mg, 20mg tablets<br><br>Immediate-release preparations | Equasym®<br><br>10,20,30mg capsules<br><br>Immediate – release component (30% of dose),  | Concerta® XL<br><br>18mg, 27mg, 36mg tablets<br><br>Immediate – release component | Medikinet® XL<br><br>5mg,10mg,20mg, 30mg, 40mg<br><br>Immediate release component (50% of the | Delmosart PR®<br><br>18mg, 27mg, 36mg, 54mg | Xaggitin® XL<br><br>8mg, 27mg, 36mg, 54mg | Strattera®<br><br>10mg, 18mg, 25mg, 40mg, 60mg, | Elvans®<br><br>30mg, 50mg, 70mg  | Dexedrine®/ Dexamfetamine<br><br>5mg                 |

|  |  |   |  |  |  |  |                             |  |  |
|--|--|---|--|--|--|--|-----------------------------|--|--|
|  | <p>may be suitable if more flexible dosing regimens are needed, or during initial titration to determine correct dosing levels</p> | <p>modified release component (70% of dose)</p> | <p>(22% of dose),<br/><br/>release component (78% of dose)</p> | <p>dose)<br/><br/>modified release component (50% of dose)</p> |  |  | <p>80mg,<br/><br/>100mg</p> |  |  |
|--|--|---|--|--|--|--|-----------------------------|--|--|

|                   | Methylphenidate<br>Immediate-release tablets   | Methylphenidate modified- release<br><b>MUST BE PRESCRIBED BY BRAND NAME</b>  |  |  |  |  | Atomoxetine capsules  | Lisdexamfetamine capsules  | Dexamfetamine tablets   |
|-------------------|--|---|--|--|--|--|---|--|---|
| License           | <u>Unlicensed</u>  | <u>Unlicensed</u>   |  |  |  |  | <u>Licensed only</u><br><i>if clear benefits from treatment in childhood</i>  | <u>Licensed only</u><br><i>if clear benefits from treatment in childhood</i>   | <u>Unlicensed</u>   |
| Indication & Dose | Ritalin®/Medikinet®<br><br>Initially 5mg 2 or 3 times a day.<br><br>Titrate against symptoms and side effects at weekly intervals.<br><br><b>Max:</b> 100mg daily in 2-3 divided | Equasym® XL<br><br>Initially 10mg daily (before breakfast) adjusted at weekly intervals.<br><br><b>Max:</b> 100mg daily | Concerta® XL<br><br>Initially 18mg daily (morning), adjusted at weekly intervals.<br><br><b>Max:</b> 108mg daily | Medikinet® XL<br><br>Initially 10mg daily (with breakfast) adjusted at weekly intervals<br><br><b>Max:</b> 100mg daily | Delmosart PR®<br><br>Initially 18 mg once daily, (morning), adjusted weekly in steps of 18 mg<br><br><b>Max:</b> 54 mg daily | Xaggitin® XL<br><br>Initially 18 mg once daily (morning), adjusted weekly in steps of 18 mg<br><br><b>Max:</b> 54 mg | <b>Body-weight up to 70 kg</b><br><br>Initially 500 micrograms/kg daily for 7 days, dose adjusted according to response, maintenance dose is 1.2 mg/kg daily, total daily dose as a single dose in the morning or in 2 divided doses with last dose no later than early evening.<br><br>Max: 1.8 mg/kg (120 mg) daily.<br><br>High daily doses to be given under the direction of a | Initially 30 mg once daily(morning) , increased in steps of 20 mg every week if required,<br><br>Max: 70 mg daily<br><br>Discontinue if response insufficient after 1 month; | Initially 5 mg twice daily, dose is increased at weekly intervals according to response, maintenance dose to be given in 2–4 divided doses;<br><br>Max: 60 mg daily |

