



Hertfordshire and
West Essex Integrated
Care System

Anticholinergic Burden

Sabiehah Latif

Pharmaceutical Adviser - Social Care Integration

Thursday 19th September 2024

Working together
for a healthier future



Learning Outcomes

- Anticholinergic Medicines
- Anticholinergic Effects
- Anticholinergic Burden
- Assessing Anticholinergic Burden
- Case Study
- Managing Anticholinergic Effects

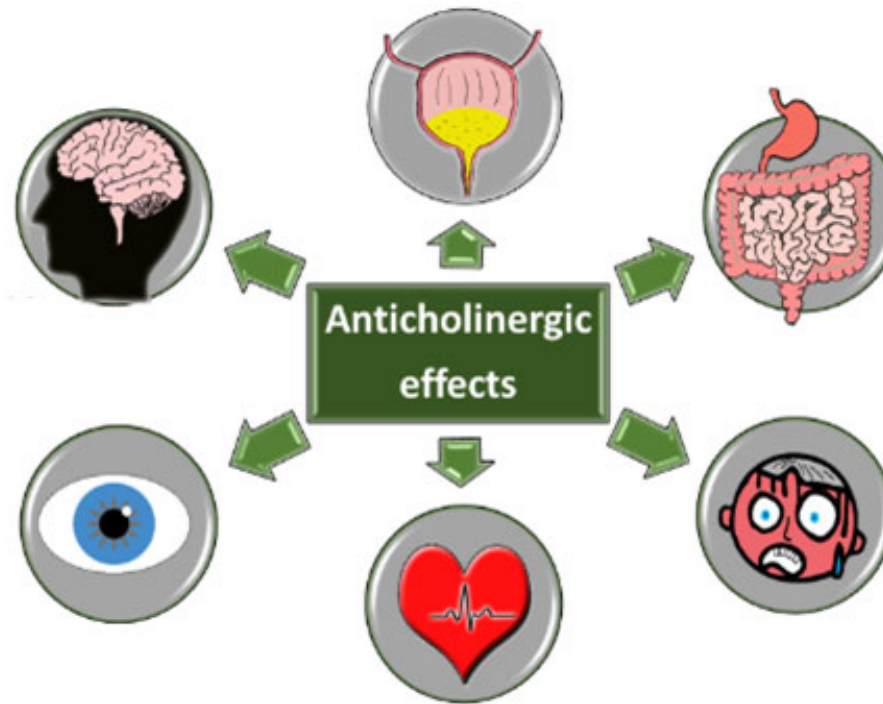


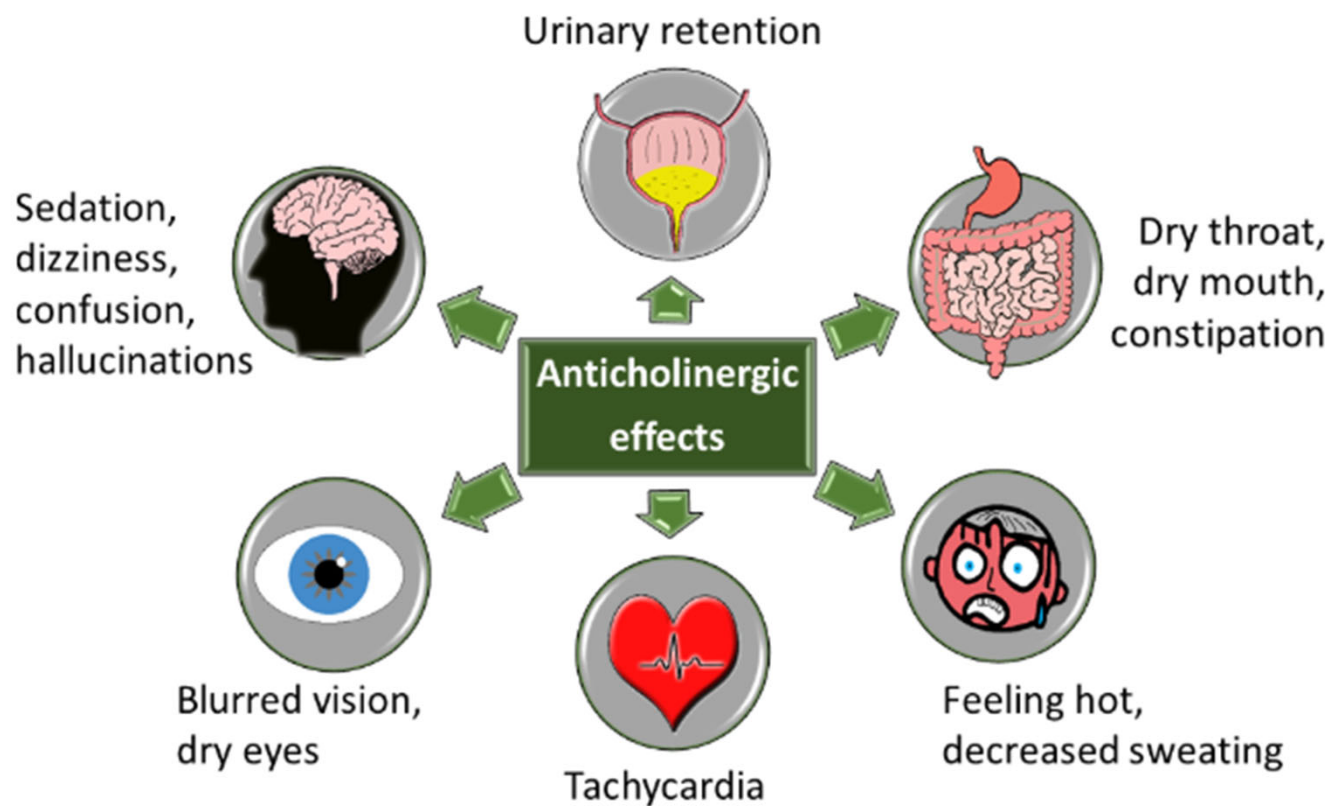
What are Anticholinergic Medicines?

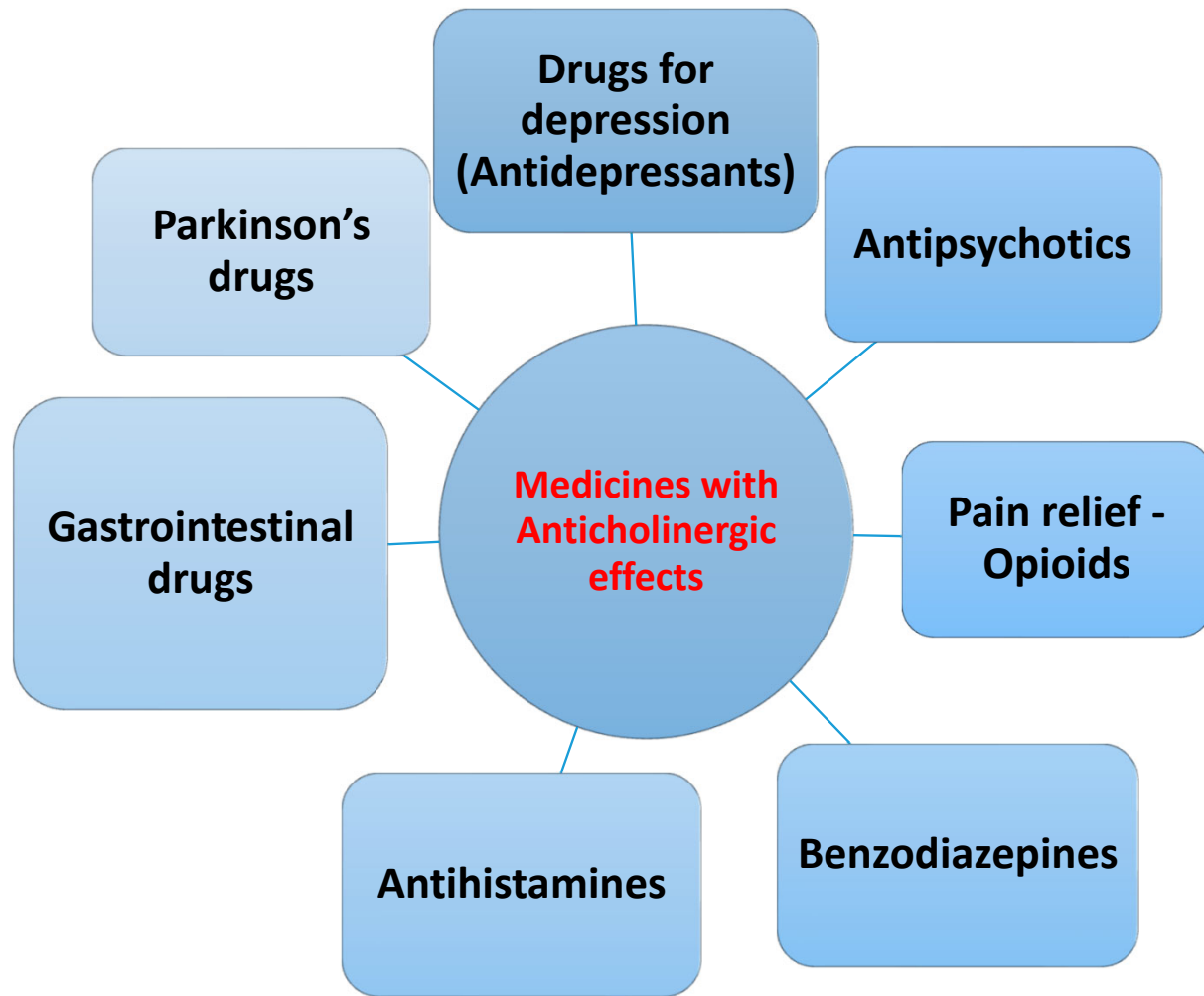
Anticholinergics are commonly used medications to help treat a variety of conditions e.g. overactive bladder, Parkinson's disease, dizziness and motion sickness.



