Specialised Medicines Service (SMS) Guideline ~
Dexamfetamine for patients within adult services

This guideline has been developed with consideration and local adaptation of the national shared care protocol; "Dexamfetamine for patients within adults services" 4 July 2022 Version 1 (available here). Development led by the Regional Medicines Optimisation Committee (RMOC) (north) with national approval for publication on the NHS England website.

This guideline has been reviewed by stakeholders across Devon and is intended for use in accordance with locally commissioned services.

Specialist: Please complete the 'Specialist Request to GP Letter' and send together with a copy of this shared care guideline to the GP.

GP: GPs are invited to participate. Please indicate whether you wish to share patient's care by completing the appropriate 'GP Acceptance/Refusal Letter' and returning to the specialist.

Responsibilities remain with the specialist service until formally accepted by the GP. If a GP is not confident to undertake these roles, then they are under no obligation to do so. In such an event, the total clinical responsibility for the patient for the diagnosed condition remains with the specialist.

If the GP agrees to share the care of the patient, the patient should not be discharged from the care of their specialist, but rather the care of the patient is shared between the patient, GP and specialist in accordance with the responsibilities outlined in this guideline.

The prescriber has the clinical and legal responsibility for the drug and the consequences of its use. Responsibility for drug monitoring and acting on results remains with the prescriber.

Introduction and aims of treatment

This Devon wide SMS guideline covers the use of dexamfetamine for the treatment of the following indications in patients within adult services:

- **Attention Deficit Hyperactive Disorder (ADHD) *or***
- **Excessive daytime sleepiness caused by narcolepsy (with or without cataplexy)**

Licensing for these indications vary – see below for further information. Dexamfetamine is sometimes used off-label for other disorders however these indications fall outside the scope of this guideline.

This guideline details the responsibilities for the ongoing prescribing and monitoring required to enable a shared care agreement to be arranged between the primary and secondary care interface. Refer to the online British National Formulary (BNF), individual summaries of product characteristics (SmPCs) or the Medicines and Healthcare products Regulatory Agency (MHRA) for up-to-date prescribing data.

Dexamfetamine is a schedule 2 controlled drug, a central nervous stimulant. **Dexamfetamine should only be initiated following assessment and diagnosis by a specialist with expertise in the management of adult ADHD or narcolepsy**. A specialist includes all appropriately qualified healthcare professionals with training and expertise in the diagnosis and management of the conditions. Treatment should be tailored effectively to the needs of the individual.

Use of dexamfetamine in the management of adult ADHD is unlicensed but established and supported within NICE Guideline NG87: Attention deficit hyperactivity disorder: diagnosis and management (2018). NICE recommends that people with ADHD have a comprehensive, holistic shared treatment plan that addresses psychological, behavioural and occupational or educational needs. Dexamfetamine may be offered as an

alternative treatment in patients who have been appropriately diagnosed and whose symptoms are responding to lisdexamfetamine but are unable to tolerate the drug's longer effect profile.

The use of dexamfetamine in the management of narcolepsy is well documented; licensing for the treatment of adult narcolepsy varies by manufacturer. Dexamfetamine is reserved for second line use if modafinil is not tolerated or is ineffective despite maximum dose, or if significant adverse effects occur.

Service transition for young people with existing ADHD diagnosis to adult services

Refer also to: NICE Guideline NG43 Transition from children's to adults' services for young people using health or social care services (2016).

Young people transferring from child/adolescent services to adult services should be offered a transition appointment ideally jointly with the child/adolescent and adult specialist providers (contact details are provided later in the guideline). During the appointment drug treatment should be discussed with consideration of whether continuation into adulthood will continue to provide therapeutic benefit, or in some circumstances whether a change of ADHD medication is required. A treatment plan should be formulated collaboratively with the young person. Precise timing of transition arrangements may vary according to the needs and preferences of the individual patient but should usually be completed by the time the young person is 18 years old.

Where adult services are providing care for an individual below the age of 18 years, the specialist should provide the GP with age specific prescribing guidance (including dose) and confirm monitoring requirements. For some individuals, this may be as per the Devon-wide SMS guideline for dexamfetamine for ADHD in children and young people, available here.

Where patient care is transferred from one specialist service to another, and/or the patient is initiated on a different ADHD treatment (excluding brand / formulation / dose changes) with associated shared care guidelines, a new shared care agreement must be completed between the specialist, the GP and the patient.

Specialist responsibilities

Specialists may decide to delegate some of these tasks to members of their team, however the responsibility for ensuring the following are undertaken remains with the named specialist overseeing the care of the individual patient:

- Assess the patient, establish diagnosis of ADHD or narcolepsy and the need for treatment with dexamfetamine. Ensure the patient and/ or the patient's carer is involved in making an informed choice about their treatment.
- Update records with list of existing drugs from available resources and ensure there are no drug interactions of clinical significance with current medication or recreational drugs, or over the counter (OTC) drugs. Recommend the patient and/ or the patient's carer consults a pharmacist before using OTC treatments.
- Provide the patient and/ or the patient's carer with suitable written and verbal information about the medication prior to starting treatment, including benefits, side effects, cautions, frequency of dosing, monitoring requirements and treatment reviews (timing and by whom). Links to patient information resources can be found in the Supporting Information section below.
- Provide advice on the need for contraception, and the risks of pregnancy to individuals on initiation and at each review; the ongoing responsibility for providing this advice rests with both the specialist and the GP.
- Ensure the patient and/ or the patient's carer understands that treatment may be stopped if they do not attend for monitoring & treatment review.
- Inform the patient and/or the patient's carer if the use of dexamfetamine is unlicensed. Outline any associated risks and benefits with treatment; document patient consent in the patient's medical records.
- Confirm patient and/or the patient's carer understands the treatment and record consent and acceptance of associated patient responsibilities in the patient's medical records.
- Undertake pre-treatment screening, including cautions and contraindications, and required baseline monitoring (see monitoring requirements below) before initiating dexamfetamine.