|  |  |  |   |   |   |  |  |  |  |
|--|--|--|---|---|---|--|--|--|--|
|  | doses  | Usually given once daily, but not more than twice daily. | Usually given once daily, but not more than twice daily | Usually given once daily, but not more than twice daily | Discontinue if no response after 1 month; | daily<br>Discontinue if no response after 1 month; | specialist<br><b>Body-weight ≥ 70 kg</b><br>Initially 40 mg daily for 7 days, dose adjusted according to response. Maintenance 80–100 mg daily, total daily dose as a single dose in the morning or in 2 divided doses with last dose no later than early evening. Maximum 120 mg per day.<br><br>High daily doses to be given under the direction of a specialist |  |  |
| <b>Dose equivalence methylphenidate Immediate release/XL</b> | When switching from immediate-release preparations to modified-release preparations consult product literature.<br><br>Equivalent doses in the table expressed in mg | <b>IR-MPH</b>  | <b>Xaggitin XL / Delmosart / Concerta XL</b>            | <b>Equasym XL</b>                                       | <b>Medikinet XL</b>                       |  |  |  |  |
|  |  | 5  | -   | -   | 5   |  |  |  |  |
|  |  | 10   | -   | 10  | 10  |  |  |  |  |
|  |  | 15   | 18  | -   | 15 (10 + 5)                               |  |  |  |  |
|  |  | 20   | -   | 20  | 20  |  |  |  |  |
|  |  | 30   | 36  | 30  | 30  |  |  |  |  |
|  |  | 40   | -   | 40 (2 x 20)   | 40  |  |  |  |  |
|  |  | 45   | 54  | -   | 45 (40 + 5)                               |  |  |  |  |
|  |  | 50   | -   | 50 (20 + 30)  | 50  |  |  |  |  |
|  |  | 60   | 72* (2 x 36)  | 60 (2 x 30)   | 60  |  |  |  |  |
| 90   | 108 (2 x 54)   | 90 (3 x 30)  | 90 (60 + 30)  |   |   |  |  |  |  |

|  | <b>Methylphenidate<br/>Immediate- release<br/>tablets</b>  | <b>Methylphenidate modified-<br/>release<br/><br/>MUST BE PRESCRIBED BY BRAND NAME</b> | <b>Atomoxetine capsules</b>   | <b>Lisdexamfetamine<br/>capsules</b>  | <b>Dexamfetamine tablets</b>  |
|--|--|--|---|---|---|
| <b>Type of medication</b>                                    | Stimulant  |  | Non stimulant   | Stimulant   | Stimulant   |
| <b>Interactions</b>  | For detailed information on interactions, cautions, contra-indications and side-effects, please refer to manufacturer's Summary of Product Characteristics (SPC) <a href="http://www.medicines.org.uk">www.medicines.org.uk</a> , and also current BNF <a href="http://www.bnf.org/bnf">www.bnf.org/bnf</a> ,  |  |   |   |   |
| <b>Cautions</b><br><b>Pregnancy</b><br><b>Breast Feeding</b> | <p>Psychiatric disorders, anxiety, agitation, tics, family history Tourette syndrome, drug or alcohol dependence, epilepsy, susceptibility to angle-closure glaucoma, Limited data. Methylphenidate is not recommended for use during pregnancy unless a clinical decision is made that postponing treatment may pose a greater risk to the pregnancy.</p> <p>Methylphenidate has been found in breast-milk of a women treated with methylphenidate. A decision must be made whether to discontinue breast-feeding or to discontinue/abstain from methylphenidate therapy taking into account the benefit of breast-feeding for the child and the benefit of therapy for the woman</p> |  | <p>Tics, history of seizures, aggressive behaviour, hostility or emotional lability, susceptible to angle-closure glaucoma. Limited data. Should not be used during pregnancy unless the potential benefit justifies the potential risk to the foetus.</p> <p>Should be avoided during breast-feeding</p> | <p>Anorexia, history of cardiovascular disease or abnormalities, psychiatric disorders, aggressive behaviour, tics, should only be used during pregnancy if the potential benefit justifies the potential risk to the foetus.</p> <p>Amphetamines are secreted in human milk. Should not be used during breast-feeding.</p> | <p>Limited data.</p> <p>The use of during pregnancy is not recommended. Women of childbearing age should discontinue the use of dexamfetamine when intending to become pregnant.</p> <p>Dexamfetamine is excreted in human milk. A risk to the new-borns /infants cannot be excluded.</p> <p>A decision must be made whether to discontinue breast-feeding or to discontinue/abstain from Amphetamines</p> <p>Tablets therapy taking into account the benefit of breast feeding for the child and the benefit of therapy for the woman.</p> |