What are the anticholinergic effects?







Anticholinergic Burden

Anticholinergic burden is the combined effect on a person from taking one or more medicines with anticholinergic effects.



Effects of Anticholinergic medicines

High long-term combined exposure is associated with poorer cognitive and physical functioning.





Exposure to anticholinergic and sedative burden^b is associated with a

60% ↑

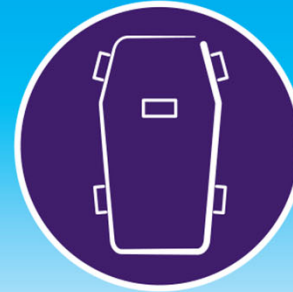
**increase
in fall-related
hospitalisations**



Use of medicines with anticholinergic effects for ≥ 3 months has a

50% ↑

**increased risk
of dementia
compared
to non-use**



Exposure to anticholinergic and sedative burden^b is associated with a

30% ↑

**increase
in mortality for
older people**



Hertfordshire and
West Essex Integrated
Care System



How to assess anticholinergic burden?



Health Checks



Validated Assessment Tools



Medication Reviews



Hertfordshire and
West Essex Integrated
Care System



Anticholinergic Burden Scale (ACB Scale)

- Medichec – South London & Maudsley NHS Foundation Trust.

Note: This scale scores drugs according to anticholinergic safety only

Medications are categorised according to their anticholinergic score as follows:

3	Review and withdraw or switch
2	Review and withdraw or switch
1	Caution required
0	Safe to use
?	Limited data - unable to scope



Hertfordshire and
West Essex Integrated
Care System



paracet

● Paracetamol

+ Click to add

Updated on: Tue, 15 Aug 2017 15:30:52 GMT

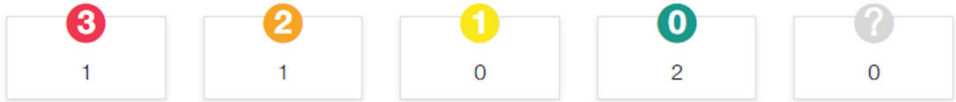
RESULTS

Note: This scale scores drugs according to anticholinergic safety only

Label	Drug	Score	Dosage
0	Aspirin	0	I.E. - Dosage and/or frequency
2	Chlorphenamine	2	I.E. - Dosage and/or frequency
3	Oxybutynin	3	I.E. - Dosage and/or frequency
0	Omeprazole	0	I.E. - Dosage and/or frequency

