Bedfordshire and Luton Shared care guideline for the use of Guanfacine for the management of Attention-deficit hyperactivity disorder (ADHD) - Children & Young People (5-17 years of age)

What are the key elements of the process to ensure good shared care arrangements are in place?

- It is imperative that the GP is contacted to discuss shared care arrangements **before** treatment is commenced to ensure that they are willing to jointly manage the patient’s therapy.
- It is reasonable to expect the Specialist Team to prescribe if the patient will have to regularly attend hospital for specialist monitoring.
- The general practitioner should have sufficient information on the drug to either allow them to monitor the patient’s response to therapy and adjust dosages as required (with advice from the Specialist Team) or know in what circumstances they should refer the patient back to Specialist Team.
- Where the Specialist Team retains responsibility for monitoring drug therapy or making dosage adjustments, the general practitioner must be informed of any dose changes as soon as possible to avoid an incorrect dose being administered. Similarly if the GP changes the patient’s medication then the Specialist Team member involved in the shared care agreement should be informed of any changes that the GP undertakes.
- If a GP is unhappy to participate in a shared care agreement, the CCG should be asked for assistance in facilitating suitable prescribing arrangements for the patient.
- Informing the patient’s usual community pharmacist of the medication will help to ensure that supplies are available.
Attention deficit hyperactivity disorder: diagnosis and management. (NICE Guideline 87 [https://www.nice.org.uk/guidance/ng87], issued 14 March 2018)

People with ADHD should have a comprehensive, holistic shared treatment plan that addresses psychological, behavioural, occupational or educational needs which takes account of the severity of ADHD symptoms and impairment, and how these affect or may affect everyday life (including sleep). The plan should also take account of the child/young person’s goals, their resilience/protective factors and the relative impact of other neurodevelopmental or mental health conditions.

Pharmacological therapy is not indicated in all children and young people with ADHD and the decision to use the drug is based on the Specialist Team’s evaluation of the child/young person’s history and the duration and severity of the behavioural and/or attention problems.

Where pharmacological therapy is indicated, the Bedfordshire and Luton Joint Prescribing Committee (JPC) have recommended the use of Guanfacine in line with NICE Guidance 87.

Information specific to Guanfacine:

Guanfacine is a selective alpha 2A-adrenergic receptor agonist. Guanfacine is a non-stimulant agent. The mode of action of guanfacine in ADHD is not fully established. Preclinical research suggests guanfacine modulates signalling in the prefrontal cortex and basal ganglia through direct modification of synaptic noradrenaline transmission at the alpha-2 adrenergic receptors.

NICE NG87 states:

Offer guanfacine (or atomoxetine) to children aged 5 years* and over and young people if

- they cannot tolerate methylphenidate or lisdexamfetamine or
- their symptoms have not responded to separate 6-week trials of lisdexamfetamine and methylphenidate, having considered alternative preparations and adequate doses.
- Guanfacine for ADHD should not be offered to adults without advice from a tertiary ADHD service.

* At the time of publication (March 2018), atomoxetine or guanfacine did not have a UK marketing authorisation for this indication in children aged 5 years. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. Informed consent should be obtained and documented. See the General Medical Council’s Prescribing guidance: prescribing unlicensed medicines for further information.

SUMMARY OF COMMUNITY PAEDIATRICIAN RESPONSIBILITIES:

