ADHD Medications: A Guide for Healthcare Professionals

ADHD Medications available in the UK	Characteristics	Duration of action	IR:MR Ratio	Works up to	Equivalent daily doses of IR MPH	Titration	Frequency of doses per day	Maximum dose per day
STIMULANT MEDICATION – Methylphenidate (MPH) based medications								
Medikinet 5 mg, 10 mg, 20 mg **Ritalin** 10 mg **Generic methylphenidate** 5mg,10 mg, 20 mg	Tablet, can be crushed	Short-acting	100% IR	Up to 4 hrs		Start with 5 mg 1-2 times daily, increase by 5-10 mg/day at weekly intervals.	2 or 3 times a day	Licensed maximum 60 mg/day Up to 2.1 mg/kg/day Or 90 mg/day
Medikinet XL, 5 mg, 10 mg, 20 mg, 30mg, 40 mg, 50 mg, 60 mg	Capsule, contents can be sprinkled on to food	Long-acting Covers school day	IR:MR 50:50	Up to 8 hrs	5 mg = 2.5 mg MPH twice a day 10 mg = 5 mg MPH twice a day 20 mg = 10 mg MPH twice a day 30 mg = 15 mg MPH twice a day 40 mg = 20 mg MPH twice a day 50 mg = 25 mg MPH twice a day 60 mg = 30 mg MPH twice a day	Start with 5 to 10mg/day and increase weekly by 10 mg increments	Once a day in the morning with or after breakfast	Licensed maximum 60 mg/day Up to 2.1 mg/kg/day Or 90 mg/day
Equasym XL 10 mg, 20 mg, 30 mg			IR:MR 30:70			Start with 10mg/day and increase weekly by 10mg increments	Once a day in the morning before breakfast	
Ritalin XL, 10 mg, 20 mg, 30mg, 40 mg, 60 mg							Once a day in the morning with/without food	
Concerta XL, Xaggitin XL, Delmosart, Xenidate XL (18 mg, 27 mg, 36 mg, 54 mg) **Matoride XL,** 18 mg, 36 mg, 54 mg	Tablet, swallowed as a whole	Long-acting Covers school and home day	IR:MR 22:78 Concerta XL	Up to 12 hrs	18 mg = 5 mg MPH 3 times/day 36 mg = 10 mg MPH 3 times/day 54 mg = 15 mg MPH 3 times/day	Start with 18mg/day and increase by 9 to 18mg according to dose availability at weekly intervals	Once a day in the morning with or without food	Licensed maximum 54mg /day Up to 2.1 mg/kg/day Or 108 mg mg/day
STIMULANT MEDICATION – Amfetamine based medications								
Dexamfetamine 5mg **Amfexa** 5mg, 10mg, 20 mg	Tablet can be crushed	Short-acting		Up to 4 hrs	5 mg = 10 mg MPH	2.5mg 2 to 3 times a day and increase by 5mg per day at weekly intervals	2 or 3 times a day	1 mg/kg/day 20 mg/day. Up to 40 mg/day may occasionally be required
Lisdexamfetamine (Elvanse) 20 mg, 30 mg, 40 mg, 50 mg , 60 mg and 70 mg	Capsule Content can be dissolved in water	Long-acting Covers school and home day		Up to 13 hrs		Start with 20 or 30 mg capsule once a day in the morning. Increase by 10 mg at weekly interval up to maximum dose of 70mg/day, if required	Once a day in the morning with or without food	Licensed maximum 70 mg/day
NON-STIMULANT MEDICATIONS								
Guanfacine (Intuniv) 1mg, 2mg, 3mg, 4mg	Tablet, swallowed as a whole	Long-acting Covers school and home day		Up to 24 hrs	**6-12 year olds (25 kg and up):** start with 1 mg and increase by 1mg at weekly intervals **13 to 17 year olds : as above but the max dose varies**		Once a day am or pm, with or without food but avoid high fat meal, grapefruit juice	**6 to 12 olds** : 4 mg **13 to 17 year olds**: 5mg (41.5 -49.4kg) 6 mg (49.5 to 58.4 kg) 7 mg (58.5kg and above)
Atomoxetine (Strattera) 10 mg, 18 mg, 25 mg, 40 mg, 60 mg and 80 mg	Capsule, swallowed as a whole	Long-acting Covers school and home day		Up to 24 hrs	<70 kg – start with 0.5 mg/kg/day for 7 days and increase to 1.2 mg/kg/day, according to response >70 kg – start with 40 mg per day for 7 days and increase to 80 mg /day, according to response		Once a day or 2 divided doses per day	**<70 kg**: 1.8 mg/kg/day or 120 mg/day **>70 kg:** 120 mg/day

MPH = Methylphenidate; IR = Immediate Release component; MR: Modified Release component

Please note the table is intended for general guidance only. Please ensure to check online Electronic Medicines Compendium/up-to-date BNFC when prescribing medications for accuracy and further guidance.