- **Prescribe dexamfetamine and continue to monitor the patient until the condition is stable and the dose is optimised (with no anticipated further changes expected in the immediate future), before sharing care with GP.**
- **Prescribe in line with controlled drug prescription requirements.**
- Once treatment is optimised, ask the GP in writing whether they are willing to participate in shared care for a particular patient using the shared care agreement letter below. Include all relevant test results (GPs may not have access to these results in primary care).
- Prescribing and monitoring will remain in secondary care until the patient is stable and the GP agrees to share care.
- Following the request to the patient's GP to participate in a shared care agreement, the specialist must ensure that the patient has an adequate supply of medication (usually 28 days) until shared care arrangements are in place. Further prescriptions will be issued by the specialist if, for unforeseen reasons, arrangements for shared care are not in place at the end of this period.
- **Review the patient at agreed specified clinically appropriate intervals.** NICE Guideline NG87 recommends that ADHD medication should be reviewed at least once a year. During the review consider and discuss clinical effectiveness and adverse effects with the patient and/ or the patient's carer and evaluate the long-term benefit and continuation of treatment; discuss patient preferences and trial periods off medication where indicated. Trial discontinuations should be managed by the specialist. If continuing medication, document the reasons why.
- Ensure prompt written summary is sent to the GP whenever the patient is reviewed including any changes in treatment or monitoring requirements, results of monitoring undertaken, assessment of adverse events, or guidance on when to stop treatment if indicated.
- Urgent changes to treatment should be communicated electronically and directly to the GP surgery (and followed up by telephone as required) to ensure prompt and immediate update.
- Provide the GP with relevant contact information and clear arrangements for back-up advice and support.
- Ensure that the GP is informed in writing of any changes to the patient's specialist or their contact details.
- Where patient care is transferred from one specialist service to another, and/or the patient is initiated on a different ADHD or narcolepsy treatment (excluding brand / formulation / dose changes) with associated SMS guidelines, a new shared care agreement must be completed between the specialist, the GP and the patient.
- Respond promptly to the GP and advise on action required when abnormal monitoring results are identified or adverse effects signs or symptoms are detected.
- Any individual who becomes pregnant or wishes to become pregnant will be referred back to the specialist for an individualised review and discussion of ongoing management plans to provide the best outcome for the individual patient. **The specialist will reassume prescribing responsibility, ending the shared care agreement.**
- Report suspected side effects to MHRA via yellow card scheme.

General practitioner responsibilities

GPs may decide to delegate some of these tasks to members of their team; however, the responsibility for ensuring the following are undertaken remains with the GP overseeing the care of the individual patient:

- Ensure a timely reply is sent to specialist in response to request for shared care using the shared care agreement letters below. Where possible this should be undertaken within 14 days of the request being made.

If GP has agreed to share care:

- Continue to prescribe and monitor dexamfetamine in accordance with these guidelines. **Prescribe in line with controlled drug prescription requirements.**
- Review monitoring results and take any necessary action (see monitoring requirements below).
- Be alert to the possibility of interactions when initiating new medicines or recommending over the counter (OTC) treatments, or interactions with recreational drugs.

- It is the responsibility of the specialist to provide advice on the need for contraception to individuals on initiation and at each review however the ongoing responsibility for providing this advice rests with both the specialist and the GP.
- Be alert to the possibility of adverse effects at every contact. Ensure prompt action in the case of a severe adverse effect or signs or symptoms (see monitoring requirements below).
- Ensure advice sought promptly from the specialist if there is a change in the patient's physical or mental health status which is of concern to the GP and may affect treatment.
- **Any individual who becomes pregnant or wishes to become pregnant should be referred back to the specialist. The specialist will reassume prescribing responsibility, ending the shared care agreement.**
- Respond promptly to advice from specialist regarding any changes in treatment or monitoring requirements.
- Ensure that the specialist is informed in writing of any changes to the patient's GP or their contact details.
- Where patient care is transferred from one GP practice to another a new shared care agreement must be completed.
- Report suspected side effects to specialist and to MHRA via yellow card scheme.

Patient and/ or carer responsibilities

- Understand the importance of monitoring treatment and attend specialist and GP appointments to ensure timely monitoring and reviews can be completed in accordance with the guideline.
- Understand that treatment will be stopped if they do not attend for monitoring and treatment review.
- Ensure contact details are kept up to date with both the GP and the Specialist.
- Read the dexamfetamine patient information leaflet. Request information in different format(s) if required to aid understanding. Understand treatment, expected benefits and potential side effects. Links to patient information resources can be found in the supporting information section below.
- Take (or support administration of) medication as directed by the prescriber. Patients wishing to reduce their dose or stop dexamfetamine treatment should discuss with their specialist before doing so. Avoid abrupt withdrawal unless advised by the prescriber.
- Seek guidance from a pharmacist, GP or specialist on medication safety and potential interaction with dexamfetamine if engaging in recreational drug use, or using over the counter (OTC) treatments.
- Report any adverse effects or newly presenting signs or symptoms to the GP and/or specialist.
- **Report the following signs and symptoms without delay**:
  - Cardiac disorders e.g. palpitations, chest pain, syncope (fainting), shortness of breath
  - Psychiatric disorders e.g. psychosis, mania, aggressive or hostile behaviour, suicidal ideation or behaviour, motor or verbal tics, agitation or tension, anxiety, depression
  - Signs of serotonin syndrome: e.g. agitation, hallucinations, incoordination, rigidity, nausea, vomiting, diarrhoea, hyperreflexia (coma, tachycardia, labile blood pressure, hyperthermia – may not be able to report but listed for awareness)
  - Nervous system disorders e.g. severe headache, numbness, weakness, paralysis, and impairment of coordination, vision, speech, language or memory
  - Gastrointestinal and hepatobiliary disorders e.g. abdominal pain, malaise, jaundice or darkening of urine
  - Blood and lymphatic system disorders e.g. skin rashes or bruising easily
- Individuals of childbearing potential should avoid pregnancy and use appropriate contraception while taking dexamfetamine. Individuals should take a pregnancy test if they think there is a possibility they may be pregnant, and inform the GP or specialist immediately if they become pregnant or wish to become pregnant.
- Abstain from alcohol during treatment, as it may make some side effects worse. Avoid recreational drugs.
- Dexamfetamine is a schedule 2 controlled drug. Patients may be required to prove their identity when collecting prescriptions. There are restrictions on travelling with controlled drugs: see Controlled drugs: personal licences.
- Store medicines safely and securely; it must not be shared with anyone else. Dispose of any unused medication appropriately.
- Do not drive or operate machines if dexamfetamine affects their ability to do so safely, e.g. by causing dizziness, drowsiness, or visual disturbances.
- It is illegal to drive with prescription medicines in your body if it impairs your driving, see Drugs and driving: the law. People who drive must inform the DVLA if:

