Methylphenidate

Traffic light classification - Amber 2
Information sheet for Primary Care Prescribers

Indications
Narcolepsy (unlicensed, but established treatment[1]).

Therapeutic Summary
Methylphenidate is a CNS stimulant. It is an established treatment for narcolepsy and if effective and tolerated, treatment is envisaged to be lifelong. Locally it is used second-line if modafinil is ineffective or sometimes first line if modafinil is unsuitable (eg woman planning pregnancy).

Medicines Initiation
Methylphenidate will be initiated by a Sleep Specialist and any decision to use it will be a joint decision made in the Neuro-respiratory Sleep Clinic at NUH.

Products available
- Methylphenidate 5mg, 10mg & 20mg immediate-release tablets (generic or *Medikinet*® brand). Cost x 30 tablets (scored) = £3.03, £4.11 and £10.92 respectively.
- Methylphenidate 10mg immediate-release tablets (*Ritalin*® brand). Cost x 30 tablets (scored) = £6.68.
- Concerta XL® - 18mg, 27mg, 36mg and 54mg modified-release tablets. Cost x 30 tablets = £31.19, £36.81, £42.45 and £73.62 respectively

Methylphenidate is a Schedule 2 Controlled Drug (CD). As such, prescriptions must conform to specific prescription writing criteria and each prescription should be for no longer than 30 days treatment.

Dosages and route of administration
Methylphenidate will be given initially in a dose of 5 mg daily, increasing by 5mg weekly up to a usual maintenance dose of 10-20mg per day taken in 2-4 divided doses. The dose can be further increased as required and tolerated up to 60mg daily standard release or 108 mg daily slow release.

Duration of treatment
Following an adequate treatment response, treatment with medication for narcolepsy should be continued for as long as it remains clinically effective.

Monitoring Requirements and Responsibilities
Pre-treatment/baseline assessments to be performed by the specialist and will include:
Medical history, measurements of height and weight (for BMI) and of heart rate and blood pressure (for cardiovascular status) and assessment for mental health illness.

Ongoing monitoring

Ongoing monitoring[2]	Frequency[2]
Heart Rate and Blood Pressure	Baseline then every 6 months. Also before and after each dose change. Refer to NICE guidelines for hypertension in adults[3]

Weight	Baseline then every 6 months. Consider BMI monitoring if weight has been affected.
Development or worsening of psychiatric disorders	Baseline then every 6 months. Also before and after each dose change.
Medication related side-effects*	At each visit
Risk of diversion, misuse/abuse	At each visit
ECG	Not recommended unless there is a clinical indication (e.g. family history of cardiomyopathy or cardiac illness or hypertension or concomitant treatment with a medication that may pose an increased cardiac risk).
Routine blood tests	Not recommended unless there is a clinical indication

Explicit criteria for review and discontinuation of the medicine

Sustained resting tachycardia (>120bpm)	Withhold/reduce dose and discuss with specialist team. Timely cardiology input.
Arrhythmia	Withhold/reduce dose and discuss with specialist team. Timely cardiology input.
Systolic blood pressure greater than the 95th percentile (or a clinically significant increase) measured on two occasions	Withhold/reduce dose and discuss with specialist team. Timely cardiology input.
Patient fails to attend for physical monitoring	Arrange a further appointment in a timely manner. If follow up appointments are not attended, do not provide further prescriptions and inform specialist team.
Insomnia	May respond to dose reduction or timing adjustment. Discuss with specialist team.
Reduced appetite and / or clinically significant weight change	May respond to dose reduction. Discuss with specialist team.
Development or worsening of psychiatric disorders (anxiety, depression, psychotic symptoms, mania, behavioural changes)	Withhold and discuss with specialist team in a timely manner.
Seizures with no previous history	Withhold and discuss with specialist team immediately.
Clear, sustained increase in seizure activity in patients with previous history of seizures	Withhold and discuss with specialist team immediately.
Suspected drug misuse / diversion	Discuss with specialist team in a timely manner.

For a full list of Side Effects refer to the BNF or Summary of Product Characteristics (SPC).

IF YOU ARE IN ANY DOUBT ABOUT ANY POTENTIAL ADVERSE REACTION, PLEASE CONTACT THE SPECIALIST TEAM.