1. Contact the GP if the patient is referred for assessment by an alternative route other than GP referral.
2. Patient diagnosis and assessment of the need for pharmacological treatment with Guanfacine.
3. Recommending the most appropriate treatment regime, pre-treatment monitoring and prescribing/monitoring during the titration period until the patient is stabilised on a maintenance dose. (This may take a minimum of 3 months, or longer, depending on individual patient factors and response).
4. Obtain informed consent for the use of guanfacine in children under 6 years of age from the parent/carer.
5. Discussion of benefits, adverse effects, and monitoring programme with the parents/carers and child/young person. (Provide patient information booklets/leaflets relating to the prescribed medication and direct to relevant websites).
6. Advising parents/carers/young person/child that the treatment programme will be discontinued by the consultant if the monitoring programme is not complied with (and informing the GP in writing if appointments are not kept).
7. Liaising with the GP to agree to share the patient's care after the final therapeutic dose and benefit from treatment is established and providing the GP with enough information to do so.
8. GPs should only be asked to prescribe guanfacine when it is used in accordance with JPC/NICE clinical guidance.
9. The specialist team will initiate treatment of guanfacine and see the patient at 3 months and 9 months in the first year of treatment, thereafter reviews alternate between GP and specialist team every 6 months.
10. Overall monitoring of disease status and assessing the patient's continuing response to treatment/including required monitoring (See monitoring recommendations) after the trial. The need to continue drug treatment for ADHD should be reviewed at least every 6 months. This may involve suspending treatment. (see point 13 below)
11. Informing the school that a child/young person is being prescribed guanfacine.
12. The Consultant/Specialist Team will retain responsibility for and making dosage adjustments. The GP will be informed of any dose changes as soon as possible (by fax if necessary) to avoid an incorrect dose being prescribed. The GP can also check SystmOne, if available, for dose changes recorded.
13. The Community Paediatrician/Specialist team will share the monitoring of the drug therapy with the GP (See Annex 2 and Annex 3).
14. Evaluating adverse events noted by the GP or the patient/carer.
15. Advising the patient of the need for safe storage (to prevent diversion and potential abuse)
16. Deciding when to stop or withdraw treatment to assess progress. Treatment should be discontinued periodically in order to assess the patient's condition and to check whether medication is still necessary. The decision to initiate such breaks in treatment should be made by the Consultant/Specialist Team, as should the decision to either recommence treatment or discontinue permanently. N.B. Treatment should not be stopped abruptly – refer to Annex 1, Withdrawal of therapy.

Transition of young people > 17 years to Adult Psychiatric Services

(NB Only adolescents who show clear improvement with ADHD medication should be considered for on-going treatment as adults.)

The need for continuing treatment beyond the age of 17 years should be reviewed by the Community Paediatrician/Specialist Team before the patient reaches the age of 18. In most cases, treatment should have been discontinued by the age of 18, but if
treatment beyond this age is considered necessary, the following transitioning arrangements should be undertaken by the Community Paediatric team:-

- Inform Secondary care Adult Psychiatric services of the details and history of the patient who is approaching his/her 18th birthday and who has been identified as someone who may require on-going support with ADHD.
- Inform the GP of any decision to stop or alter the treatment plan prior to transition to adult services.
- Review the young person prior to their 18th birthday with the aim of deciding whether treatment with guanfacine should be discontinued (a clear de-prescribing plan) or whether, in exceptional cases, a referral to a tertiary centre is required (as NICE guidance states that guanfacine should only be prescribed to adults on the advice of a tertiary centre).

NB If Tertiary ADHD centre advise to carry on treatment beyond the age of 17 years, the prescribing responsibility for guanfacine should be retained by the adult psychiatry team - No GP prescribing of guanfacine for patients beyond 17 years of age (outside scope of this shared care guideline).

SUMMARY OF GP RESPONSIBILITIES

1. Prescribe Guanfacine in line with the summary of product characteristic once the final therapeutic dose and benefit from treatment has been established (see SPC and information in Annex 1).
2. Prescribe monthly prescriptions
3. To check, when necessary, that the patient is actively under the care of the Consultant/Specialist Team clinic prior to re-authorisation of repeat prescriptions.
4. Monitor the patients overall health and well-being
5. Ensure at review, that the appropriate monitoring parameters are assessed (please see Monitoring recommendations on pages 5 and 6 and annex 2).
6. Objective parameters (height, weight, BP, pulse) can be assessed by another health care professional within the practice, provided the results are signed off by the GP as part of the overall review (see annex 3).
7. Symptomatic treatment of minor adverse events.
8. Inform specialist team of any emerging side effects.
9. Advising the patient of the need for safe storage (to prevent diversion and potential abuse)
10. Alert the Specialist Team if there is a significant change in behaviour or weight gain as the dosage may need to be reviewed.
11. Refer back to specialist if patient experiences severe intolerable side effects, therapy becomes inappropriate, compliance issues that lead to potential missed dose re-titration or the young person becomes pregnant.

