THE SHEFFIELD AREA PRESCRIBING GROUP

Shared Care / Prescribing Guideline

For

The management of prescribing for Attention Deficit/Hyperactivity Disorder (ADHD). Medication included within this guideline are; Methylphenidate, Lisdexamfetamine, Dexafetamine, Atomoxetine and Guanfacine

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Shared Care /Prescribing Guideline for the management of Prescribing in Childhood and Adolescence for Attention Deficit/Hyperactivity Disorder (ADHD)

Statement of Purpose

This shared care guideline has been written to enable the continuation of care by primary care clinicians of patients initiated on stimulant or non-stimulant drug therapy for the management of Attention Deficit/Hyperactivity Disorder (ADHD) by the child and adolescent psychiatrists or specialist paediatricians / prescribers at Sheffield Children's NHS Foundation Trust and adult psychiatrists / specialist prescribers at Sheffield Health and Social Care.

Primary care will only be requested to take over prescribing of medication for the treatment of AD/HD within their licensed indications or in line with NICE guidance (NICE NG87) unless specifically detailed otherwise below (appendix 1).

The drugs included in this Shared Care Guideline are;
CNS stimulant: methylphenidate, lisdexamfetamine, dexamfetamine
Non-stimulant: atomoxetine, guanfacine (Children aged 5 years and over and young people)

Responsibilities of the psychiatrist/paediatrician/specialist with specialist knowledge to assess and diagnose ADHD:

- To assess the patient (and the family, if applicable), establish the diagnosis, clarify comorbidity, discuss how ADHD may affect their life, determine a management strategy and devise a care plan in conjunction with other professionals &/or other agencies when necessary, to cover; psychological, behavioural and occupational or educational needs.
- When medication is to be considered, to educate, discuss benefits and side effects of drug treatment with the patient (and carer, where relevant), including importance of adhering to any treatment. The responsibilities of the patient (see below) should be discussed with the patient / carer.
- Informed consent for the off label use of the drugs should be obtained and documented prior to starting treatment, where relevant. This should be shared with the primary care clinician.
- If a decision is made to start treatment, reassure patients (and carers as appropriate) that they can revisit decision. Also explain treatment may not be needed lifelong and continued need will be reviewed annually.
- To undertake or arrange any necessary physical checks prior to prescribing; height, weight, pulse and BP, cardiac examination (and ECG if treatment may affect QT interval). Comorbidities, contraindications, other medication and risk of diversion should also be taken into account.
- Refer for cardiology opinion before starting ADHD treatment, as per NICE NG87 (recommendation 1.7.5), if concerns.
- Refer to a paediatric hypertension specialist prior to starting medication if BP consistently above the 95th centile for age and height of child.
- To initiate, monitor response and side effects and stabilise the patient on the appropriate drug treatment regime.
- To provide treatment and monitor for at least the first 8 weeks, once response and side effects are assessed and stable, initiate shared care arrangements / primary care prescribing;
    - Communicate to the GP the outcome of the trial of medication, and give details of baseline measures i.e. weight, height, BP, pulse etc.
    - Provide the GP with rationale behind treatment choice/s. Shared care to be agreed on a case by case basis if treatment not covered by this guideline (e.g. combination therapy).

- Request that shared care is commenced according to this guideline, sending a link or a copy to this guideline
- To share with the GP (and the school / carers when appropriate), the patients care /management plan and to notify the GP of any changes.

- It is part of routine ADHD practice after initial stabilisation on a drug to make dose changes (either upwards or downwards) according to the patients' needs and demands placed on them (dose optimisation). This does not require the specialist to take over prescribing again, however it is the specialists' responsibility to clearly communicate the new recommended dosage to the GP who can implement suggested changes. The specialist will monitor the response to the new dose and oversee any additional monitoring required (this may be a request to primary care, e.g. to take a BP reading).
- If it is felt necessary to move to a new drug e.g. methylphenidate to lisdexamfetamine, initial prescribing and monitoring should revert back to the specialist, once stable shared care may be requested.
- To inform the GP (and the school when appropriate) of any drug holidays/ periodical discontinuation.
- Consider trial periods of stopping medication or reducing the dose when assessment of the overall balance of benefits and harms suggests this may be appropriate. If the decision is made to continue medication, the reasons for this should be documented / communicated to the GP.
- To be available to support primary care with advice if the patient's condition changes
- To notify the GP of any changes in the patient's management plan.
- To review in line with monitoring table below.