|  |  |  |
|--|--|--|
| Pharmacy Stamp   | Age<br>70yrs 1mth  | Title, Forename, Surname & Address<br>SMITH<br>John<br>22 Bridge Street<br>Anytown KB1 5SX |
| Please don't stamp over age box<br>Number of days' treatment<br>N.B. Ensure dose is stated   |  | 14   |
| Endorsements<br>Methylphenidate<br>Hydrochloride (CONCERTA) XL<br>tablets 18 milligrams.<br><br>Supply 14 (fourteen)<br>tablets. ONE tablet to be<br>taken DAILY.<br><br>[No more items on this<br>prescription] |  |  |
| Signature of prescriber<br>  |  | Date<br>02/07/11   |
| For dispenser<br>No. of<br>Prescs.<br>on form  | Anyborough Health Authority<br>Dr D O Good 345543<br>7 High Street<br>Anytown KB1 CD2<br>Tel: 0111 222 333 |  |
|   | FP10NC0105   |  |

1. **Signature of prescriber** – electronic signatures can be accepted only where electronic prescribing service (EPS) is used.
2. **Date**- Controlled drugs prescriptions are valid for 28 days after the appropriate date on the prescription (signature date or date of starting treatment)
3. **Address of prescriber**- within the UK
4. **Name of the medicine** – not a legal requirement but necessary to identify which medicine is being requested.
5. **Dose** – No need to be stated in words and figures but it must be clearly defined
6. **Formulation** – avoid abbreviations (i.e. “caps” or “tabs”)
7. **Strength** – where a prescription requests multiple strengths, each strength should be prescribed separately
8. **Total quantity** – Must be written in both words and figures. If the medicine is in dosage units, the total quantity should be expressed of total number of dosage units. Liquids should be expressed in millilitres
9. **Quantity prescribed** – not to exceed 30 days' supply.
10. **Patient's name**
11. **Patient's address**

NOT LEGALLY ACCEPTED (as dose NOT CLEARLY indicated)

As directed, When required, PRN, As per chart, Titration dose  
Weekly, Decrease dose by 3.5 ml every four days.

**APPENDIX 4: LEGAL REQUIREMENTS FOR CONTROLLED DRUG PRESCRIPTION (Sched. 2 and 3)**

**APPENDIX 5: ADHD Support**

| <u>LONDON</u>   | <u>NATIONAL</u>  |
|---|--|
| <p><b><u>ADHD Support Group</u></b><br/> <a href="https://aadduk.org/help-support/support-groups/london-adult-adhd-support-group/">https://aadduk.org/help-support/support-groups/london-adult-adhd-support-group/</a></p>  | <p><b><u>Living with ADHD</u></b></p> <p>This website has been developed to support those who come into contact with Attention Deficit Hyperactivity Disorder (ADHD) - parents/ carers and teachers - and also provides resources for children and teenagers themselves, to help them understand and manage the condition.<br/> <a href="http://www.livingwithadhd.co.uk">www.livingwithadhd.co.uk</a></p> |
| <p><b><u>Oxford Circus</u></b></p> <p>On the first Tuesday of the month and the third Thursday of the month between 7 and 9pm, at Costa Coffee Argyll Street, W1F 7TH, round the corner from Oxford Circus tube station. Meetings are informal, friendly and loosely structured</p> | <p><b><u>ADDUP, ADDUP</u></b></p> <p>Was set up to bring families together, to guide parents in the right direction to find the practical help they need for their children and to promote both public and professional awareness of ADHD. <a href="http://www.addup.co.uk">http://www.addup.co.uk</a></p>   |
| <p><b><u>Kings Cross</u></b></p> <p>Meetings part informal, part workshop in a room above The Star of Kings, 126 York Way, King’s Cross, London N1 0AX. Food is available at the bar. Meetings are the Third Tuesday of the month, from 7:00-10:30 pm</p>                           | <p><b><u>ADDISS</u></b></p> <p>The National Attention Deficit Disorder Information and Support Service<br/> <a href="http://www.addiss.co.uk">www.addiss.co.uk</a></p>   |
| <p><b><u>These groups can be contacted at: <a href="mailto:adhdlondon@yahoo.co.uk">adhdlondon@yahoo.co.uk</a></u></b></p>   | <p><b><u>ADHD Foundation</u></b></p> <p><a href="http://www.adhdfoundation.org.uk">www.adhdfoundation.org.uk</a></p>   |