SUMMARY OF PARENT/CARER/YOUNG PERSON RESPONSIBILITIES

1. To provide notification for further repeat prescriptions, giving the surgery at least 2 working days’ notice.
2. Informing the school when the child/young person is taking guanfacine.
3. To attend regular follow-up appointments (medication cannot be prescribed without regular follow-up).
4. To inform GP/Specialist Team of all medicines (including OTC preparations) that the child/young person is currently taking.

5. To report any unusual symptoms/adverse effects to GP/Specialist Team.

6. To ensure that the child/young person takes the medication safely, appropriately and on time.

7. To safely store the medication.

8. To have read and understood the product’s patient information leaflet.
Monitoring Recommendations:

Specialist team responsibilities:

The specialist team will initiate treatment of guanfacine and will review the patient at 3 months and 9 months in the first year of treatment. The specialist team are responsible for the monitoring parameters at these review points. Thereafter, reviews alternate between GP and specialist team every 6 months.

GP responsibilities:

The GP will review the patient at 6 months and 12 months in the first year of treatment. The GP is responsible for the monitoring parameters at these review points. Thereafter, reviews alternate between GP and specialist team every 6 months.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Frequency of monitoring</th>
<th>Action</th>
<th>By whom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficacy</td>
<td>At each appointment and when doses are changed. Minimum of every 6 months.</td>
<td>Rating scales may be used.</td>
<td>Specialist Team</td>
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<tr>
<td></td>
<td></td>
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<td>GP</td>
</tr>
<tr>
<td>Non-specific side-effects</td>
<td>At each appointment. Minimum of every 6 months.</td>
<td>Review and monitor adverse effects, possible drug interactions, changes to medication regime, deteriorating behaviour. Communicate any relevant medical information to Specialist Team/GP.</td>
<td>Specialist Team</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>GP</td>
</tr>
<tr>
<td>Weight</td>
<td>For children 10 years and under:</td>
<td>Record in patient notes.</td>
<td>Specialist Team</td>
</tr>
<tr>
<td></td>
<td>• Baseline and then every 3 months for the first year (at 3 month review, 6 month review, 9 month review and 12 month review)</td>
<td></td>
<td>GP</td>
</tr>
<tr>
<td></td>
<td>For children and young people over 10 years:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• at first year 3 month review and first year 6 month review</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 6 monthly thereafter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Height</td>
<td>Every 6 months.</td>
<td>Record in patient notes.</td>
<td>Specialist Team</td>
</tr>
</tbody>
</table>


| Growth Development | As above (weight and height) | Plot height and weight of children and young people on a growth chart (annex 4) and ensure review by the healthcare professional responsible for treatment. | Specialist Team GP |
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<table>
<thead>
<tr>
<th>Indication</th>
<th>Duration of treatment</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECG</td>
<td>Only if there is a clinical indication.</td>
<td>Referral to cardiologist.</td>
</tr>
<tr>
<td>Risk assessment for substance misuse and drug</td>
<td>Baseline</td>
<td>Enquire about known substance use in patient or that of close family member or carer.</td>
</tr>
<tr>
<td>diversion.</td>
<td>Duration of treatment</td>
<td>Concerns about requests for frequent prescriptions deemed unnecessary should be communicated to the Specialist Team.</td>
</tr>
<tr>
<td>Somnolence and sedation</td>
<td>At baseline review/ initiation: weekly during titration phase</td>
<td>If somnolence and sedation are judged to be clinically concerning or persistent, a dose decrease or discontinuation should be considered.</td>
</tr>
<tr>
<td>Changes in sleep patterns</td>
<td>Duration of treatment (minimum 6 monthly)</td>
<td>Monitor changes in sleep pattern (for example, with a sleep diary) and adjust medication accordingly.</td>
</tr>
<tr>
<td>Seizures</td>
<td>Duration of treatment (minimum 6 monthly)</td>
<td>If a person with ADHD develops new seizures or a worsening of existing seizures, GP to refer back to Specialist for review of ADHD medication and to stop any medication that might be contributing to the seizures. After investigation, the ADHD medication may be cautiously reintroduced if it is unlikely to be the cause of the seizures.</td>
</tr>
<tr>
<td>Suicidal thinking and self-harming behaviour.</td>
<td>Duration of treatment (minimum 6 monthly)</td>
<td>Patients and carers should be warned about the potential for suicidal thinking and self-harming behaviour and to advise Specialist Team or GP immediately, should this occur.</td>
</tr>
</tbody>
</table>
How to manage if the child or young person on Guanfacine develops hypotension or bradycardia:

If the patient is suffering from symptoms of hypotension:

Common symptoms of low blood pressure include blurred vision, nausea, fatigue, difficulty concentrating, dizziness and fainting.