Transition – Children to adults

Responsibility of the Children service;

- At school leaving age patients should be reassessed to establish the need for continuing treatment into adulthood. If treatment is deemed necessary arrangements should be made for a smooth transition to adult services (see *transition below). Precise time will vary depending on individual needs but usually done by the time the patient is 18 years. Transition arrangements should be in line with provider transition protocols / procedures.
- Prior to transition **the paediatric service** should carry out a comprehensive assessment and provide the receiving service (primary and / or adult specialist service) with details that includes; personal, educational, occupational and social functioning, and assessment of any coexisting conditions, especially drug misuse, personality disorders, emotional problems and learning difficulties.
  - Complex patients (– see below) will be discussed with the adult specialist service on a case by case basis and a care plan agreed to ensure smooth transition and ongoing care.
  - Non-complex adult patients (see below) may be discharged to primary care for ongoing management. At transition the specialist should provide the GP details about; personal, educational / occupational and social functioning, and assessment of any coexisting conditions.
- During all transitions paediatric clinicians should work together with the receiving adult services (where applicable), the patients GP and patient (and family, as appropriate) in an integrated way to ensure a smooth and gradual transition, considering social needs where appropriate. Information on previous medications trialled and reasons for current medication choice should be part of this shared information

Responsibility of the adult specialist service;

- During transition, to work with the paediatric clinicians, patients GP and patient (and family as appropriate) in an integrated way to ensure a smooth and gradual transition.
- After transition carry out a comprehensive assessment of any patients transferred to adult services.

Transition – Adults patients to primary care

- Prior to discharging any patients to primary care, adult services should carry out a comprehensive assessment that includes; personal, educational/occupational and social functioning, and assessment of any coexisting conditions. A care plan should be shared with the receiving clinician,

along with a copy of this guideline, which includes details about; ongoing care / monitoring, re-referral indications and details as to how to access advice, if needed.

Responsibilities of the primary care clinician

- To initially refer the patient for specialist advice / diagnosis;
  - Children and adolescents

  Neurodisability / **SC(NHS)FT (Paediatrics)** or CAMHs, however if other comorbidities, see below;
    - **Neurodisability /SC(NHS)FT (Paediatrics)** - Up to 16 years with complex neurodevelopmental issues comorbidity
    - **SAANs** – 16-18 years with suspected Autistic Spectrum Disorder.
    - **CAMHs** - Child up to 18 years with other Mental Health / complex family issues/attachment concerns

  - Adults (18 years and over)
    - **Sheffield Health and Social Care via Single Point of Access** unless
    - Suspected Autism Spectrum Disorder (ASD) or associated neurodevelopmental conditions – Sheffield **Adult Autism and Neurodevelopmental Service (SAANs)**

- To carry out a physical examination and investigations if appropriate

Once a response to treatment has been established and the GP is agreeable to shared care /prescribing arrangements:

- To prescribe continuing therapy once patient is stable on treatment. Further dose optimisation may be needed, but this will be under the direction of the specialist service who will oversee monitoring of both response and side effects (note as most medications included are CD schedule 2 CD regulations apply and maximum 30 day prescribing recommended).
- To make any recommended dose changes to existing drug therapy, as per recommendations of the specialist. (dose optimisation)
- To review the patient in line with monitoring table below, report any concerns back to the specialist service as appropriate.
- To carry out an annual review if agreed in the individuals care plan (adults only, children's will have this assessment by their specialist – see below).
- Seek reassessment or specialist advice if concerns, as per below.
- To liaise with the specialist should the GP become concerned regarding the possible development of a comorbid disorder related to ADHD or medication or of significant stressors in the family. Note however, caution with diagnostic overshadowing, having ADHD does not prevent the patient from other MH conditions, and in such cases, if their condition is well controlled, they should access other commissioned services for the dominating condition.
- To stop *medication and urgently referral to child or adult mental health specialist if patient presents with acute psychotic or manic episode. Specialist to advise on whether to restart ADHD treatment.
- In the event that the GP is not able to prescribe, or where the shared care guideline is agreed but the consultant is still prescribing certain items e.g. Hospital only product; the GP will provide the consultant with full details of existing therapy promptly. Specialist Issued Drugs should be added to GP patient medication record. More guidance on adding a Specialist Issued Drug is available on CCG website
- Transition to primary care will only be for stable patients after a comprehensive assessment of the person with ADHD has been carried out by the specialist. After transition, the practice should set up recall systems to ensure regular review of medication and an annual healthcheck (as per monitoring table below).