When to use medications

Indications

- Medication should be used as part of comprehensive management, including behavioural, psychological and educational interventions
- Severe impairment due to ADHD in a child aged 5 years or above
- Methylphenidate is the first choice
- Consider lisdexamfetamine if methylphenidate is not effective after a 6-week-trial of methylphenidate
- Consider dexamfetamine when lisdexamfetamine is beneficial but longer duration not tolerated
- Consider Guanfacine or Atomoxetine if methylphenidate or Lisdexamphetamine not effective after separate 6-week trials or not tolerated

Contraindications to stimulant drugs

- Treatment with MAO inhibitors and for up to 14 days after discontinuation
- Glaucoma
- Untreated hyperthyroidism
- Pre-existing gastrointestinal narrowing
- Known hypersensitivity or allergy to products

Drug holidays

- Methylphenidate or lisdexamfetamine can be stopped during weekends and school holidays if needed and the child's condition is manageable
- Atomoxetine or Guanfacine should be taken every day to maintain the response

Pre-drug treatment checklist

- Check BP and pulse rate and plot them on the centile chart. Seek specialist paediatric/cardiology advice if BP is consistently above the 95 centile.
- Check weight and height and plot them on growth chart
- Assess for cardiovascular problems
  - congenital heart disease or previous cardiac surgery
  - exercise syncope
  - undue breathlessness
  - palpitations (rapid, regular, start and stop suddenly)
  - chest pain of cardiac origin
  - signs of heart failure
  - hypertension
  - heart murmur on examination
  - sudden death in 1st degree relative under the age of 40 years of cardiac cause

Ask for cardiology opinion if any of the above present.

- Check for any history of substance misuse
- Assess baseline appetite and sleep pattern
- Ask if the child can swallow a tablet or capsule
- Assess if the ADHD symptom severity is present predominantly during school day or throughout the day at school and home
- Check for comorbidity – severe anxiety, tics, depression etc.

Follow up assessment

- After starting medication check BP and pulse rate every 6 months and plot them on the BP centile chart and pulse rate centile chart.
- Check BP and pulse rate before and after each dose change
- Measure height every 6 months in children and teenagers
- Measure weight every 3 months for children aged 10 years and under
- Measure weight at 3 and 6 months after starting treatment in children aged over 10 years and every 6 months thereafter
- Use a rating scale to monitor response to medication at home and school (e.g. ADHD rating scale etc.)
- Check the need for continuing medication every year
- Check for side effects including:
  - Decreased appetite
  - Weight loss
  - Nervousness
  - Difficulty getting to sleep
  - Sleepiness
  - Headache
  - dizziness
  - Stomach pain
  - Dry mouth

Please note: Guanfacine has side effects SSF (Somnolence, Sedation and Fatigue. When stopping guanfacine, it should be reduced by 1 mg every 3 to 7 days and BP monitored to check for rise.

Managing side effects

Appetite decreased

- Wait to see if it gets better
- Decrease dose of medication
- Encourage to eat better, increase calorie intake
- Monitor weight gain

Weight loss

- Take medication with or after food
- Take additional meals or snack in the morning or evening when the effect of medication wears off
- Reduce dose of medication
- Consider lower dose or stop medication over weekends
- Take high calorie healthy foods
- Refer to dietician
- Assess for other causes -? unwell

Difficulty getting to sleep

- Ensure bedtime routine and sleep hygiene in place
- If short-acting tablet – stop the dose after 3pm, alternatively try a short-acting tablet 1-2 hrs prior to bedtime for a short trial period
- If long-acting medication
  - Reduce dose
  - Start medication early in the morning before breakfast
  - Change formulation
  - Consider Atomoxetine
  - Consider a trial of melatonin if delayed sleep phase syndrome present

Tics

- Reduce stimulant dose or stop medication
- Restart medication to check if tics return
- Consider atomoxetine, clonidine or guanfacine

Please note the table is intended for general guidance only. Please ensure to check the NICE guidelines(NG 87), Eletronic Medicines Compendium/up-to-date BNFC for accuracy and additional information.

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