Please contact community paediatrician (clinician in charge of the patient, if not available then the community paediatrician on-call for advice on 01234 310073 at Union street clinic.

In more severe instances, it can be life threatening and cause rapid breathing, heart problems and shock. Refer to hospital urgently and contact the hospital on-call paediatric registrar/consultant via switch board.

If the patient is suffering from symptoms of bradycardia:

Bradycardia in children can cause excessive fatigue or tiredness, worse during activity. They may also experience fainting.

Please contact community paediatrician (clinician in charge of the patient, if not available then the community paediatrician on-call for advice on 01234 310073 at Union street clinic.

If the heart rate is below 40 - urgent referral to hospital required, contact the hospital on call paediatric registrar via switchboard'
References

1. Attention deficit hyperactivity disorder: Diagnosis and management, NICE Clinical Guideline 87, issued March 2018. https://www.nice.org.uk/guidance/ng87


6. JPC Shared Care Guideline for the treatment of ADHD in Adults (BCCG only), November 2016 http://www.gpref.bedfordshire.nhs.uk/media/151644/sharedcare_adhd_adults.pdf


8. Hull and East Riding Prescribing Committee (HERPC) Prescribing Framework for Guanfacine for Attention Deficit Hyperactivity Disorder, January 2018
Annex 1: GUANFACINE drug fact sheet


**Therapeutic Indications**

- Guanfacine (Intuniv®) is indicated for the treatment of attention deficit hyperactivity disorder (ADHD) in children and adolescents 6-17 years old for whom stimulants are not suitable, not tolerated or have been shown to be ineffective. Guanfacine must be used as a part of a comprehensive ADHD treatment program, typically including psychological, educational and social measures.

The Bedfordshire and Luton Joint Prescribing Committee (JPC) have recommended the use of Guanfacine in line with NICE Guidance 87 (https://www.nice.org.uk/guidance/ng87) as follows:

Offer guanfacine (or atomoxetine) to children aged 5 years* and over and young people if

- they cannot tolerate methylphenidate or lisdexamfetamine or
- their symptoms have not responded to separate 6-week trials of lisdexamfetamine and methylphenidate, having considered alternative preparations and adequate doses.

* At the time of publication (March 2018), atomoxetine or guanfacine did not have a UK marketing authorisation for this indication in children aged 5 years. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. Informed consent should be obtained and documented. See the General Medical Council’s Prescribing guidance: prescribing unlicensed medicines for further information.

Guanfacine for ADHD should not be offered to adults without advice from a tertiary ADHD service.

**Dosage and Administration**

For all patients, the recommended starting dose is 1 mg of Guanfacine, taken orally once a day. Titrte in 1mg dose intervals no more than once weekly according to the patient's response and tolerability.

<table>
<thead>
<tr>
<th>Dose Titration Schedule for Children Aged 6-12 years</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Weight Group</strong></td>
</tr>
<tr>
<td>25 kg and up</td>
</tr>
<tr>
<td>Max Dose= 4 mg</td>
</tr>
</tbody>
</table>

**Dose Titration Schedule for Adolescents (Aged 13-17 Years)**
Adolescent subjects must weigh at least 34 kg.

- Adolescents weighing 58.5 kg and above may be titrated to a 7 mg/day dose after the subject has completed a minimum of 1 week of therapy on a 6 mg/day dose and the physician has performed a thorough review of the subject's tolerability and efficacy.

- Guanfacine is taken once daily either morning or evening. Guanfacine should not be crushed, chewed or broken before swallowing because this increases the rate of Guanfacine release.
- Treatment is recommended only for children who are able to swallow the tablet whole without problems.
- Guanfacine can be administered with or without food but should not be administered with high fat meals, due to increased exposure.
- Guanfacine should not be administered together with grapefruit juice.