* If /when stopping guanfacine, the dose must be tapered with decrements of no more than 1 mg every 3 to 7 days, and blood pressure and pulse should be monitored in order to minimise potential withdrawal effects, in particular increases in blood pressure and heart rate. Seek specialist advice

Responsibilities of Carers of Patients

- To attend specialist clinic and GP clinic appointments
- Understand that failure to attend will potentially result in the medication being stopped (caution with *guanacine).
- Present to the GP or specialist should their clinical condition significantly worsen.
- Report any suspected adverse effects to their specialist or GP whilst taking prescribed medication.
- To read the drug information given to them
- To take medication as prescribed.
- Inform the specialist, GP or community pharmacist dispensing their prescriptions of any other medication being taken – including over-the-counter medication.

Indication

Patients diagnosed with ADHD as part of a comprehensive treatment programme in line with NICE NG87. Prescribing will be part of a wider management strategy and all patients should have a care plan agreed with their specialist in conjunction with other professionals &/or other agencies when necessary.

The drugs included in this Shared Care Guideline are;

- CNS stimulant: Methylphenidate, Lisdexamfetamine, Dexamfetamine
- Non-stimulant: Atomoxetine, Guanfacine (Children aged 5 years and over and young people)

Combination therapy:
There is little evidence to support the use of combination therapy (e.g. non-stimulant and stimulant). Such use is not covered by this guideline, and would need to be agreed on a case by case basis

Selection of patients

If a GP suspects that a patient is experiencing symptoms of ADHD they should be referred to the appropriate specialist (see under responsibilities of primary care clinician). This should be done in line with NICE guidelines, and where relevant (i.e. children and adolescents) in conjunction with the child's school. Following a detailed assessment, only a specialist with training and expertise in diagnosing and managing ADHD should diagnose AD/HD and if appropriate commence treatment.

Children under 5 years

- ADHD –focused parent training programme first line
- Medication should not be offered without a second opinion (ideally tertiary service, i.e. NHSE commissioned Neurodisability service), and only if significant impairment after environmental modifications have been implemented and reviewed.

Children aged 5 years and over and young people

Offer medication for children aged 5 years and over and young people only if:

- their ADHD symptoms are still causing a persistent significant impairment in at least one domain after environmental modifications have been implemented and reviewed
- they and their parents and carers have discussed information about ADHD
- baseline assessment has been carried out
    - Methylphenidate is first line.
    - Consider switching to lisdexamfetamine if not enough benefit at an adequate dose
        - Consider dexamfetamine if responding to lisdexamfetamine but patient can't tolerate the longer effect profile

- Offer atomoxetine or *guanfacine if methyphenidate or lisdexamfetamine not tolerated or symptoms not responded after separate 6 week trials of both

***Not licensed for indication in adults, however stable patients moving to adult service can continue. These patients should remain under the care of specialist, however shared care prescribing arrangements can be agreed.**

Adults

- Medication offered if symptoms still causing persistent significant impairment (in at least one domain) after environmental modifications have been implemented and reviewed.
  - Locally generally methylphenidate (*off label use in adults although common practice for many years and recommended as an option by NICE*) is offered as first line (as lower drug acquisition cost if prescribed by preferred brand). However lisdexamfetamine may be considered first line if clinical need or patient preference (e.g. concern of substance misuse, a longer duration of action is needed, a liquid formulation is required, patient preference).
  - Consider switching to alternative preparation if adequate dose not derived enough benefit after 6 week trial
  - Consider dexamfetamine if response to lisdexamfetamine but longer effect profile not tolerated
  - Offer atomoxetine if methyphenidate or lisdexamfetamine not tolerated or symptoms not responded after separate 6 week trails of both.

All age

Once the patient has shown a positive response following a 6-8 week trial of stimulants or longer in the case of Atomoxetine, it may be suitable to consider shared-care between the specialist, and the GP.