- their ADHD or ADHD medication affects their ability to drive safely (see ADHD and driving).
- they have narcolepsy (see Narcolepsy and driving
- Report suspected side effects to the GP or specialist and the MHRA via yellow card scheme.

Monitoring requirements

Baseline assessment to be completed by the specialist before initiating dexamfetamine in adults:

Full history and physical examination to include:

- Medical history and current medication
- Consideration of cautions and contraindications associated with dexamfetamine
- Social circumstances including a risk assessment for substance misuse and drug diversion
- Pulse and blood pressure (measured with an appropriately sized cuff)
  - If blood pressure is over 140/90mmHg, request GP carries out further assessment in accordance with local hypertension management guidelines. Possible treatment for hypertension may be required before dexamfetamine can be initiated. Specialist to arrange follow-up.
- Height and weight measured and recorded
  - If body mass index (BMI) is below 18.5kg/m^2, provide advice on weight gain before considering treatment
- Cardiovascular assessment to include (but not limited to) the following considerations:
  - Presence of cardiac disease, history of exercise syncope, undue breathlessness, signs of heart failure, chest pain suggesting cardiac origin, palpitations and heart murmur
  - Family history of cardiovascular disease and consideration of major lifestyle risk factors such as smoking and obesity
  - Electrocardiogram (ECG) to be carried out if clinically indicated based on patient medical history, cardiovascular assessment or if the patient is being treated with a medicine that may pose an increased cardiac risk.
  - Specialist cardiac evaluation to be requested if the ECG shows abnormalities or if the cardiovascular assessment raises concerns.
- Before initiating treatment it is essential to consider and discuss contraception and/ or, where appropriate, the risks of pregnancy (including risk to the foetus and risks associated with stopping or changing medication). If there is any possibility that the individual may be pregnant, it is important to exclude this prior to starting treatment. Refer also to supporting information below.

Monitoring to be completed by the specialist service provider before initiation of shared care agreement:

- Prescribe dexamfetamine and continue to monitor the patient until the condition is stable and the dose is optimised (with no anticipated further changes expected in the immediate future), before sharing care with GP.
- Continue to monitor the patient until shared care agreement is accepted, and ongoing prescribing and monitoring responsibilities are transferred to the GP.
- Respond promptly with advice on action required if adverse effects signs or symptoms are reported by the patient, either directly or through their GP.

Monitoring to be completed by the GP once shared care agreement in place:

Where adult services are providing care for an individual with ADHD below the age of 18 years, the specialist should confirm monitoring requirements. For some individuals, this may be as per the Devon-wide SMS guideline for dexamfetamine for ADHD in children and young people.

Monitoring parameters to be measured by the GP and recommended frequencies:

Weight	Every 6 months
Pulse and blood pressure	Every 6 months *and* Before and one week after each dose change
Adverse events	Be alert to the possibility of adverse effects at every contact

Where abnormal results are identified during routine monitoring consider the actions in the table below, seeking advice from specialist for further support and guidance where required. As well as responding to absolute values, a rapid change or a consistent trend in any value should prompt caution and extra vigilance.

If monitoring results are forwarded to the specialist team, include clear clinical information on the reason for sending, to inform action to be taken by secondary care.

Monitoring Parameter	Result prompting further action	Action to be taken by GP
Weight	Unintentional weight loss >5% total body weight over 6-12 months and other possible causes have been excluded	Continue treatment and contact initiating specialist for advice.
Pulse	Sustained resting tachycardia greater than 120bpm. (See table below for patient reported cardiovascular signs and symptoms)	Confirm increased heart rate in line with good medical practice. If tachycardia is confirmed seek advice from initiating specialist to determine if dose reduction or discontinuation of dexamfetamine is required. Manage ongoing irregular pulse in accordance with local guidelines and specialist advice.
Blood pressure	Systolic blood pressure greater than 140mmHg *Or* A clinically significant increase in blood pressure from baseline determined on an individual patient basis	Confirm raised blood pressure in line with good medical practice and NICE guideline [NG136]: Hypertension in adults. If raised blood pressure is confirmed, seek advice from initiating specialist to determine if dose reduction or discontinuation of dexamfetamine is required. Manage ongoing hypertension in accordance with local guidelines and NICE guideline [NG136]: Hypertension in adults

Presentation of the following adverse effects, signs or symptoms and associated actions should be noted. Any serious adverse reactions should be reported to the MHRA via the Yellow Card scheme. See also adverse effects in supporting information below.

Adverse effects, signs and symptoms	Action to be taken by GP
Concerns about adherence, possible diversion, misuse or abuse of medication	Contact initiating specialist for advice
Worsening ADHD behaviour	Continue treatment and contact initiating specialist for review
Change in sleep pattern	Continue treatment; advise patient to record sleep diary which may aid identification of sleeping patterns and lifestyle factors that may be contributing. Offer practical sleep hygiene information. If problem persists beyond routine primary care management of sleep disorders, and other possible causes have been excluded, contact initiating specialist for review.
Nausea, vomiting, diarrhoea, abdominal pain and cramps, constipation, dry mouth, headache, dizziness, enuresis, increased daytime urination, sexual dysfunction	Continue treatment unless severe. Some symptoms may be alleviated by concomitant food intake. Discuss with initiating specialist if required.

Continued overleaf

Dizziness, drowsiness and visual disturbances including difficulties with accommodation, diplopia and blurred vision.	Patients should be warned of these possible effects and advised that if affected, they should avoid potentially hazardous activities such as driving or operating machinery.
Onset or exacerbation of motor and verbal tics	Contact initiating specialist for advice. Decision to reduce/ stop dexamfetamine should be specialist led.
Development of symptoms such as palpitations, exertional chest pain, unexplained syncope, dyspnoea or other symptoms suggestive of cardiac disease or arrhythmia. See table above for tachycardia detected during routine monitoring	**Stop dexamfetamine.** Initiating specialist to determine whether dexamfetamine can be re-started once patient stable. Refer for prompt cardiology review if indicated. Manage ongoing symptoms in accordance with local guidelines and specialist advice.
Development or worsening of psychiatric disorders e.g. depression, suicidal tendency and/or ideation, anxiety, irritability, agitation, tension, aggression, hostility, emotional lability, paranoia, psychotic or manic symptoms. *Psychosis may occur following consumption of very high doses.*	If there is an urgent crisis consider whether dexamfetamine may have caused or worsened it; if in doubt stop treatment. Refer to acute mental health team as appropriate. Discuss with initiating specialist. Follow local guidelines for referral and/or treatment with mental health services if symptoms persist. Specialist to determine whether dexamfetamine should be continued.
Onset or exacerbation of seizures	**Stop dexamfetamine** and discuss with initiating specialist. **Refer for urgent neurology review** in accordance with local guidance.
Cerebral vasculitis. The diagnosis should be considered in any patient who develops new neurological symptoms that are consistent with cerebral ischemia. Symptoms may include: severe headache, numbness, weakness, paralysis, and impairment of coordination, vision, speech, language or memory.	**Stop dexamfetamine and arrange urgent admission.**
Symptoms of serotonin syndrome, e.g. agitation, hallucinations, coma, tachycardia, labile blood pressure, hyperthermia, hyperreflexia, incoordination, rigidity, nausea, vomiting, diarrhoea	**Stop dexamfetamine**. Management depends on severity; use clinical judgement and seek advice if necessary. Discuss with initiating specialist to determine whether dexamfetamine can be re-started.
Haematological disorders including leukopenia, thrombocytopenia, anaemia or other alterations. Note: Haematological disorders would be a chance finding/due to patient reporting adverse drug reactions.	Contact initiating specialist. Discontinuation should be considered. Referral to haematology may be warranted; use clinical discretion.

Supporting Information

This section provides additional information regarding dexamfetamine. Refer to the online BNF, SmPCs, the MHRA or NICE websites for up-to-date information on any medicine.

Where adult services are providing care for an individual with ADHD below the age of 18 years, the specialist should provide the GP with age specific prescribing guidance (including dose). For some individuals, this may be as per the Devon-wide SMS guideline for dexamfetamine for ADHD in children and young people.

Legal classification

Dexamfetamine is a Schedule 2 controlled drug. Prescriptions must comply with Misuse of Drugs Regulations 2001. The Department of Health has issued a strong recommendation that the **maximum quantity of Schedule 2 Controlled Drugs prescribed should not exceed 30 days**; exceptionally, to cover a justifiable clinical need and after consideration of any risk, a prescription can be issued for a longer period, but the reasons for the decision should be recorded on the patient's notes.

All legal requirements for prescribing controlled drugs should be followed. See NICE Guidance NG46: Controlled drugs: safe use and management.

Licensing, dosage and administration

Dexamfetamine must be prescribed by the specialist during initiation and dose stabilisation.

Refer to Devon formulary for list of preparations approved for use locally.

Use of dexamfetamine in the management of adult ADHD is unlicensed but established and well supported. The licensing for the treatment of adult narcolepsy varies by manufacturer. Please consult the relevant SmPCs.

Initial dosage and titration:

- **ADHD:** Initially 5 mg twice daily, dose is increased at weekly intervals according to response.
- **Narcolepsy:** Initially 10 mg daily in divided doses, increased in steps of 10 mg weekly.

Initiation in elderly patients: Specialist to advise on lower dosing and slower titration.

Maintenance: Doses to be given in 2–4 divided doses; maximum 60 mg per day.

The times at which the doses are administered for the management of ADHD should be selected to provide the best effect when it is most needed. This will be discussed between the specialist and the patient. The regimen that achieves satisfactory symptom control with the lowest total daily dose should be employed.

Dexamfetamine should not be taken too late after lunch time to avoid disturbances of sleep.

If a dose is missed then the next scheduled dose should be taken as usual; a double dose should not be taken to make up for a missed dose.

Treatment review and discontinuation

The duration of treatment will be determined by the specialist, based on clinical response and tolerability. All dose or formulation adjustments will be the responsibility of the initiating specialist unless directions have been discussed and agreed with the GP.

Termination of treatment will be the responsibility of the specialist. Treatment must be stopped if the symptoms do not improve after appropriate dosage adjustment over a 1-month period as determined by the specialist. Other circumstances surrounding treatment, such as adherence to medication schedule, side effects and motivation should be considered. If paradoxical aggravation of symptoms or other intolerable or serious adverse effects occur, the dosage should be reduced or treatment discontinued.

Long-term usefulness of dexamfetamine for extended periods (over 12 months) should be periodically re-evaluated. Trial periods of stopping medication or reducing the dose may be considered when assessment of the overall balance of benefits and harms suggests this may be appropriate. This should be undertaken and supervised by the specialist who will advise the patient and GP of the outcome.

In all individuals, careful supervision is required during drug withdrawal. Abrupt withdrawal after a prolonged period of intake of high doses of dexamfetamine should be avoided due to the risks of severe depression, over-activity, extreme fatigue as well as changes in the EEG during sleep. Other symptoms include dysphoric mood, vivid and unpleasant dreams, insomnia or hypersomnia, increased appetite, psychomotor retardation or agitation, anhedonia and drug craving. Some patients may require long-term follow up following withdrawal.

Contraindications

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

Precautions

In addition to the points listed below, refer to the monitoring section above for further cautions to be noted during treatment depending on patient medical history and actions to take in the case of a severe adverse effect or patient reported signs or symptoms.

- The manufacturers report there is no experience with the use of dexamfetamine in patients with renal or hepatic insufficiency. In those patients peak plasma levels could be higher and elimination could be prolonged. Thus, dexamfetamine should be used with special caution in this patient group by taking care of titration and dosage.
- Patients whose underlying medical conditions might be compromised by increases in blood pressure or heart rate e.g. mild hypertension, history of cardiovascular disease, concomitant medications that elevate blood pressure
- Family history of sudden cardiac or unexplained death or malignant arrhythmia. Sudden death has been reported in patients taking CNS stimulants
- Stroke, and myocardial infarction have been reported in adults taking stimulant drugs at usual doses for ADHD. Refer to SmPCs for further details.
- Cases of cardiomyopathy have been observed with chronic use of amfetamine.
- Susceptibility to angle-closure glaucoma
- Psychiatric disorders and neuropsychiatric symptoms or disorders should be taken into account when prescribing.
- Stimulants may lower the convulsive threshold in patients with prior history of seizure, in patients with prior EEG abnormalities in absence of seizures, and very rarely, in patients without a history of seizures and no prior EEG evidence of seizures.
- History of substance abuse or dependence.
- Breast-feeding (see below for further guidance).

Adverse effects

This list is not exhaustive. Frequency unknown have not been listed. Refer to the online BNF and SmPCs for full prescribing data. Seek specialist advice where necessary. See also adverse effects, signs and symptoms in monitoring requirements section above.

Very common (≥1/10) or common (**≥1/100 to <1/10):** Abdominal pain; aggression; anxiety; anorexia; appetite decreased; arrhythmias; arthralgia; behaviour abnormal; blood pressure changes; depression; dry mouth; dyskinesia; excitation; headache; heart rate changes; hyperactivity; insomnia; irritability; mood altered; movement disorders; muscle cramps; nausea; nervousness; palpitations; poor weight gain; sleep disorders; tachycardia; vertigo; vomiting; weight decreased

Rare (≥1/10,000 to <1/1,000) or very rare (<1/10,000): Anaemia; angina pectoris; cardiac arrest; Cerebral vasculitis and/or occlusion; cerebrovascular insufficiency; choreoathetoid movements; convulsions; erythema multiforme; exfoliative dermatitis; fatigue; fixed drug eruption; growth retardation; hallucination; hepatic coma; hepatic enzyme elevation; hepatic function abnormal; intracranial haemorrhage; leucopenia; mydriasis; neuroleptic malignant syndrome; psychosis; seizure; skin reactions; suicidal behaviours; thrombocytopenia; thrombocytopenic purpura; rash; tics, worsening of pre-existing tics; Tourette's syndrome; urticaria; vision disorders

Interactions

The following lists are not exhaustive. Consider interaction with prescription and recreational drugs. Refer to the online BNF and SmPCs for full prescribing data. Seek specialist advice where necessary and / or refer to specialist Medicines Information services for additional support (and reference to Stockley's Drug Interactions where paid subscription available) if concomitant administration of interacting medicines clinically indicated.

The following interactions are classified in the online BNF as **severe** (the result may be a life-threatening event or have a permanent detrimental effect):

- **Apraclonidine:** Dexamfetamine is predicted to decrease the effects. Manufacturer advises avoid.
- **Atomoxetine:** Increased risk of adverse effects. Manufacturer advises caution.
- **Fluoxetine** and **paroxetine:** Predicted to increase the exposure to dexamfetamine Risk of serotonin syndrome
- **Moclobemide:** Increased risk of a hypertensive crisis. Manufacturer advises avoid.
- **Monoamine oxidase inhibitors (MAOI) (isocarboxazid, phenelzine** and **tranylcypromine):** Increased risk of a hypertensive crisis when given concomitantly. Because of possible hypertensive crisis, dexamfetamine is contraindicated in patients being treated (currently or within the preceding 2 weeks) with non-selective, irreversible MAO-inhibitors. The NHS England Shared Care protocol states do not prescribe without consultation with the specialist.
- **Nabilone:** Predicted to increase the risk of cardiovascular adverse effects. Manufacturer advises caution.
- **Nirmatrelvir boosted with ritonavir:** Predicted to increase the concentration of dexamfetamine. Manufacturer advises monitor.
- **Rasagiline**, **safinamide** and **selegiline:** Predicted to increase the risk of severe hypertension when given concomitantly. The NHS England Shared Care protocol states do not prescribe without consultation with the specialist. Manufacturer advises avoid for rasagiline and selegiline; caution for safinamide.
- **Ritonavir** and **tipranavir:** Predicted to increase the exposure to dexamfetamine.

The following interactions in the online BNF are noted as **moderate** (the result could cause considerable distress or partially incapacitate a patient; they are unlikely to be life-threatening or result in long-term effects):

- **First generation antipsychotics (chlorpromazine, levomepromazine, pericyazine, prochloperazine, promazine** and **trifluoperazine):** predicted to decrease the effects of dexamfetamine and dexamfetamine is predicted to decrease their effects.

The online BNF also reports a number of treatments which can increase the risk of **serotonin syndrome** when administered concomitantly with dexamfetamine. The list is extensive and includes: **bupropion, fenfluramine, linezolid, lithium, methylthioninium chloride, mirtazapine, moclobemide, monoamine-oxidase A and B inhibitors (irreversible), monoamine-oxidase B inhibitors, opioids, serotonin (5HT3) receptor antagonists, selective serotonin reuptake inhibitors (SSRIs), St John's Wort, tapentadol, tramadol, trazodone, tricyclic antidepressants, triptans, tryptophan, vortioxetine.** Consult the BNF and SmPCs for further guidance and an up to date list.