**Contra-indications**

- Hypersensitivity to the active substance or to any of the excipients listed in the SPC.

**Cautions**

- Caution is advised when treating patients with Guanfacine who have a history of hypotension, heart block, bradycardia, or cardiovascular disease, or who have a history of syncope or a condition that may predispose them to syncope, such as hypotension, orthostatic hypotension, bradycardia, or dehydration. Caution is also advised when treating patients with Guanfacine who are being treated concomitantly with antihypertensives or other medicinal products that can reduce blood pressure or heart rate or increase the risk of syncope. Patients should be advised to drink plenty of fluid.

- Guanfacine should be prescribed with caution in patients with a known history of QT prolongation, risk factors for torsade de pointes (e.g. heart block, bradycardia, hypokalemia) or patients who are taking medicinal products known to prolong the QT interval. These patients should receive further cardiac evaluation based on clinical judgement.

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**Weight Group**

<table>
<thead>
<tr>
<th>Weight Group</th>
<th>Week 1</th>
<th>Week 2</th>
<th>Week 3</th>
<th>Week 4</th>
<th>Week 5</th>
<th>Week 6</th>
<th>Week 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>34-41.4 kg</td>
<td>1 mg</td>
<td>2 mg</td>
<td>3 mg</td>
<td>4 mg</td>
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<td></td>
<td></td>
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<tr>
<td>Max Dose= 4 mg</td>
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<td></td>
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</tr>
<tr>
<td>41.5-49.4 kg</td>
<td>1 mg</td>
<td>2 mg</td>
<td>3 mg</td>
<td>4 mg</td>
<td>5 mg</td>
<td></td>
<td></td>
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<tr>
<td>Max Dose= 5 mg</td>
<td></td>
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</tr>
<tr>
<td>49.5-58.4 kg</td>
<td>1 mg</td>
<td>2 mg</td>
<td>3 mg</td>
<td>4 mg</td>
<td>5 mg</td>
<td>6 mg</td>
<td></td>
</tr>
<tr>
<td>Max Dose= 6 mg</td>
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</tr>
<tr>
<td>58.5 kg and above</td>
<td>1 mg</td>
<td>2 mg</td>
<td>3 mg</td>
<td>4 mg</td>
<td>5 mg</td>
<td>6 mg</td>
<td>7 mg</td>
</tr>
<tr>
<td>Max Dose= 7 mg</td>
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</tbody>
</table>

*a Adolescent subjects must weigh at least 34 kg.

*b Adolescents weighing 58.5 kg and above may be titrated to a 7 mg/day dose after the subject has completed a minimum of 1 week of therapy on a 6 mg/day dose and the physician has performed a thorough review of the subject's tolerability and efficacy.*
- Guanfacine may cause somnolence and sedation predominantly at the start of treatment and could typically last for 2-3 weeks and longer in some cases. It is therefore recommended that patients will be closely monitored weekly during dose titration and stabilisation, and every 3 months during the first year, taking into consideration clinical judgement. Before Guanfacine is used with any other centrally active depressants (such as alcohol, sedatives, phenothiazines, barbiturates, or benzodiazepines) the potential for additive sedative effects should be considered. Patients should not drink alcohol whilst taking Guanfacine. Patients are advised against operating heavy equipment, driving or cycling until they know how they respond to treatment with Guanfacine.

- Patients with emergent suicidal ideation or behaviour during treatment for ADHD should be evaluated immediately by their physician. Treatment of an underlying psychiatric condition may be necessary and consideration should be given to a possible change in the ADHD treatment programme.

- Children and adolescents treated with Guanfacine may show an increase in their BMI. Height and weight should be monitored

- Guanfacine contains lactose. Patients with rare hereditary problems of galactose intolerance, the Lapp lactase deficiency or glucose-galactose malabsorption should not take this medicinal product

- Blood pressure and pulse may increase following discontinuation of Guanfacine. Monitoring and tapering of the dose during withdrawal is recommended

**Interactions**

Guanfacine should not be administered with high fat meals due to increased exposure, as it has been shown that high fat meals have a significant effect on the absorption of Guanfacine.

- Patients should not drink alcohol whilst taking guanfacine and the potential for additive sedative effects should be considered if there is concomitant administration with other centrally acting depressants (e.g. sedatives, hypnotics, benzodiazepines, barbiturates, and antipsychotics).
- In case of concomitant use of strong and moderate CYP3A inhibitors, such as, ketoconazole, carbamazepine and grapefruit juice, a 50% reduction of the guanfacine dose is recommended but further dose titrations may be required.
- Concomitant use of CYP3A4 inducers such as phenytoin, rifampicin and phenobarbital, re-titratin to increase dose up to a maximum of 7mg may be considered. If CYP3A4 inhibitor treatment is ceased, the dose of guanfacine must be re-titrated.
Concomitant use with valproic acid can result in increased concentrations of valproic acid. When guanfacine is co-administered with valproic acid, patients should be monitored for potential additive central nervous system (CNS) effects and consideration should be given to the monitoring of serum valproic acid concentrations. Adjustments in the dose of valproic acid and guanfacine may be indicated when co-administered.

Caution is advised with concomitant use of antihypertensives due to the potential for additive pharmacodynamics effects such as hypotension and syncope.

Guanfacine causes a decrease in heart rate. Given the effect of guanfacine on heart rate, the concomitant use of guanfacine with QT prolonging medicinal products is generally not recommended.

(This is not an exhaustive list – consult SPC/BNFC/BNF for further information)

### Side Effects

#### Common or very common
Abdominal pain; anxiety; bradycardia; constipation; decreased appetite; depression; diarrhea; dizziness; dry mouth; enuresis; headache; hypotension; irritability; malaise; mood lability; nausea; rash; sleep disturbance; somnolence; vomiting; weight increase

#### Uncommon
Agitation; chest pain; convulsion; dyspepsia; first-degree AV block; hallucination; pallor; pollakiuria; pruritus; sinus arrhythmia; syncope; tachycardia

#### Rare
Hypertension

#### Frequency not known
Suicidal ideation

### Conception and Contraception
Manufacturer recommends effective contraception in females of childbearing potential.

### Pregnancy and Breastfeeding

- Manufacturer advises that Guanfacine should be avoided in pregnancy due to toxicity in animal studies.
- Manufacturer advises avoid—present in milk in animal studies.

### Renal and hepatic impairment

- Dose reduction may be required in patients with different degrees of hepatic impairment.
- Dose reduction may be required in patients with severe renal impairment (GFR 29-15 ml/min) and an end stage renal disease (GFR<15 ml/min) or requiring dialysis.

### Withdrawal of therapy
• It is the specialist’s decision to withdraw therapy. Refer back to specialist if patient experiences severe intolerable side effects, therapy becomes inappropriate, compliance issues that lead to potential missed dose re-titration or patient becomes pregnant.
• It is advised to avoid abrupt withdrawal and instead consider tapering down the dose no more than 1 mg every 3 to 7 days to minimise potential withdrawal effects. Blood pressure and pulse should be monitored when reducing the dose or discontinuing guanfacine.
• The physician who elects to use guanfacine for extended periods (over 12 months) should re-evaluate the usefulness of guanfacine every 6 months based on clinical judgement and consider trial periods off medication to assess the patient’s functioning without pharmacotherapy, preferably during times of school holidays

**Missed Dose**

• In the event of a missed dose, guanfacine dosing can resume the next day. If two or more consecutive doses are missed, re-titration is recommended based on the patient's tolerability to Guanfacine. The need for re-titration is based on clinical judgement. GPs are advised to seek advice from the Specialist Team.

**Driving/cycling and skilled tasks**

Manufacturer advises patients and carers should be counselled about the effects on driving/cycling and performance of skilled tasks—increased risk of dizziness and syncope.