For shared care to occur, the following criteria need to be met:

- Appropriate information /assessment and treatment summary has been received by the patient's GP
- The GP is aware of the overall treatment plan, co-morbidities and the role of other professionals involved in treatment/support
- The GP is aware of his/her role in the patient's treatment programme and has agreed to continue to be involved in the patient's care.
- Suitable arrangements have been already made to address the patient's non-pharmaceutical needs in the appropriate settings and by the appropriate professionals where appropriate.

Caution needed if prescribing stimulants as risk of diversion (for cognitive enhancement or appetite suppression). Do not offer immediate release stimulants is a risk of misuse or diversion.

Transition - From children to adult services.

All transition should be in line with locally agreed trust transition guidelines.

The age a young person transitions to adult services is not rigid, it should be agreed on an individual basis and ideally occur at a time of stability. Patients (and where relevant their carers) should be involved in discussions and decisions around transition, their views and needs should be taken into account.

Ongoing going health care arrangements may be provided by an adult specialist or by the patients' primary care team. This decision will be made on a case by case basis. If a young person is not referred on to specialist adult health services, the GP should be involved in transition planning and agreeing ongoing care.

Patients may be transferred to primary care if;

- Their ADHD is well optimised on treatment, **and**
- They have supportive / stable family/ networks, **and**
- They have plans for education /employment, **and**

- Any comorbid conditions are well identified and supported, **and**
- The patient and receiving clinician are aware of how to access support if needed.

If the above criteria are not all in place then the paediatric service should make arrangements to discuss the patient with the adult service to consider the most appropriate transfer arrangements. This may result in the patient being;

- Discharged to primary care with clear criteria as to when and how to access advice / re-referral, along with detailed care plan
- Transferred to adult specialist services for initial assessment and/or ongoing care. Shared care arrangements regarding prescribing can be continued with the primary care clinician.

Those requiring ongoing specialist review required, a planned transition to adult MH services should be arranged. Shared care arrangements may still be agreed.

Examples of those requiring ongoing specialist review are (list not exclusive);

- Condition not optimised
- Those on guanfacine (to remain under specialist care under shared care arrangements)
- Severe uncontrolled MH comorbidities
- Ongoing substance misuse.

Transition - Adults – Specialist to primary care

- Complex adults will remain under traditional shared care arrangements, being seen by both the GP and specialist at regular intervals.
- Adult patients stable on medication, with stable family, social, educational/employment will have an individual care plan agreed to manage ongoing care. The care plan will include; monitoring required and how and when to consider accessing adult specialist services. See indications for reassessment or need for specialist advice.

Monitoring

Ongoing monitoring once patient stable on treatment;

Children and young people (18 years and under)			
Parameter	**Frequency**	**Responsible care setting**	**Additional information**
Height Plot on growth chart	6 monthly	Secondary care	If height over time significantly affected by medication consider a planned break in treatment over school holidays
Weight Plot of growth chart	**10 years and younger** 3 monthly **Children 11 years of age and over** 3 and 6 months after initiation then 6 monthly, unless concern arises. All those on guanfacine – 3 monthly in first year, then 6 monthly	Primary and secondary care, alternating every 3 months so the child is monitored every 6 months Secondary care, unless otherwise agreed.	Try following strategies if weight loss a concern; • Take medication with or after food. • Additional meals or snacks early morning or late evening when stimulant effects worn off. • Obtaining dietary advice. • Consuming high-calorie food of good nutritional value. • Planned break in treatment (discuss with specialist) • Changing medication. Consider monitoring BMI of adults, and changing the medication if weight change persists.
Heart rate and blood pressure (Smaller cuff size may be needed for children)	Before and after each dose change then 6 monthly If on guanfacine – weekly during dose titration then 3 monthly in first year, then 6 monthly	Secondary care, unless otherwise agreed	If sustained resting tachycardia (more than 120 beats per minute), arrhythmia or systolic BP greater than 95th centile (or clinically significant increase) on 2 occasions, reduce dose and refer to paediatric hypertension specialist. If BP falls outside of normal parameter for age – discuss with overseeing specialist. If a person taking guanfacine has sustained orthostatic hypotension or fainting episodes, reduce their dose or switch to another ADHD

