Prescribing algorithm for overactive bladder in children over 5 years old

Oxybutynin, tolterodine, trospium, solifenacin and mirabegron are ‘Amber Initiated’ in paediatrics

- Success = no side effects, improvement
- Failure = side effects, no improvement

Children with symptoms of overactive bladder

Oral Oxybutynin standard release (licensed in children aged > 5 years) Review in 6 weeks
- Success: Increase dose if necessary according to response ([BNFc](#)) Review every 3-6 months
- Consider modified release

Tolterodine standard release (not licensed for use in children) Refer to [BNFc](#) for dosing advice
- Success: Increase dose if necessary according to response ([BNFc](#)) Review every 3-6 months
- Consider modified release

### Oxybutynin patch
(Not licensed for use in children)
- 4 – 9 years old ¼ patch twice weekly
- 10 – 12 years old ½ patch twice weekly
- >12 years old 1 patch twice weekly

Provide Tegaderm and application advice Review in 6/52 then 3-6 months if tolerated
- Failure: Discuss treatment failure with senior

### Trospium standard release
(licensed in children aged >12 years) 5mg – 10mg BD initially
- Success: Increase dose if necessary according to response. Max adult dose 20mg BD ([BNF](#))

### Trospium:
Increase dose if necessary according to response. Max adult dose 20mg BD ([BNF](#))

### Oxybutynin patch:
Adjust dose according to response. Max 1 patch twice weekly Review in 6/52 then 3-6 months

- Failure: Consider modified release

Solifenacin
(Not licensed for use in children)
- Start at 5mg daily

- Failure in 7 years and over

### Mirabegron
(Not licensed for use in children)
- Start at 25mg daily
- Monitor BP and heart rate 3 monthly

- Success: Increase dose if necessary according to response. Max adult dose 50mg daily ([BNF](#)) Review every 3-6 months

- Failure d/w consultant

Add Solifenacin 5mg daily to Mirabegron at 25mg daily (Hospital only)
When prescribing antimuscarinics, the specialist who initiated the treatment would have considered the followings:

- antimuscarinics known to cross the blood-brain barrier (for example, oxybutynin) have the potential to cause central nervous system-related side effects (such as confusion)
- antimuscarinic treatment can reduce bladder emptying, which may increase the risk of urinary tract infections
- antimuscarinic treatment may precipitate or exacerbate constipation

Where a patient failed treatment with tolterodine:

- oxybutynin patch is a preferred choice for a child who cannot take tablets whole. Do not prescribe for any patient with eczema or previous history of skin allergies/sensitive skin.
- trospium should be first option in all children over 12 years who can tolerate tablets as it is licenced and cheaper than the patch, and in children under 12 years who can take tablets. Advise to take tablets on an empty stomach. If problems with compliance, side effects or poor response, consider oxybutynin patch.

NB: Not all antimuscarinics have a UK marketing authorisation for use in children.

Please refer to the individual Summary of Product Characteristics for full list of cautions, contraindications, drug interactions and adverse reactions.

**Primary Care prescribing**

- Prescribing will be continued in primary care under amber initiated criteria.
- Patients will have been stabilised on treatment by the initiating specialist (including specialist consultants, urology advanced nurse practitioners) before GP prescribing commences.
- The specialist should provide primary care with a diagnosis and treatment plan including review dates. The specialist will inform the patient / carer where a medicine is being used “off-label” and obtain their consent. This will be documented and the GP informed.
- The specialist will continue to monitor and supervise treatment and review the patient.
- The GP would inform the specialist of any concerns or side effects associated with the drug.
- If the GP does not feel it is appropriate to take on the prescribing then the prescribing responsibilities will remain with the specialist. The GP should inform the specialist the reason for declining.

**Monitoring recommendations:**

- Mirabegron: regular monitoring of blood pressure and heart rate at least once every 3 months. See NIH blood pressure tables in paediatrics and adolescents for reference values.
- Anticholinergic side effects e.g. constipation, urinary retention, dry mouth, blurred vision, skin flushing, transient bradycardia

**How long the medicine should be prescribed for**

The duration of treatment benefit may vary between individuals. Termination of treatment will be carried out by the specialist.

**Referral back to specialist**

Referral back to the specialist should be considered if any concerns or if serious adverse effects are reported by the patient.

Notify the specialist of any lack of clinical efficacy or non-adherence with the treatment plan or if patient did not attend appointment(s).
References: