Hertfordshire and West Essex Integrated Care System

NHS Hertfordshire and West Essex Integrated Care Board

Hints and tips for anticholinergic burden (ACB) medication reviews

1. Introduction

Anticholinergic medicines are prescribed for a wide range of conditions, including Parkinson's Disease, overactive bladder, chronic obstructive pulmonary disease, nausea and vomiting, depression and psychosis.

Combining medicines with anticholinergic activity may have cumulative harmful effects when given to a person with more than one clinical condition. This potential for harm increases with frailty and age. Reducing the cumulative anticholinergic burden may result in improvements in short term memory, confusion, behaviour and delirium.

Anticholinergic burden (ACB) is the cumulative effect on an individual of taking one or more medicines with anticholinergic activity.

An increasing number of systematic reviews and meta-analyses report that medicines with anticholinergic effects are associated with an increased risk of cognitive impairment, falls and all-cause mortality in older people.

This document outlines the common side effects of highly anticholinergic medicines; details which anticholinergic medicines are commonly prescribed; and contains advice on strategies to review or stop highly anticholinergic medicines to reduce cumulative anticholinergic burden in patients.

2. What are the common side effects of highly anticholinergic medicines?

Cognitive impairment Worsening cognition in patients with dementia Dizziness Sedation Confusion Agitation Delirium	Dry eyes Blurred vision Dry mouth Urinary retention Constipation Falls

From Anticholinergics: Safety concerns | Medicines Safety Portal (medicinesafety.co.uk)

3. How should high cumulative anticholinergic burden be managed?

The main strategy in managing patients taking anticholinergic medicines is to regularly review them and then remember the **four As**:

1. **Awareness**. Know the pattern of potential anticholinergic side effects and be able to identify patients experiencing them or at risk from them.
2. **Alternatives**. Consider other options to anticholinergics where possible, including non-drug treatments.
3. **Additive effects**. Avoid co-prescribing medicines that have anticholinergic side effects.
4. **Amounts**. Restrict exposure by keeping doses low, especially in older people who may be more sensitive.

From Anticholinergics: Protecting patients | Medicines Safety Portal (medicinesafety.co.uk)

4. Recommendations

Prescribers should

- **Identify** older or frail patients, or patients with complex multimorbidities on anticholinergic medicines.
- **Minimise** the use of anticholinergic medicines where possible.
- **Review** anticholinergic medicines use in older people who have had a **fall** or are at increased risk of falling as part of a multifactorial risk assessment.
- **Identify and minimise** the use of anticholinergic medicines in patients with **dementia**, as they may adversely affect cognitive function.

5. Which high ACB medicines are most commonly prescribed?

- Tricyclic antidepressants e.g., **amitriptyline, imipramine, nortriptyline**
- Antimuscarinics for urinary incontinence e.g., **oxybutynin**, **tolterodine, solifenacin**
- First generation antihistamines e.g., **chlorphenamine**, **hydroxyzine**, **promethazine**
- **Hyoscine hydrobromide** – this can be purchased over-the-counter (OTC) as a travel sickness medicine.

Amitriptyline:
Low dose amitriptyline for unclear indication is commonly seen, and worth exploring with a view to deprescribing. Despite the low dose, some patients who have been on amitriptyline for a lengthy period of time may require dose reduction and weaning, with a view to stopping. The BNF suggests that withdrawal effects may occur within 5 days of stopping treatment with antidepressant medicines; they are usually mild and self-limiting, but in some cases may be severe. The risk of withdrawal symptoms is increased if the antidepressant is stopped suddenly after regular administration for 8 weeks or more. The dose should preferably be reduced

gradually over about 4 weeks, or longer if withdrawal symptoms emerge. NICE guideline [NG215] Medicines associated with dependence or withdrawal symptoms: safe prescribing and withdrawal management for adults further advises on considerations that should be taken into account when withdrawing a dependence-forming medicine or antidepressant.

Antimuscarinics for urinary incontinence:
Please follow guidance on selecting and reviewing medicines for urinary incontinence here: *Management of Urinary Incontinence for Primary Care clinicians*. These agents are commonly started and not reviewed after 4-8 weeks as per guidance. Prescribing of more than one agent is also seen, when a second agent is started but the first is not withdrawn. These agents are frequently continued despite patients wearing pads or even after having been catheterised.

First generation antihistamines:
Chlorphenamine and hydroxyzine may be changed to lower ACB scoring antihistamine, such as loratadine or cetirizine, which are also less sedating. Please also explore other strategies such as regular application of emollients for dry, itchy skin which may negate the need for an antihistamine.