	See appendix 3 for BP charts / parameters.		medication.
Side effects to medication	At each review consider side effects - see appendix 1 and individual SPC /BNF Guanfacine – Assess for Signs and symptoms of somnolence and sedation weekly during dose titration then 3 monthly in first year, then 6 monthly	Primary and secondary care, consider at each review. Secondary care	If **tics develop** and thought to be related to stimulant, consider if impairment of tics outweighs benefits of treatment.- refer to specialist.
Annual review	Annually	Secondary care. Prior to transition consider continued need for medication and trial period of *stopping. If treatment is to be continued advise in the care plan re ongoing review requirements.	At review consider; • Potential for drug misuse or diversion • Preference of the child, young person (and their family or carers as appropriate) • Benefits and adverse effects • Clinical need and whether medication has been optimised • Impact on education and employment • Effects of missed doses, planned dose reductions and periods of no treatment • Effect of medication on existing or new mental health, physical health or neurodevelopmental conditions • Need for support and type of support if medication has been optimised but ADHD symptoms continue to have a significant impact. Coexisting conditions should also be reviewed, treat accordingly or referred if necessary. **If stopping guanfacine, the dose must be tapered –see details above **

Adults			
Parameter	**Frequency**	**Responsible care setting**	**Additional information**
Weight	6 months after initiation then 6 monthly (If evidence of weight loss, monitor Body Mass Index (BMI) and refer to specialist if weight loss persists.	Secondary care Stable patients – primary care. For patients still being seen 6 monthly by the specialist responsibility will remain with secondary care.	Try following strategies if weight loss a concern; Take medication with or after food. Additional meals or snacks early morning or late evening when stimulant effects worn off. Obtaining dietary advice. Consuming high-calorie food of good nutritional value. Consuming high-calorie food of good nutritional value. Planned break in treatment (discuss with specialist) Changing medication. Consider monitoring BMI of adults, and changing the medication if weight change persists.
Heart rate and blood pressure	Before and after each dose change then 6 monthly	Secondary care Primary care	If sustained resting **tachycardia** (more than 120 beats per minute), arrhythmia or systolic **BP greater than 95th centile** (or clinically significant increase) on 2 occasions, reduce dose and refer to hypertension specialist. If BP falls outside of normal parameter – discuss with overseeing specialist. If a person taking guanfacine has sustained orthostatic hypotension or fainting episodes, reduce their dose or switch to another ADHD medication (secondary care)
Side effects to medication	At each review consider side effects - see appendix 1 and individual SPC /BNF Guanfacine – Assess for Signs	Primary and secondary care, consider at each review.	If **tics develop** and thought to be related to stimulant, consider if impairment of tics outweighs benefits of treatment.- refer to specialist.

	and symptoms of somnolence and sedation 6 monthly		
Annual review	Annually	Primary or secondary care – agreed on a case by case basis	At review consider; • Potential for drug misuse or diversion • Preference of the adult with ADHD (and their family or carers as appropriate) • Benefits, including how well the current treatment is working throughout the day • Adverse effects • Clinical need and whether medication has been optimised • Effects of missed doses, planned dose reductions and periods of no treatment • Impact on education (if relevant) and employment • Effect of medication on existing or new mental health, physical health or neurodevelopmental conditions • Need for support and type of support if medication has been optimised but ADHD symptoms continue to have a significant impact. **Coexisting conditions should also be reviewed, treat accordingly or referred if necessary** **If stopping guanfacine, the dose must be tapered – see details above ** Evidence suggests the delayed brain maturity in patients with ADHD and specific review of ongoing treatment need may be required in early adulthood.

Routine blood tests and ECG are not recommended unless there is a clinical indication

Examples of indications for reassessment or need for *specialist advice include:

- Any deterioration in mental state/behaviour that causes concern and could not be managed by the GP
- Patient intolerance of side effects (see appendix 1)
- Development of new side effects (e.g. tics, seizures, mood changes, withdrawal, lack of spontaneity, aggression, suicidal ideation, etc.) or any observations of listed contraindications. See individual SPC for specifics.
- When considering concomitant psychotropic therapy. Follow normal treatment pathways if patient develops other co-morbidities or substance missue.
- Patients develops evidence of lack of efficacy or need for alteration of dose of treatment.
- Evidence suggests the delayed brain maturity in patients with ADHD and review of ongoing treatment may be required in early adulthood**,** however stopping treatment alone is not necessarily a reason to re-refer, consider discussion with a specialist if advice / expert opinion needed. See contact details below.
- Treatment should be continued while it remains effective. Stopping the treatment in adults doesn't necessitate a referral back to the psychiatric services. Decision about stopping the medication should be explored and partly based on experiences of the periods of intentional or unintentional missed doses. Continued need should be considered at each annual review.