Add custom drug

Numbers below score badges represent total number of drugs per score category

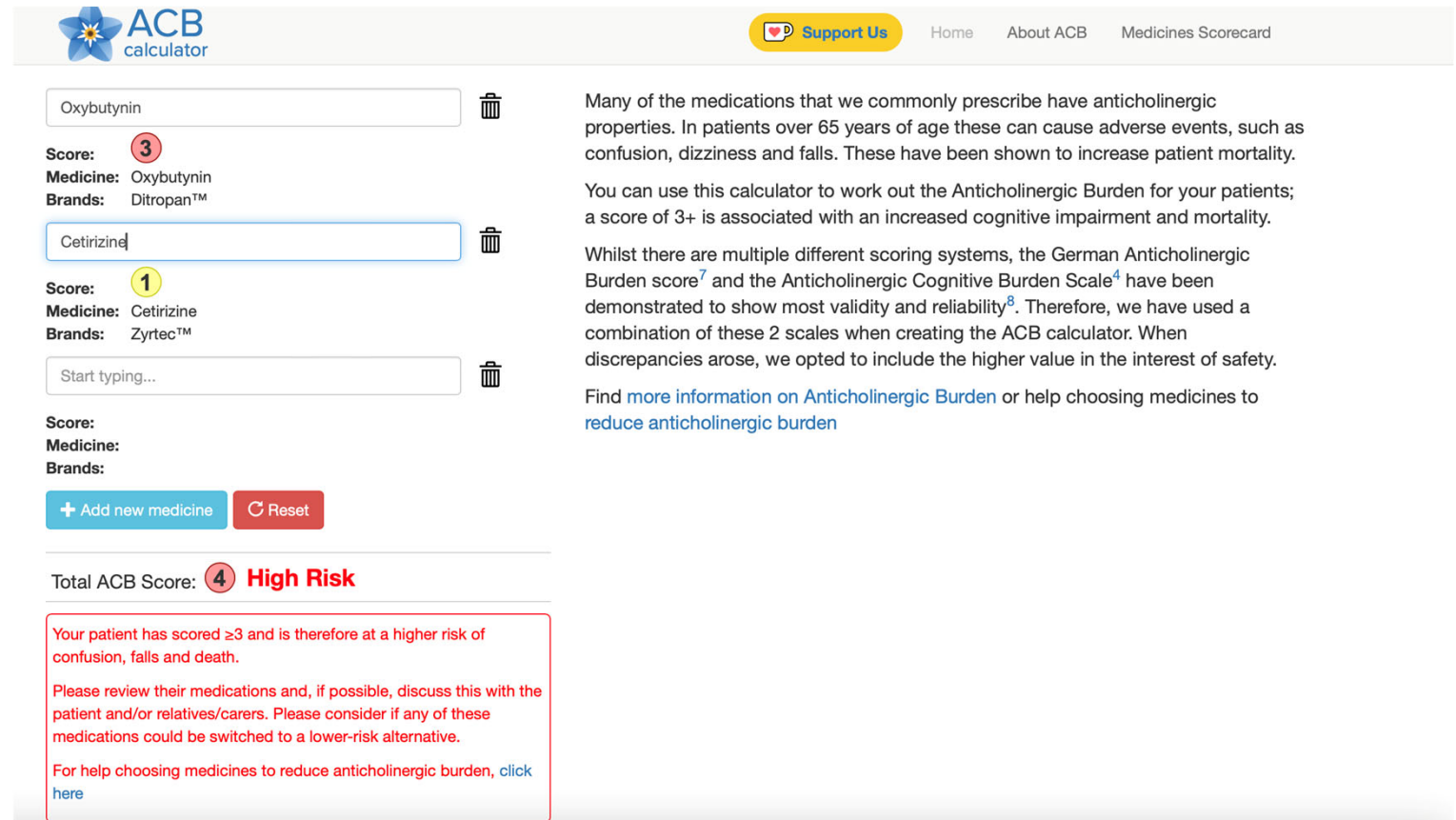


Total AEC Score



Anticholinergic Burden Scale (ACB Scale)