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**APPENDIX 6: Adult Self-Report Scale (ASRS-v1.1) Symptom Checklist**

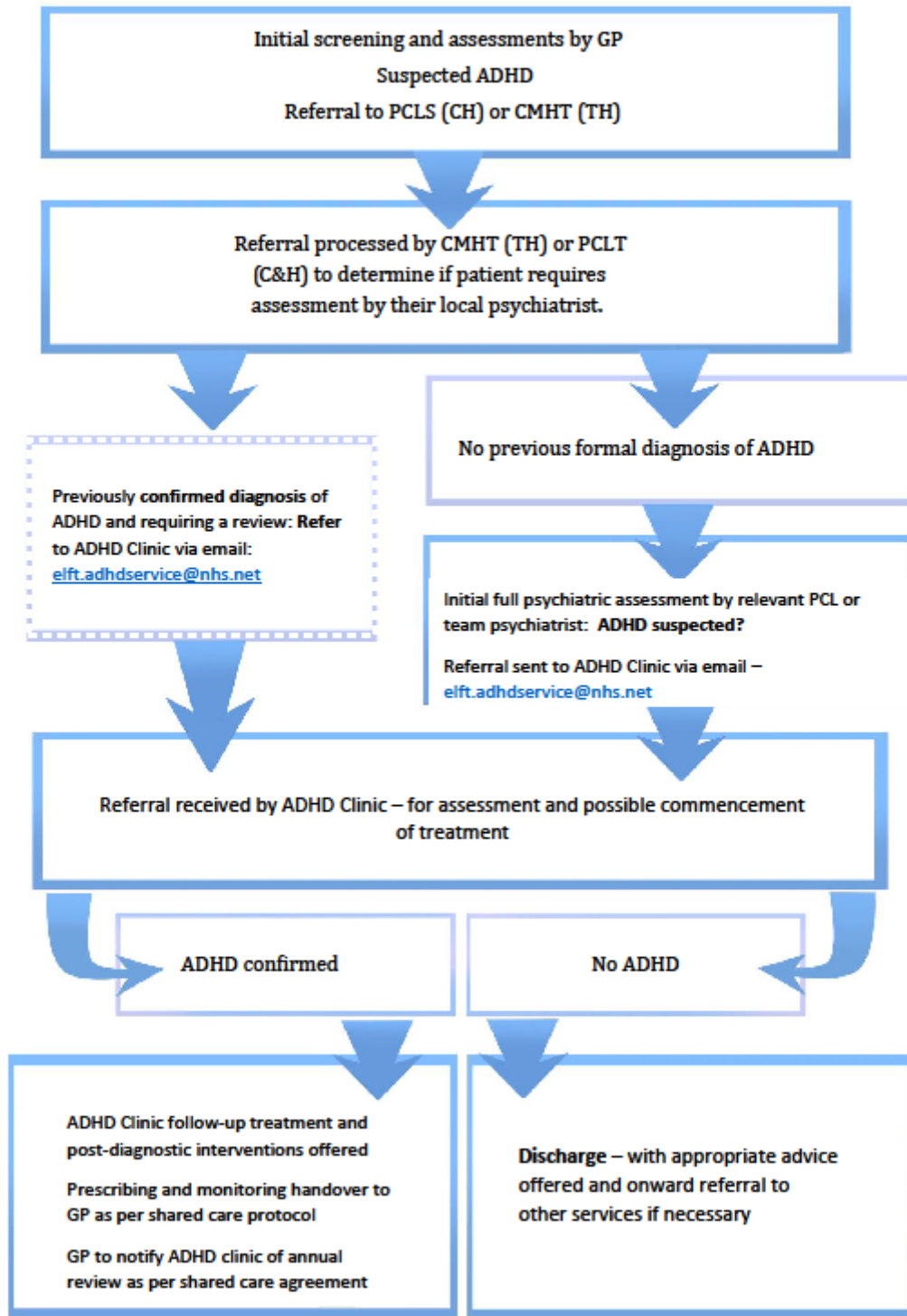
Adult ADHD Self-Report Scale (ASRS-v1.1) Symptom Checklist