The SmPCs also document the following interactions:

- It is not known whether dexamfetamine may inhibit or induce cytochrome P450 (CYP) enzymes. Co-administration of CYP substrates, or potent inhibitors or inducers of CYP enzymes should be made with caution.
- **Alcohol:** May exacerbate the CNS adverse reactions; it is therefore advisable for patients to abstain from alcohol during treatment.
- **Clonidine:** May increase the duration of action of dexamfetamine; reduced antihypertensive action of clonidine. The NHS England Shared Care protocol states do not prescribe without consultation with the specialist.
- **Antihistamines:** Dexamfetamine may counteract the sedative effect.
- **Antihypertensives including guanethidine:** Dexamfetamine may inhibit the antihypertensive action.
- **Beta-blockers:** Concomitant use may lead to severe hypertonia, as the therapeutic action of these agents may be inhibited by dexamfetamine.
- **Opiates:** Depressant effects e.g. respiratory depression, may be decreased. Analgesic effects may be increased.
- **Halogenated narcotics:** There is a risk of sudden blood pressure increase during surgery. If surgery is planned, dexamfetamine treatment should not be used on the day of surgery.
- **Tricyclic antidepressants:** Increased risk of cardiovascular adverse events.
- **Vasopressors:** Possible increase in blood pressure.
- **Noradrenaline:** Dexamfetamine may enhance the adrenergic effect.
- **Meperidine** and **morphine:** Dexamfetamine may potentiate the analgesic effects.
- **Coumarin anticoagulants, anticonvulsants** (e.g. **phenobarbital**, **phenytoin**, and **primidone**), t**ricyclic antidepressants** and **SSRIs:** Dexamfetamine may inhibit metabolism of these treatments. When starting or stopping dexamfetamine, it may be necessary to adjust the dosage if already prescribed and establish drug plasma concentrations (or for coumarin, coagulation times).
- **Disulfiram:** May inhibit metabolism and excretion of dexamfetamine.
- **Adrenergic blockers** (e.g. **propranolol**), **lithium**, and **α-methyltyrosine:** May attenuate effects of dexamfetamine.
- **Haloperidol:** May inhibit the central stimulant effects of dexamfetamine; acute dystonia has been noted.
- **Anticonvulsants** (e.g. **phenobarbital**, **phenytoin**, **primidone**, and **ethosuximide**)**:** Absorption may be delayed. Dose adjustment may be required when stopping or starting dexamfetamine.
- **Phenothiazines**, e.g. **chlorpromazine:** Block dopamine receptors, thus inhibiting the central stimulant effects of amfetamines; they can be used to treat amfetamine poisoning.
- **Gastrointestinal acidifying agents (e.g. ascorbic acid, fruit juices)** and **urinary acidifying agents (e.g. ammonium chloride):** May reduce exposure to dexamfetamine.
- **Gastrointestinal alkalinizing agents (e.g. sodium bicarbonate)** and **urinary alkalinizing agents (e.g. acetazolamide, some thiazides)**: May increase exposure to dexamfetamine.

Dexamfetamine may induce a positive laboratory test for amfetamines, particularly with an immunoassay screening test.

Amfetamines can cause a significant elevation in **plasma corticosteroid levels**. This increase is greatest in the evening. Amfetamines may interfere with **urinary steroid determinations**

There are a number of potential drug interactions with **cannabis-based medicinal products**; tetrahydrocannabinol found in cannabis can increase the effects of amfetamines and cause a significant increase in heart rate and blood pressure.

Pregnancy, lactation and paternal exposure

Before prescribing in this area seek specialist advice and check up-to-date sources of information.

Devon Partnership NHS Trust have produced a Prescribing Guideline for the Pharmacological Management of Perinatal Mental Health Conditions which can be accessed here. Contact details for perinatal mental health services can be found below.

Pregnancy

Licensing in pregnancy varies between manufacturers. Some manufacturers contraindicate its use during pregnancy and others state that it is not recommended**.** It is advised that individuals of childbearing age should discontinue the use of dexamfetamine when intending to become pregnant.

Any individual who becomes pregnant or wishes to become pregnant will be referred back to the specialist for an individualised review and discussion of ongoing management plans to provide the best outcome for the individual patient. **The specialist will reassume prescribing responsibilities, ending the shared care agreement.**

Data from a cohort study of in total approximately 5570 pregnancies exposed to amphetamine in the first trimester do not suggest an increased risk of congenital malformation. Data from another cohort study in approximately 3100 pregnancies exposed to amphetamine during the first 20 weeks of pregnancy, suggest an increased risk of preeclampsia, and preterm birth.

Children of mothers who are dependent on amfetamine have been shown to be at an increased risk of premature birth and reduced birth weight.

Moreover, these children may develop withdrawal symptoms like dysphoria, including hyperexcitability and pronounced exhaustion.

The UK Teratology Information Service (UKTIS) provides a national service on all aspects of the toxicity of drugs and chemicals in pregnancy (Tel: 0344 892 0909), and provides the 'best use of medicines in pregnancy' (bumps) website for supportive patient information relating to individual treatments. A UKTIS abstract on the use of amfetamines in pregnancy can be found here.

Lactation

Dexamfetamine is excreted in human milk. A risk to the newborns/infants cannot be excluded. Decisions to use while breastfeeding should be made on a case-by-case basis. A decision must be made whether to discontinue breast-feeding or to discontinue/abstain dexamfetamine taking into account the benefit of breast-feeding versus risks for the child and the benefit of therapy for the woman. High doses may interfere with lactation, although this is not confirmed in practice.

If breastfeeding does take place, infants should be monitored for symptoms of CNS stimulation (e.g. decreased appetite/weight gain, sleep disturbances, irritability), although these may be difficult to detect.