- ACB calculator



The screenshot shows the ACB calculator interface. At the top, there is a logo for 'ACB calculator' and navigation links for 'Support Us', 'Home', 'About ACB', and 'Medicines Scorecard'. The main area contains three input fields for medication names. The first field contains 'Oxybutynin' with a score of 3, medicine name 'Oxybutynin', and brand 'Ditropan™'. The second field contains 'Cetirizine' with a score of 1, medicine name 'Cetirizine', and brand 'Zyrtec™'. The third field is empty with the placeholder text 'Start typing...'. Below the input fields are buttons for '+ Add new medicine' and 'Reset'. At the bottom, the total ACB score is displayed as 4, labeled 'High Risk'. A red-bordered box contains a warning message: 'Your patient has scored ≥3 and is therefore at a higher risk of confusion, falls and death. Please review their medications and, if possible, discuss this with the patient and/or relatives/carers. Please consider if any of these medications could be switched to a lower-risk alternative. For help choosing medicines to reduce anticholinergic burden, click here'.

Many of the medications that we commonly prescribe have anticholinergic properties. In patients over 65 years of age these can cause adverse events, such as confusion, dizziness and falls. These have been shown to increase patient mortality.

You can use this calculator to work out the Anticholinergic Burden for your patients; a score of 3+ is associated with an increased cognitive impairment and mortality.

Whilst there are multiple different scoring systems, the German Anticholinergic Burden score⁷ and the Anticholinergic Cognitive Burden Scale⁴ have been demonstrated to show most validity and reliability⁸. Therefore, we have used a combination of these 2 scales when creating the ACB calculator. When discrepancies arose, we opted to include the higher value in the interest of safety.

Find [more information on Anticholinergic Burden](#) or help choosing medicines to [reduce anticholinergic burden](#)



Common interventions

- Switching/stopping medicines e.g. antidepressants
- Switching/stopping antihistamines e.g. chlorphenamine to cetirizine
- If anticholinergic drugs are required, using at the lowest effective dose for shortest period of time



Hertfordshire and
West Essex Integrated
Care System



Polypharmacy



The prescribing or use of many medicines together (often more than four or five medicines), or a medicine not matching a diagnosis.

A structured approach to reducing polypharmacy includes deprescribing.



Deprescribing

This is the process of tapering or stopping medications with the aim of improving patient outcomes and optimising current therapy.

Deprescribing forms a part of comprehensive medication review.

The overall goal of deprescribing is to maintain or improve quality of life.



Person-centred care for older people

What matters to the resident?