| Patient Name  |  | Today's Date |        |           |       |            |
|---|--|--------------|--------|-----------|-------|------------|
| Please answer the questions below, rating yourself on each of the criteria shown using the scale on the right side of the page. As you answer each question, place an X in the box that best describes how you have felt and conducted yourself over the past 6 months. Please give this completed checklist to your healthcare professional to discuss during today's appointment. |  | Never        | Rarely | Sometimes | Often | Very Often |
| 1. How often do you have trouble wrapping up the final details of a project, once the challenging parts have been done?   |  |              |        |           |       |            |
| 2. How often do you have difficulty getting things in order when you have to do a task that requires organization?  |  |              |        |           |       |            |
| 3. How often do you have problems remembering appointments or obligations?  |  |              |        |           |       |            |
| 4. When you have a task that requires a lot of thought, how often do you avoid or delay getting started?  |  |              |        |           |       |            |
| 5. How often do you fidget or squirm with your hands or feet when you have to sit down for a long time?   |  |              |        |           |       |            |
| 6. How often do you feel overly active and compelled to do things, like you were driven by a motor?   |  |              |        |           |       |            |
| <b>Part A</b>   |  |              |        |           |       |            |
| 7. How often do you make careless mistakes when you have to work on a boring or difficult project?  |  |              |        |           |       |            |
| 8. How often do you have difficulty keeping your attention when you are doing boring or repetitive work?  |  |              |        |           |       |            |
| 9. How often do you have difficulty concentrating on what people say to you, even when they are speaking to you directly?   |  |              |        |           |       |            |
| 10. How often do you misplace or have difficulty finding things at home or at work?   |  |              |        |           |       |            |
| 11. How often are you distracted by activity or noise around you?   |  |              |        |           |       |            |
| 12. How often do you leave your seat in meetings or other situations in which you are expected to remain seated?  |  |              |        |           |       |            |
| 13. How often do you feel restless or fidgety?  |  |              |        |           |       |            |
| 14. How often do you have difficulty unwinding and relaxing when you have time to yourself?   |  |              |        |           |       |            |
| 15. How often do you find yourself talking too much when you are in social situations?  |  |              |        |           |       |            |
| 16. When you're in a conversation, how often do you find yourself finishing the sentences of the people you are talking to, before they can finish them themselves?   |  |              |        |           |       |            |
| 17. How often do you have difficulty waiting your turn in situations when turn taking is required?  |  |              |        |           |       |            |
| 18. How often do you interrupt others when they are busy?   |  |              |        |           |       |            |
| <b>Part B</b>   |  |              |        |           |       |            |

**APPENDIX 7: FLOWCHART SUMMARY OF ADHD CLINIC PATHWAY**

City & Hackney / Tower Hamlets

ADHD Service Pathway



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