***Specialist services can be contacted by phone to discuss any concerns at any point in care. For adults, not currently in recent of care, advice can be sought via the Single Point of Access (SPA)**

Support, education and information

Children	
Child Development and Neurodisability (Ryegate) CAMHS Centenary House CAMHS Beighton Pharmacy Department, Sheffield Children's NHS Foundation Trust.	Tel. No. 0114 2717609 Tel. No. 0114 2262348 Tel. No. 0114 2716540 Tel No. 0114 271759
Adults	
Single Point of Access (SPA) Tel: (0114) 226 3636 Fax: (0114) 2716106 Email: SPA_AdultMentalHealth@shsc.nhs.uk Netherthorpe House, 101 Netherthorpe Road, Sheffield, S3 7EZ The Single Point of Access (SPA) dovetails with the Out of Hours (OOH) Service, creating a single point of referral 24 hours a day, 7 days a week to people. SPA carry out triage, crisis and duty functions. They will onward refer within the system to Emotional Wellbeing or Recovery Services as required. **SAANs** Details can be found here - https://shsc.nhs.uk/service/sheffield-adult-autism-and-neurodevelopmental-service/	
Pharmacy Department, Sheffield Health and Social Care NHS Foundation Trust	Tel No. 0114 2718633

References :

1. National Institute of Health and Care Excellence (available at *www.nice.org.uk*) NG87 - Attention deficit hyperactivity disorder: diagnosis and management https://www.nice.org.uk/guidance/ng87
2. Electronic Medicines Compendium (available from *www.emc.medicines.org.uk*
3. British National Formulary (available via *www.medicinescomplete.com*)
4. British national formulary for children (available via *www.medicinescomplete.com*)
5. National institute of mental health, Brain Matures a Few Years Late in ADHD, But Follows Normal Pattern, November 12, 2007**.** https://www.nimh.nih.gov/news/science-news/2007/brain-matures-a-few-years-late-in-adhd-but-follows-normal-pattern.shtml (accessed 24.07.2017)
6. National Institute of Health and Care Excellence. Transition from children's to adults' services for young people using health or social care services. NG43 (https://www.nice.org.uk/guidance/ng43)

APPENDIX 1 (Summary of medicines included in Shared Care Guideline)

The details below are not a complete list and the BNF and the SPC remain authoritative.

Drug	**Methylphenidate immediate release (**prescribe generically)	**Methylphenidate Modified release**			**Dexamfetamine 5mg tablets, 1mg/ml oral solution.**	**Lisdexamfetamine.** (Elvanse® - 20, 30, 40, 50, 60 and 70mg) and Elvanse® adult – 30, 50 and 70mg) capsules	**Atomoxetine** (Strattera® - 10, 18, 25, 40, 60 and 100mg capsules and 4mg/ml oral solution)	**Guanfacine prolonged release (**Intuniv® 1, 2, 3 and 4mg tablets).
		Equasym® XL (10, 20 and 30mg) capsules	Medikinet XL®* 5mg, 10mg,20mg,30mg,40mg, 50mg, 60mg capsules	**Delmosart prolonged release** (formulary choice) or Concerta XL18mg, 27mg, 36mg and 54mg tablets				
Licensed as part of a comprehensive treatment programme, including physiological, behavioural and educational/occupational advice.	Licensed in children aged 6 – 17 years. Methylphenidate may be used off-label in younger children when considered essential to the care of the child, by the treating specialist. Use in adults is off-label but is a recognised treatment by NICE. The maximum licensed daily dose is 60mg however doses up to 90mg may be used.				Licensed for refractory hyperkinetic states under the supervision of a physician specialising in child psychiatry. Use in adults is off-label but a recognised treatment by NICE.	Elvanse® - Licensed for ADHD in children aged 6 and over, when response to previous methylphenidate is considered clinically inadequate. Elvanse® adult – licensed in adults	Licensed for ADHD in children aged 6 and older, adolescents and in adults.	Licensed for the treatment of ADHD in 6-17 years old for whom stimulants are not suitable, not tolerated or have been shown to be ineffective. Continued prescribing in adulthood is off-label.
Dosage	Refer to the BNF / BNFC / SPC for dosage directions as per individual drug monograph and patient requirements.							