**Prescription requirements and ‘Black Triangle’ Status**

• Guanfacine is a Prescription Only Medicine (POM). It has black triangle status, which means that all suspected adverse reactions (including those considered not to be serious and where the causal link is uncertain) should be reported to the MHRA.
• It is not recommended to supply more than one month’s supply at a time.
Annex 3

Guanfacine Objective Monitoring Proforma - to be signed by General Practitioner / Prescribing Member of Practice Team
(Part of the guanfacine shared care review)

Date _______________________.
Name of patient________________________
Date of Birth _______________________
Address _______________________________________________________________

Patient NHS Number ______________________
Patient hospital unit Number ______________________
GP Practice _______________________________________
Diagnosed condition _______________________

<table>
<thead>
<tr>
<th>Objective monitoring parameters</th>
<th>Date of check:</th>
<th>Result from previous check</th>
<th>Completed by</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Height, Weight Blood pressure, pulse)*</td>
<td></td>
<td>Date:</td>
<td></td>
</tr>
<tr>
<td>Height</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*N.B. Subjective parameters (Signs and symptoms of somnolence/sedation, side effects, efficacy) should be reviewed and signed off by the GP as part of the full clinical assessment</td>
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<td></td>
</tr>
<tr>
<td>Weight</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Under 10 years of age</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Baseline (specialist), every 3 months for the first year, then 6 monthly thereafter</td>
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<tr>
<td>Over 10 years of age</td>
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<tr>
<td>Baseline then every 6 months</td>
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<td></td>
<td></td>
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<tr>
<td>Blood pressure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Every 6 months</td>
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<td></td>
<td></td>
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<tr>
<td>Pulse</td>
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<td>Every 6 months</td>
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<td>Additional comments</td>
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</table>

I have reviewed the above measured objective parameters as part of the guanfacine review.

Signature (GP/specialist) ………………… Date:…………………………………………
Annex 4:

**BOYS UK Growth chart 2-18 years**

**RCPCH**

**When is further assessment required?**

If any of the following:

- Height is abnormal for age/sex
- Weight is abnormal for age/sex
- Axial growth is abnormal for age/sex
- Growth pattern is abnormal
- Presence of any other conditions

**Growth is delayed**

- Postnatal growth failure
- Failure of catch-up growth
- Failure to thrive
- Nutritional or other medical deficiency
- Endocrine or other metabolic disorder
- Congenital, chromosomal, genetic or hereditary conditions

**Growth is advanced**

- Prematurity
- Rapid growth spurts
- Hyperthyroidism
- Acromegaly

**Growth is normal**

- Nutritional status
- Medical problems
- Birth weight

**Growth is consistent with other clinical findings**

- Medical history
- Family history

**Growth patterns and underlying causes**

- Genetic
- Constitutional
- Nutritional
- Medical
- Environmental
- Psychosocial

**What is a normal range?**

- Height and weight
- Head circumference
- Bone age

**Growth charts**

- Boys
- Girls
- Age: 2-18 years
- Height: 2.5-1.8 m
- Weight: 5-15 kg

**Measurement procedure**

- Height
- Weight
- Head circumference

**Technical requirements**

- Accurate measurement
- Consistent methodology
- Same conditions
- Same equipment

**Technical specifications**

- Height
- Weight
- Head circumference

**Body Mass Index (BMI)**

- Calculated as weight (kg) divided by height (m) squared

**Additional information**

- Growth charts for girls are available
- Growth charts for boys are available
- Growth charts for babies are available
Annex 5

Heart Rate Centile Calculator Online Resource

http://madox.org/webapp/184

Blood Pressure Centile Calculator Online Resource

https://www.bcm.edu/bodycomplab/Flashapps/BPVAgeChartpage.html

Heart Rate Centile Charts From Birth to 18 years:
Annex 6

DUNDEE BLOOD PRESSURE CHART

Male

Systolic

Hypertensive

95th Centile

Age (years)

Blood Pressure (mmHg)

4 4.5 5 5.5 6 6.5 7 7.5 8 8.5 9 9.5 10 10.5 11 11.5 12 12.5 13 13.5 14 14.5 15 15.5 16 16.5 17 17.5 18 18.5 19 19.5 20 20.5 21 21.5 22 22.5 23 23.5 24

0 60 116
1 69 115
2 69 114
3 70 120
4 70 122
5 71 124
6 71 126
7 71 128
8 71 130
9 71 132
10 73 134
11 73 136
12 73 138
13 74 140
14 75 142
15 75 144
16 76 146
17 75 148
18 74 150
19 74 152
20 73 154
21 73 156
22 72 158
23 72 159
24 71 161

DUNDEE BLOOD PRESSURE CHART