Medicines



Mobility and cognitive function



Hertfordshire and
West Essex Integrated
Care System



Case study - Dorothy

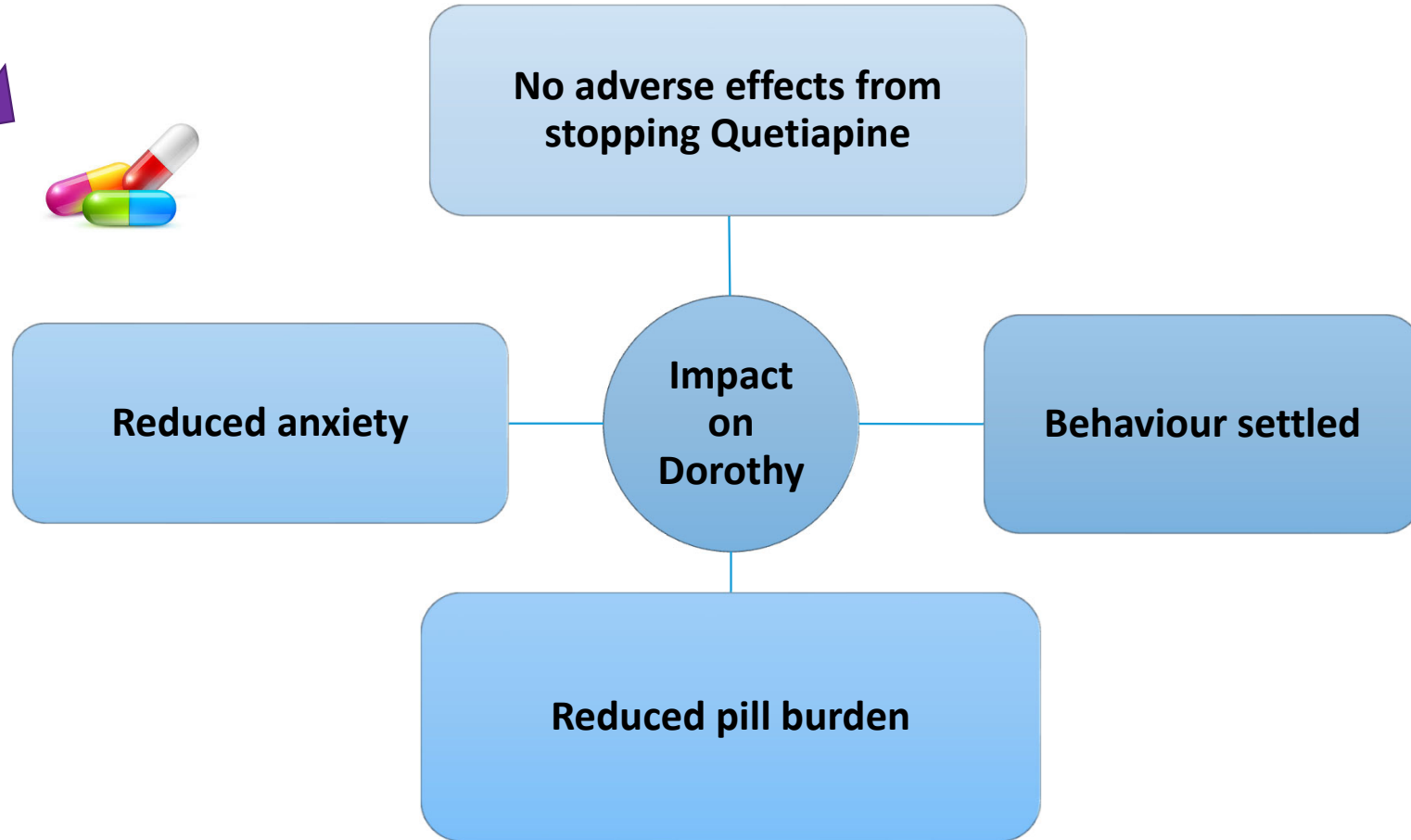
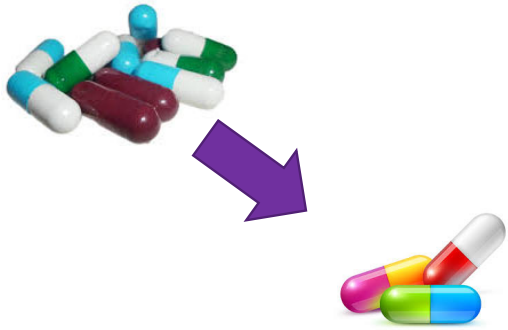
- Lives in a nursing home
- 90 years of age
- Mobile, has severe frailty
- PMH: Alzheimer's disease, insertion of coronary artery stent.
- She is allergic to penicillin.
- Medication history – paracetamol, donepezil, laxido, quetiapine



- Quetiapine
 - Started August 2016, initiated by GP.
 - Plan – try low dose quetiapine, review as needed.
 - September 2016: sleepy in day time, reduce quetiapine to nocte only.

- Discussion with nurse – November 2023
 - Dorothy’s behaviour is settled and she is much calmer, she feels tired and sleepy most of the day.





- Rationale for reviewing quetiapine
 - Anticholinergic Effect on Cognition (AEC) score = 2
 - Symptoms of sleepiness/ tiredness could be linked to quetiapine
 - No concerns with behaviour noted at the care home or within GP records

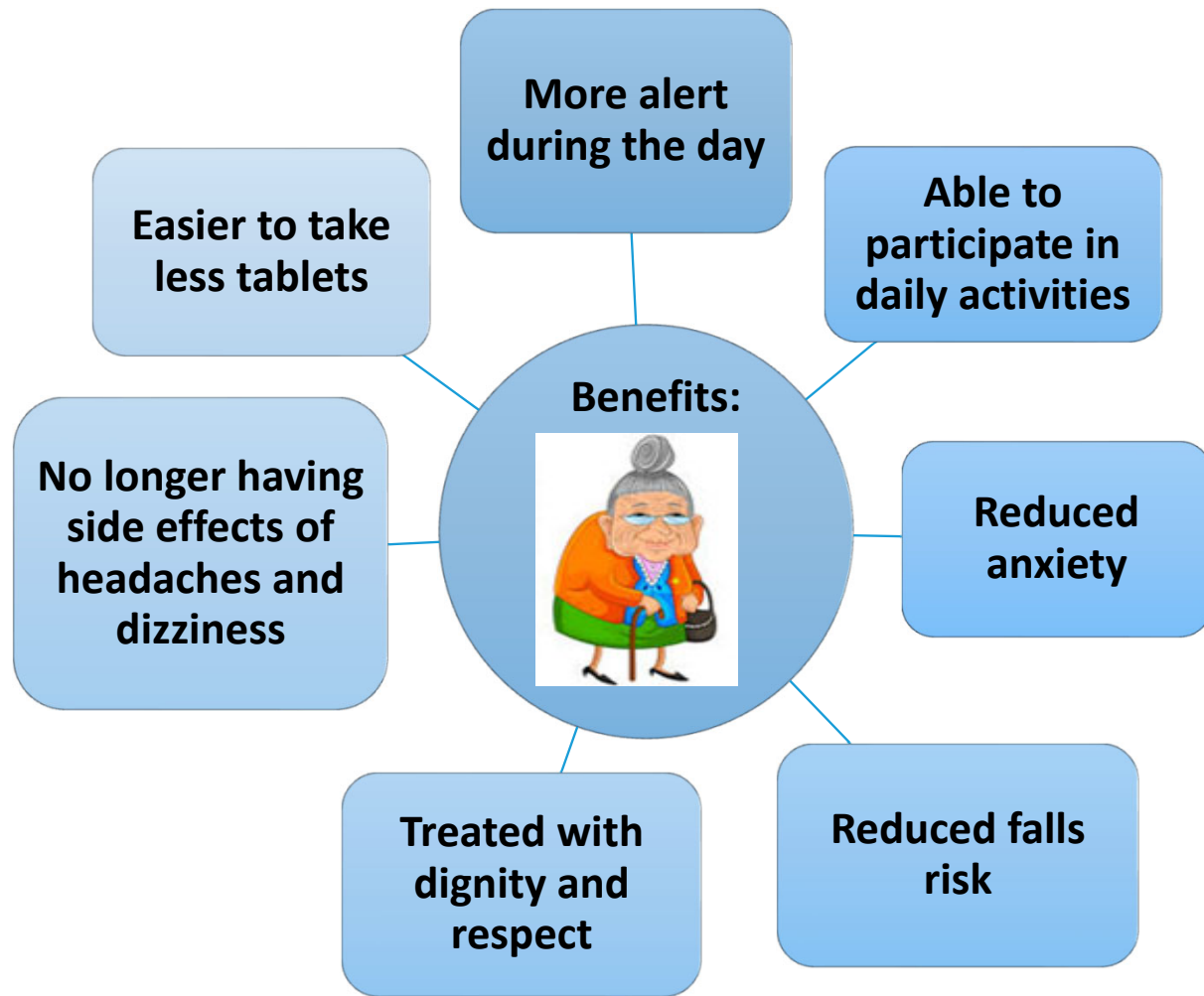


Hertfordshire and
West Essex Integrated
Care System



- Additional interventions
 - Common side effect of quetiapine is constipation → Care home to monitor bowels following stopping of quetiapine and review laxative need.
 - Paracetamol 500mg-1g QDS PRN
 - Pain can be a major trigger for agitation and aggression, and is one of the common causes of behavioural symptoms in dementia





Hertfordshire and
West Essex Integrated
Care System



Managing anticholinergic side effects

Dry mouth management



Dry eye management



Constipation management



Key principles

- Every medicine should have a reason why its prescribed
- Simpler regimens are important
- All drugs cause side effects and simplifying regimens can help
- Avoiding sedating drugs can improve quality of life



Resources

HWEICB Care home resources

- <https://www.hweclinicalguidance.nhs.uk>

ACB calculators

- <https://medichec.com>
- <https://www.acbcalc.com>

PrescQIPP Anticholinergic drugs

- [PrescQIPP Anticholinergic drugs guidance](#)





Any Questions?



Hertfordshire and
West Essex Integrated
Care System