Drug	Methylphenidate	Dexamfetamine	Lisdexamfeta-mine	Atomoxetine	Guanfacine
Contraindications The details are not a complete list and the BNF and the SPC remain authoritative	Anorexia nervosa; arrhythmias; cardiomyopathy,; cardiovascular disease; cerebrovascular disorders; heart failure; hyperthyroidism; phaeochromocytoma; psychosis; severe depression; severe hypertension; structural cardiac abnormalities; suicidal ideation; uncontrolled bipolar disorder; vasculitis (Refer MHRA Drug Safety guidance) **Caution for Delmosart prolonged release / Concerta XL:** Dysphagia (dose form not appropriate); restricted gastro-intestinal lumen (dose form not appropriate)	Advanced arteriosclerosis (in adults); agitated states; cardiovascular disease; history of alcohol abuse; history of drug abuse; hyperexcitability; hyperthyroidism; moderate hypertension; severe hypertension; symptomatic cardiovascular disease or structural cardiac abnormalities	Advanced arteriosclerosis ; agitated states; hyperexcitability; hyperthyroidism; moderate hypertension; severe hypertension; symptomatic cardiovascular disease	Phaeochromocytoma; severe cardiovascular disease; severe cerebrovascular disease. **Special warning:** Suicide related thoughts or behaviour, hepatic impairment	Any hypersensitivity to the substance. Manufactures recommend effective contraception in females of child bearing potential .
		Discontinue use if tics occur. Avoid abrupt withdrawal.			
Side effects. The details are not a complete list and the BNF and the SPC remain authoritative **All suspected adverse drug**	Abdominal pain, nausea, vomiting, diarrhoea, dyspepsia, dry mouth, anorexia, reduced weight gain; tachycardia, palpitation, arrhythmias, changes in blood pressure; cough, nasopharyngitis; tics (very rarely Tourette syndrome), insomnia, nervousness, asthenia, depression, irritability, aggression, headache, drowsiness, dizziness, movement disorders; fever; arthralgia; rash, pruritus, alopecia; growth restriction.	The most common side-effects of lisdexamfetamine/dexamfetamine are nausea, decreased appetite, vomiting, diarrhoea, dry mouth, abdominal cramps, dyspnoea, sleep disturbances, tics, aggression, headache, dizziness, drowsiness, mydriasis, labile mood, weight loss, pyrexia, malaise, growth restriction in children		Common adverse effects of treatment include anorexia, dry mouth, nausea, vomiting, abdominal pain, constipation, dyspepsia, flatulence, palpitation, tachycardia,	List of common side effect include , abdominal pain, vomiting, diarrhoea, nausea, constipation, bradycardia, hypotension, somnolence,

reactions should be reported to the MHRA, using the yellow card system.			increased blood pressure, flushing, sleep disturbances, dizziness, headache, malaise, lethargy, drowsiness, anxiety, depression, irritability, taste disturbances, paraesthesia, tremor, chills, urinary dysfunction, prostatitis, sexual dysfunction, mydriasis, dermatitis, rash, sweating	headache, sedation, decreased appetite, weight increase, depression, anxiety, mood lability, irritability, malaise, dizziness, insomnia, nightmares, enuresis, dry mouth, rash
Drug	**Methylphenidate**	**Dexamfetamine and Lisdexamfetamine.**	**Atomoxetine**	**Guanfacine**
Interactions The details are not a complete list and the BNF and the SPC remain authoritative	Methylphenidate has been reported to inhibit the metabolism of warfarin, anticonvulsants and tricyclic antidepressants and some SSRIs. The CNS effects of methylphenidate can be increased by alcohol. aution with any other drug that may also increase blood pressure Concomitant use with (or within two weeks of taking) a MAOI is contraindicated – risk of hypertensive crisis. There are no known interactions with antibiotics, simple analgesics and antihistamines commonly prescribed for children.	Concomitant use with (or within two weeks of taking) a MAOI is contraindicated – risk of hypertensive crisis. Agents or conditions that acidify urine, e.g. ascorbic acid, thiazide diuretics, diabetes, increase urinary excretion and decrease the half-life of amfetamine. Agents or conditions that alkalinise urine e.g. sodium bicarbonate, diets high in fruits and vegetables, UTIs, decrease urinary excretion and increase the half-life of amfetamine.	Concomitant use with (or within two weeks of taking) a MAOI is contraindicated due to risk of hypertensive crisis. Drugs that inhibit CYP2D6, e.g. fluoxetine, paroxetine may increase atomoxetine levels and risk potential for QT-interval prolongation. Other drugs that	The concomitant with QT prolonging medicinal products is generally not recommended Caution with CYP3A4 and CYP 3A5 inhibitors (e.g ketoconazole etc) and CYP3A4 inducer (e.g rifampin etc) as levels of