Contraindications[1,2,4]

1. Cardiac/Vascular - heart failure, structural cardiac abnormalities, cardiomyopathy, severe hypertension, angina, myocardial infarction and arrhythmias, vasculitis and cerebrovascular disorders
2. Endocrine - hyperthyroidism, phaeochromocytoma

3. Psychiatric - severe depression, suicidal tendencies, anorexia nervosa, psychosis, uncontrolled bipolar disorder, mania
4. Glaucoma.

Precautions[1,2]

Particular caution is needed in the treatment of patients whose underlying medical conditions might be compromised by increases in blood pressure or heart rate.

History of epilepsy, moderate hypertension, tics, Tourette's syndrome, and a history of drug or alcohol dependency where there is felt to be some risk of misuse.

Pregnancy and Breast-Feeding[2]

Methylphenidate is not recommended for use during pregnancy unless a clinical decision is made that postponing treatment may pose a greater risk to the pregnancy. If appropriate, female patients should be advised to use effective contraception during treatment with methylphenidate. In the event of a female patient becoming pregnant whilst taking methylphenidate, or wishing to start a family, she should be advised to contact the specialist as soon as possible. Methylphenidate is excreted in breast milk and should not be used in those who are breastfeeding.

Driving[1,5]

Patients must tell the DVLA of their narcolepsy diagnosis. Please refer to government advice on driving and narcolepsy.[6] Patients should be warned about the potential of methylphenidate to affect their ability to drive as it is an offence to drive if impaired whilst taking it. When driving, patients should be advised, to carry suitable evidence that the medicine was prescribed to treat a medical problem, and that it was taken according to the instructions given by the prescriber, or information provided with the medicine (e.g. a repeat prescription form or the medicine's patient information leaflet).

Clinically Relevant Medicine Interactions and their Management[1,2]

- Monoamine Oxidase Inhibitors (MAOIs): Methylphenidate should not be used in combination with MAOIs or within two weeks of stopping a MAOI due to risk of hypertensive crisis.
- Anticonvulsants: methylphenidate may increase plasma levels of phenytoin and possibly primidone and phenobarbital.
- Methylphenidate may decrease the effectiveness of antihypertensives.
- Coumarins: methylphenidate may enhance the anticoagulant effect of warfarin. May require an increased frequency of INR monitoring.
- Methylphenidate may enhance the effect of some antidepressants (SSRIs and tricyclics).
- Avoid concomitant use with linezolid – risk of elevated blood pressure.
- A small number of serious adverse events have been reported in patients receiving a combination of clonidine and methylphenidate although causality is not established.
- Alcohol may exacerbate the adverse CNS effects of psychoactive medicines, including methylphenidate. It is therefore advisable for patients to abstain from alcohol during treatment.
- Caution is recommended when administering methylphenidate with dopaminergic medicines, including antipsychotics.

For a full list of contraindications, precautions and drug interactions refer to the BNF/product SPC.

Information Given to Patient

- The specialist will provide, where relevant, written information to people with narcolepsy and their families and carers about diagnosis, assessment, support groups, self-help, psychological treatment, medicine treatment and possible side-effects.
- The patient must be warned to report any suspected adverse reactions to the GP for assessment and to report to their GP or specialist any heart palpitations, psychiatric symptoms or onset or increase in seizures.
- Female patients of childbearing potential must be warned to inform the GP or specialist of any pregnancy or planned pregnancy.
- Female patients of childbearing potential must be advised to use effective and reliable contraception or to discuss this with their GP or specialist.
- The patient will be informed about the potential for methylphenidate to affect their ability to drive and it being an offence to drive if impaired whilst taking it.
- The patient should be advised to not stop medication suddenly, but discuss withdrawal with their specialist first.
- The patient should be advised about storing this medication securely at home and, if applicable, at work.

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ACCESS AND CONTACT POINTS

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References

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4. Hypertension in adults: diagnosis and management. NICE Clinical Guideline 136 (August 2019). Available: https://www.nice.org.uk/guidance/ng136
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Version Control- Methylphenidate in Narcolepsy Amber 2 Information Sheet			
Version	Author(s)	Date	Changes
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