Please note that some antihistamines are commonly bought OTC for use in seasonal allergic rhinitis, which is classed as a 'self-care' condition. In line with national Over-the-Counter (OTC) medicines policy, patients should be advised to seek support from their community pharmacist for seasonal allergic rhinitis. These patients will also be expected to purchase their treatment. The HWE ICB position statement on the prescribing of treatment for seasonal allergic rhinitis does not support the prescribing of antihistamines (solid and liquid preparations), nasal sprays and eyedrops for treatment of intermittent seasonal allergic rhinitis on prescription.

Promethazine:
Licensed indications: Symptomatic relief of allergy such as hay fever and urticaria, insomnia associated with urticaria and pruritus, sedation (short-term use), nausea, vomiting, vertigo, labyrinthine disorders, motion sickness.

Promethazine is not indicated as a treatment for insomnia within NICE CKS Insomnia and is classed as less suitable for prescribing for sedation in the BNF. HWE ICB promethazine

NICE Guidelines for Dementia NG 97 does not recommend the use of sedatives for the treatment of non-cognitive symptoms of dementia.

6. Use of anticholinergic medicines in dementia patients

The NICE Guidelines for Dementia advises addressing reversible causes of cognitive decline, including delirium, depression, sensory impairment [such as sight or hearing loss] or cognitive impairment from **medicines associated with increased anticholinergic burden** before referral to a specialist dementia diagnostic service.

The guideline also advises clinicians to **consider minimising the use of medicines associated with increased anticholinergic burden**, and if possible, look for alternatives:

- when assessing whether to refer a person with suspected dementia for diagnosis
- during medication reviews with people living with dementia.

NOTE: Anticholinesterase inhibitors and anticholinergic medicines have directly opposing mechanisms.

7. Patients with pre-existing mental health conditions on highly anticholinergic medicines

For patients who are prescribed antipsychotics for a pre-existing mental health condition who have a very high anticholinergic burden, the review of these patients rests with the specialist clinicians. But when these patients seek medical help for a range of other health matters, it is useful to question patients on any anticholinergic side effects they may be experiencing and there is merit in referring back to the specialist clinician if these side effects are becoming problematic for the patient.

8. Additional areas for review: acute courses and OTC medicines

Attention should be paid to acute courses of medicines with high anticholinergic burden. Appropriately removing these from the current prescriptions will make it harder for these to be reissued.

Remember to ask about OTC medicines that the patient might purchase, as some OTC medicines may be highly anticholinergic (these include first generation antihistamines that may be used in allergy conditions, for travel sickness, as sleep aids, or may be present in some cold and flu remedies as decongestants) and will add to the cumulative anticholinergic burden.

9. Anticholinergic burden scales

Various anticholinergic burden or risk scales have been devised to aid medication reviews to enable clear identification of medicines carrying a high anticholinergic burden; to enable these medicines to be reviewed, with a view to being stopped, or the medication regimen altered to

reduce this burden. However, there is no "gold standard" anticholinergic burden scale to aid in conducting medication reviews in older or frail patients who take multiple medicines. Most scales are constructed using expert opinion panels. NICE guideline [NG97] Dementia states that there is insufficient evidence to recommend a particular anticholinergic burden scale over another.

The Ardens Template within GP systems refers clinicians to ACB Calculator and/or Medichec.

Since different scales may categorise drugs slightly differently in the severity of their anticholinergic activity, when documenting ACB scores, please ensure you state the tool that was used.

The use of the **Eclipse Live** system may be particularly useful in stratifying patients with high ACB score. Eclipse Live does not use a particular ACB scale but has amalgamated scores from various sources and has set the scoring themselves. There are continuing discussions around ACB scales within Eclipse Live as there is no anticholinergic scale in use that is acknowledged as "gold standard". Despite this, the use of Eclipse Live is a useful tool in managing and reducing high anticholinergic burden in patients.

References

Medicines Safety Portal: Anticholinergics
British National Formulary
NICE guideline [NG215] Medicines associated with dependence or withdrawal symptoms: safe prescribing and withdrawal management for adults
Management of Urinary Incontinence for Primary Care clinicians
National Over-the-Counter (OTC) medicines policy
Hertfordshire and West Essex Integrated Care Board (HWE ICB) position statement on the prescribing of treatment for seasonal allergic rhinitis
NICE CKS Insomnia
NICE guideline [NG97] Dementia
Prescqipp factsheet on Anticholinergic Drugs
ACB Calculator
Medichec
NICE Guidance: Recommendations for medicines associated with dependence or withdrawal symptoms: safe prescribing and withdrawal management for adults

Version	1.1 October 2023
Change	Addition of the wording "on selecting and" in relation to medicines for urinary incontinence Removal of links to Hertfordshire guidance and West Essex guidance on Urinary Incontinence and insertion of link to updated Hertfordshire and West Essex ICB guidance on Urinary Incontinence
Developed by	Shirley Ip Lead Frailty Pharmacist, Hertfordshire and West Essex ICB

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