		Amfetamines potentiate the analgesic effect of opioids		prolong QT-interval – e.g. antipsychotics (possibly lower risk with aripiprazole), erythromycin, tricyclic antidepressants. Diuretics increased risk of ventricular arrhythmias if hypokalaemia occurs. Drugs that reduce seizure threshold – e.g. antidepressants, antipsychotics, tramadol	guanfacine may significantly alter. It should not be administered with high fat meals Caution with CNS depressant medicinal products (e.g. sedatives, hypnotics, benzodiazepines etc) due to the potential for additive pharmacodynamic effects such as sedation and somnolence.
Additional information ▼; report any adverse reaction to the MHRA, using the yellow card system.	**Schedule 2 CD** Various modified release brands available possess different release characteristics and specific brand prescribing should be continued.	**Schedule 2 controlled drug** Amfexa ▼	**Schedule 2 controlled drug** Elvanse ▼		Intuniv ▼ Patients approaching 17years who are stable and responding well to treatment may be maintained on treatment into adulthood, although this is off-label use. When stopping guanfacine, the SPC states the dose must be tapered with

					decrements of no more than 1 mg every 3 to 7 days, and blood pressure and pulse should be monitored in order to minimise potential withdrawal effects, in particular increases in blood pressure and heart rate.

APPENDIX 2A (Template letter to GP for shared care arrangements)

Dear Doctor

RE: …….. DOB: …… NHS No. ……..
Address: ……..

Your patient is being prescribed (insert medication and dose), they have responded to treatment and side effects have been assessed, they are now suitable for shared care arrangements in line with locally agreed shared care arrangements (see LINK – add once agreed).

As part of shared care arrangements please can you prescribe and monitor, where indicated, the following as per details within the shared care guidance *(amend to reflect patients agreed pathway as differs based on age / individual needs):*

- Pulse, blood pressure
- Weight
- Height /growth and development, (delete if not appropriate)

Please do not hesitate to contact us if you have any concerns, otherwise we will presume you are happy to prescribe and review in line with the shared care prescribing guideline.

Yours sincerely

APPENDIX 2B (Template letter to GP for adult patients who are stable and ongoing care will be in primary care)

Dear Doctor

RE: …….. DOB: …… NHS No. ……..
Address: ……..

Your patient is being prescribed (insert medication and dose), and has been stabilised on this dose for some time. There is no longer a need for them to be seen regularly by a specialist. Due to the medication they are on to manage their ADHD they will require regular physical health checks and an annual review.

Please can you prescribe and monitor Heart rate, BP and weight every 6 months, as per details within the shared care/prescribing guidance,

Please can you also carry out an annual review as per the guideline, there is a template within your clinical system to support you with this. If at this review you have any concerns please do not hesitate to contact us to discuss, or re-refer the patient back to us.

Please do not hesitate to contact us if you have any concerns, otherwise we will presume you are happy to prescribe and review in line with the Sheffield prescribing guideline.

Yours sincerely

To be sent with comprehensive assessment which should include personal, educational, occupational and social functioning, and assessment of any coexisting conditions.

APPENDIX 3

See links below for BP tables for children.

http://www.nhlbi.nih.gov/guidelines/hypertension/child_tbl.htm

http://www.nhlbi.nih.gov/health/public/heart/hbp/bp_child_pocket/bp_child_pocket.pdf

To be reviewed in 3 months