UK Drugs in Lactation Advisory Service (UKDILAS) provides evidence based information on the use of drugs during the breastfeeding period to all UK healthcare professionals. Information relating to dexamfetamine can be accessed here. Additional information relating to safety in lactation, for drugs used to treat ADHD and sleeping disorders is also available.

Fertility: Dexamfetamine has been thought to produce embryotoxic effects in rodents and retrospective evidence of uncertain significance in man has suggested a similar possibility.

Paternal exposure

No evidence regarding adverse outcomes following paternal exposure was identified.

Patient Information

ADHD Resources	
Royal College of Psychiatrists – ADHD in adults	https://www.rcpsych.ac.uk/mental-health/problems-disorders/adhd-in-adults
NHS – ADHD	https://www.nhs.uk/conditions/attention-deficit-hyperactivity-disorder-adhd/
Narcolepsy Resources	
Narcolepsy UK – Dexamfetamine	https://www.narcolepsy.org.uk/resources/dexamfetamine
NHS – Narcolepsy	https://www.nhs.uk/conditions/narcolepsy/

Support

Local adult ADHD service providers	
Devon Adult Autism & ADHD Service (DAANA); Devon Partnership NHS Trust Email: dpt.adhd@nhs.net Telephone: 01392 674250	**Livewell Southwest** Email: livewell.adultadhdassessment@nhs.net Telephone: 01752 434034

Child and adolescent ADHD service providers	
Children and Family Health Devon https://childrenandfamilyhealthdevon.nhs.uk Email: CFHD.DevonSPA@nhs.net Telephone: 0330 0245 321	**University Hospitals Plymouth NHS Trust** Email: plh-tr.cdcplymouth@nhs.net Telephone 01752 439400
RD&E Foundation Trust Email: rde-tr.exeterchildhealth@nhs.net	**Livewell Southwest** https://www.livewellsouthwest.co.uk/childrens-services/camhs Telephone: 01752 434476
Torbay and South Devon NHS Foundation Trust www.torbayandsouthdevon.nhs.uk/services/camhs/ Telephone: 01803 655692	

Additional ADHD service providers with an NHS Devon ICB Contract
Refer to the DRSS ADHD and Autism FAQ for a list of additional providers with an NHS Devon contract (and Devon shared care agreements): North & East Devon | South & West Devon

Perinatal mental health teams	
Exeter Email: dpn-tr.PerinatalTeamExeter@nhs.net Telephone: 01392 674964	**North Devon** Email: dpn-tr.perinatalNorth@nhs.net Telephone: 01271 322772
Plymouth Email: livewell.perinatalmht@nhs.net Telephone: 01752 431607	**South Hams and West Devon** Email: dpt.perinatalteamwestdevon@nhs.net Telephone: 01822 813 070
Torbay Email: dpn-tr.PerinatalTeamTorbay@nhs.net Telephone: 01803 396590	

Narcolepsy specialist contact details
Contact initiating specialist for guidance and support via hospital switchboard. **Christopher Price – regional specialist** Contact by email or via the secretary who may be telephoned through the Royal Devon University Healthcare NHS Foundation Trust switchboard Email: c.price@nhs.net Telephone: 01392 411611

For further support and information in relation to individual shared care agreements please contact your practice pharmacist or alternatively please contact the Medicines Optimisation Team.
Email: D-ICB.medicinesoptimisation@nhs.net

Date ratified: June 2023 (Link to DRSS ADHD and Autism FAQ added Dec 25)

Shared Care Agreement Letter - Specialist Request to GP

To	**GP name**	
	Practice address	
Patient name		
Hospital number		
NHS number		
Date of birth		
Address		

GPs are invited to participate in shared care agreements, but if the GP is not confident to undertake these roles then they are under no obligation to do so. If so, the total clinical responsibility for the patient for the diagnosed condition remains with the specialist. If asked to prescribe this drug the GP should reply to this request as soon as practical. Continuing the care assumes communication between the specialist, GP and patient; the intention should be explained to the patient and accepted by them.

The prescriber has the clinical and legal responsibility for the drug and the consequences of its use. Responsibility for drug monitoring and acting on results remains with the prescriber.

NHS England 'Responsibility for prescribing between Primary & Secondary/Tertiary care' guidance (2018) states that "when decisions are made to transfer clinical and prescribing responsibility for a patient between care settings, it is of the utmost importance that the GP feels clinically competent to prescribe the necessary medicines. It is therefore essential that a transfer involving medicines with which GPs would not normally be familiar should not take place without full local agreement, and the dissemination of sufficient, up-to-date information to individual GPs."

I have discussed and agreed the following treatment with the patient:

Medicine	**Formulation**	**Route**	**Dose and frequency**
Dexamfetamine		Oral	
For the treatment of *(select applicable indication):*			
ADHD in patients under the care of adult specialist services			
Excessive daytime sleepiness in adults with narcolepsy (with or without cataplexy)			

Treatment was started on: …….

The patient has been on the optimised dose stated for the following period of time: ……

This patient is now suitable for prescribing to move to primary care. The patient fulfils criteria for shared care therefore I am writing to request your agreement to continue the care of this patient according to the Specialised Medicines Service (SMS) Guideline for dexamfetamine for patients within adult services.

In accordance with the SMS Guideline the transfer of monitoring and prescribing to the GP will take place once the patient's condition is stable and the dose is optimised (with no anticipated further changes expected in the immediate future).

I have provided the patient with sufficient medication to last until …….

Please undertake prescribing and monitoring from …… in line with the SMS Guideline.

The next monitoring is due on ……..

I have arranged a follow up with this patient in ……..

I can confirm that the following has happened with regard to this treatment:

	Specialist to complete (YES / NO)
Baseline investigation and monitoring as set out in the SMS Guideline have been completed and were satisfactory	
The condition being treated has a predictable course of progression and the patient can be suitably maintained by primary care	
The risks and benefits of treatment have been explained to the patient	
The roles of the Specialist / GP / Patient have been explained and agreed	
The patient has agreed to this shared care arrangement, understands the need for ongoing monitoring, and has agreed to attend all necessary appointments	
I have enclosed a copy of the SMS Guideline which covers this treatment. The guideline can also be found here	
I have included with this letter copies of the information the patient has received	

The results of baseline tests, early monitoring and any additional supportive information are included below and/or attached:

GP please sign response letter and return promptly, where possible this should be within 14 days of the request being made.

Specialist signature		**Date**	
Specialist name, role, speciality			
Daytime telephone number			
Email address			
Alternative contact e.g. clinic or specialist nurse			
Out of hours contact details e.g. duty doctor			

Remember to keep a copy of this letter for the patient's records.

Shared Care Agreement Letter – GP Acceptance Letter to Specialist

To	Specialist name	

Patient name	
Hospital number	
NHS number	
Date of birth	
Address	

GPs are invited to participate in shared care agreements, but if the GP is not confident to undertake these roles then they are under no obligation to do so. If so, the total clinical responsibility for the patient for the diagnosed condition remains with the specialist. If asked to prescribe this drug the GP should reply to this request as soon as practical. Continuing the care assumes communication between the specialist, GP and patient; the intention should be explained to the patient and accepted by them.

The prescriber has the clinical and legal responsibility for the drug and the consequences of its use. Responsibility for drug monitoring and acting on results remains with the prescriber.

NHS England 'Responsibility for prescribing between Primary & Secondary/Tertiary care' guidance (2018) states that "when decisions are made to transfer clinical and prescribing responsibility for a patient between care settings, it is of the utmost importance that the GP feels clinically competent to prescribe the necessary medicines. It is therefore essential that a transfer involving medicines with which GPs would not normally be familiar should not take place without full local agreement, and the dissemination of sufficient, up-to-date information to individual GPs."

Thank you for your request for me to accept prescribing responsibility for this patient under a shared care agreement and to provide the following treatment:

Medicine	**Formulation**	**Route**	**Dose and frequency**
Dexamfetamine		Oral	
For the treatment of *(select applicable indication):*			
ADHD in patients under the care of adult specialist services			
Excessive daytime sleepiness in adults with narcolepsy (with or without cataplexy)			

I can confirm that **I am willing to take on this responsibility** from …… and will maintain the prescribing and monitoring responsibilities as set out in the Specialised Medicines Service (SMS) Guideline.

GP signature		**Date**	
GP name			
Practice address			
Telephone number			
Email address			

Remember to keep a copy of this letter for the patient's records. If this letter is not returned sharing of the care for this patient will not commence.

Shared Care Agreement Letter – GP Refusal Letter to Specialist

To Specialist name	
Patient name	
Hospital number	
NHS number	
Date of birth	
Address	

GPs are invited to participate in shared care agreements, but if the GP is not confident to undertake these roles then they are under no obligation to do so. If so, the total clinical responsibility for the patient for the diagnosed condition remains with the specialist. If asked to prescribe this drug the GP should reply to this request as soon as practical. Continuing the care assumes communication between the specialist, GP and patient; the intention should be explained to the patient and accepted by them.

The prescriber has the clinical and legal responsibility for the drug and the consequences of its use. Responsibility for drug monitoring and acting on results remains with the prescriber.

NHS England 'Responsibility for prescribing between Primary & Secondary/Tertiary care' guidance (2018) states that "when decisions are made to transfer clinical and prescribing responsibility for a patient between care settings, it is of the utmost importance that the GP feels clinically competent to prescribe the necessary medicines. It is therefore essential that a transfer involving medicines with which GPs would not normally be familiar should not take place without full local agreement, and the dissemination of sufficient, up-to-date information to individual GPs."

In the interest of patient safety NHS Devon, in conjunction with local acute trusts have classified dexamfetamine as a "shared care" drug which requires a number of conditions to be met before transfer can be made to primary care.

Thank you for your request for me to accept prescribing responsibility for this patient. I regret to inform you that in this instance **I am unable to take on responsibility** due to the following:	**Tick applicable box**
The prescriber does not feel clinically confident in managing this individual patient's condition, and there is a sound clinical basis for refusing to accept shared care. As the patients GP I do not feel clinically confident to manage this patient's condition. I have consulted with other GPs in my practice who support my decision. This is not an issue which would be resolved through adequate and appropriate training of prescribers within my practice. **I have discussed my decision with the patient and request that prescribing for this individual remain with you as the specialist, due to the sound clinical basis given below.**	

The condition does not fall within the criteria defining suitability for inclusion in a shared care arrangement. As the condition requested to be treated is not included on the locally recognised list of indications for shared care for dexamfetamine I am unable to accept clinical responsibility for prescribing this medication at this time. **Until this condition is identified locally as requiring shared care with dexamfetamine the responsibility for providing this patient with their medication remains with you.**	
A minimum duration of supply by the initiating specialist. As the patient has not had the minimum supply of medication to be provided by the initiating specialist I am unable to take clinical responsibility for prescribing this medication at this time. Therefore can you please contact the patient as soon as possible in order to provide them with the medication that you have recommended. **Until the patient has had the appropriate length of supply the responsibility for providing the patient with their medication remains with you.**	
Initiation and optimisation by the initiating specialist. As the patient has not been optimised on this medication I am unable to take clinical responsibility for prescribing this medication at this time. Therefore can you please contact the patient as soon as possible in order to provide them with the medication that you have recommended. **Until the patient is optimised on this medication the responsibility for providing the patient with their medication remains with you.**	
Other (GP to complete if there are other reasons why shared care cannot be accepted):	

I would be willing to consider prescribing for this patient once the above criteria have been met for this treatment.

Please do not hesitate to contact me if you wish to discuss any aspect of my letter in more detail and I hope to receive more information regarding this shared care agreement as soon as possible.

GP Signature		**Date**	
GP name			
Practice address			
Telephone number			
Email address			

Remember to keep a copy of this letter for the patient's records.