

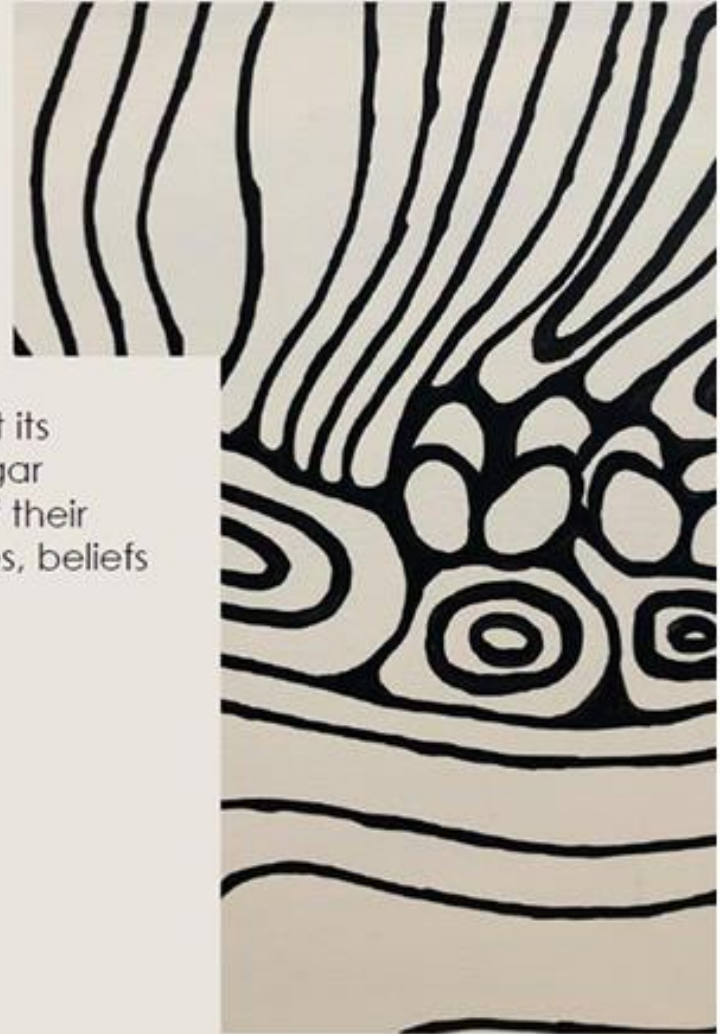
DENT 4217

**Neurological drugs and
psychotropics**

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Acknowledgement of country

The University of Western Australia acknowledges that its campus is situated on Noongar land, and that Noongar people remain the spiritual and cultural custodians of their land, and continue to practise their values, languages, beliefs and knowledge.



Learning Outcomes

1. Consolidate and build upon foundational pharmacological knowledge from DENT3005
2. Identify commonly prescribed psychiatric and neurological medications
3. Understand and evaluate potential drug interactions in the dental setting
4. Identify oral and dental side effects associated with psychiatric and neurological pharmacotherapies
5. Apply this knowledge to tailor dental treatment plans based on a patient's medical history and pharmacological profile
6. Demonstrate clinical reasoning in case-based scenarios involving patients on neurological and psychiatric medications



Neurological drugs

- Epilepsy
- Parkinson's disease
- Migraine
- Alzheimer's disease
- Multiple sclerosis

Epilepsy

- **Seizures:** transient uncontrolled electrical discharges
 - Causes: biochemical imbalance, structural
 - Partial Vs generalized
- **Epilepsy:** recurrent, unprovoked seizure, different types
- **Pharmacological targets**
 - Inhibitory GABA Vs excitatory glutamatergic pathways
 - Voltage gated membrane channels

Epilepsy

Seizure	Characteristics
Absence (generalized)	Sudden transient loss of consciousness
Myoclonic (generalized)	Convulsive movements of body
Tonic (generalized)	Muscle contractions forcing body into rigid & fixed positions
Tonic-clonic (generalized)	Collapse, followed by rigidity then violent convulsions, and deep sleep postictally, unresponsiveness, deep confusion
Aura (simple partial)	Usually experiencing sedation (e.g. olfactory, visual or aural) w/ no stimulus present
Jacksonian (simple partial)	Muscle spasms characterized by sequential involvement of body parts
Psychomotor (complex partial)	Transient aberrant behavior such as mood alteration, psychotic behavior or apparent drunkenness

Antiepileptics

First line	Second line
Focal (partial) seizures	
carbamazepine	lamotrigine ¹ , clobazam, gabapentin, lacosamide, levetiracetam ¹ , oxcarbazepine, phenobarbital, phenytoin, pregabalin, tiagabine, topiramate, valproate, zonisamide
Generalised tonic-clonic seizures	
valproate	carbamazepine ² , clobazam, lamotrigine ¹ , levetiracetam ¹ , oxcarbazepine ² , phenobarbital, phenytoin ² , topiramate
Absence seizures	
ethosuximide ³ , valproate	clobazam, clonazepam, lamotrigine
Myoclonic seizures	
valproate	clobazam, clonazepam, levetiracetam, phenobarbital
Infantile spasms	
prednisolone, tetracosactide	vigabatrin ⁴ , clonazepam, valproate
<p>¹ may be first line in females of child-bearing potential</p> <p>² do not use if juvenile myoclonic epilepsy is suspected (often presents with a tonic-clonic seizure) as it may be ineffective or worsen seizures</p> <p>³ does not prevent generalised tonic-clonic seizures which often coexist in juvenile absence epilepsy</p> <p>⁴ use only if no safer alternative</p>	

Barbiturates

- **MOA:** Prolong inhibitory postsynaptic potential
- **Drug interactions**
 - Phenobarbital + metronidazole
 - Other CNS depressants: monitor sedation
 - CYP3A4 substrates: clarithromycin, codeine, erythromycin, azoles, oxycodone, tramadol...
- **ADR**
 - Sedation, cognitive impairment, altered mood and behaviour
 - [Rare]: exfoliative dermatitis

Generic name	Brand Name
Phenobarbital	Phenobarb
Primidone	Mysoline

Benzodiazepines

- **MOA:** potentiate inhibitory effect of GABA
- **Drug interactions**
 - Other CNS depressants: monitor sedation
 - Alprazolam: itraconazole, ketoconazole → enhance sedation & respiratory depression
 - Diazepam + fluconazole → increase adverse effect
 - Midazolam + [CYP3A4 inh] → enhance sedation & respiratory depression
- **ADR:** fatigue, drowsiness, muscle weakness, ataxia, dry mouth, hypersalivation 😊 and many more

Generic name	Brand Name
Clobazam	Frisium
Clonazepam	Rivotril
Diazepam	Valium
Lorazepam	Lorazepam inj
Midazolam	Hypnovel inj

Ataxia refers to a loss of coordination and balance, resulting in clumsy or awkward movements, often affecting walking, speech, and fine motor skills.

Gabapentinoids

- **MOA:** bind to alpha-2 delta protein subunit of high threshold voltage-dependent calcium channels → reduce calcium influx & neurotransmitter release
- **Drug interactions:** other CNS depressants
- **ADR**
 - Drowsiness, sedation, dizziness, vertigo
 - Dysarthria
 - Ataxia - loss of coordination
 - Tremor
 - Dry mouth
 - [Rare]: Steven Johnson's syndrome

Generic name	Brand Name
Gapapentin	Neurontin
Pregabalin	Lyrica

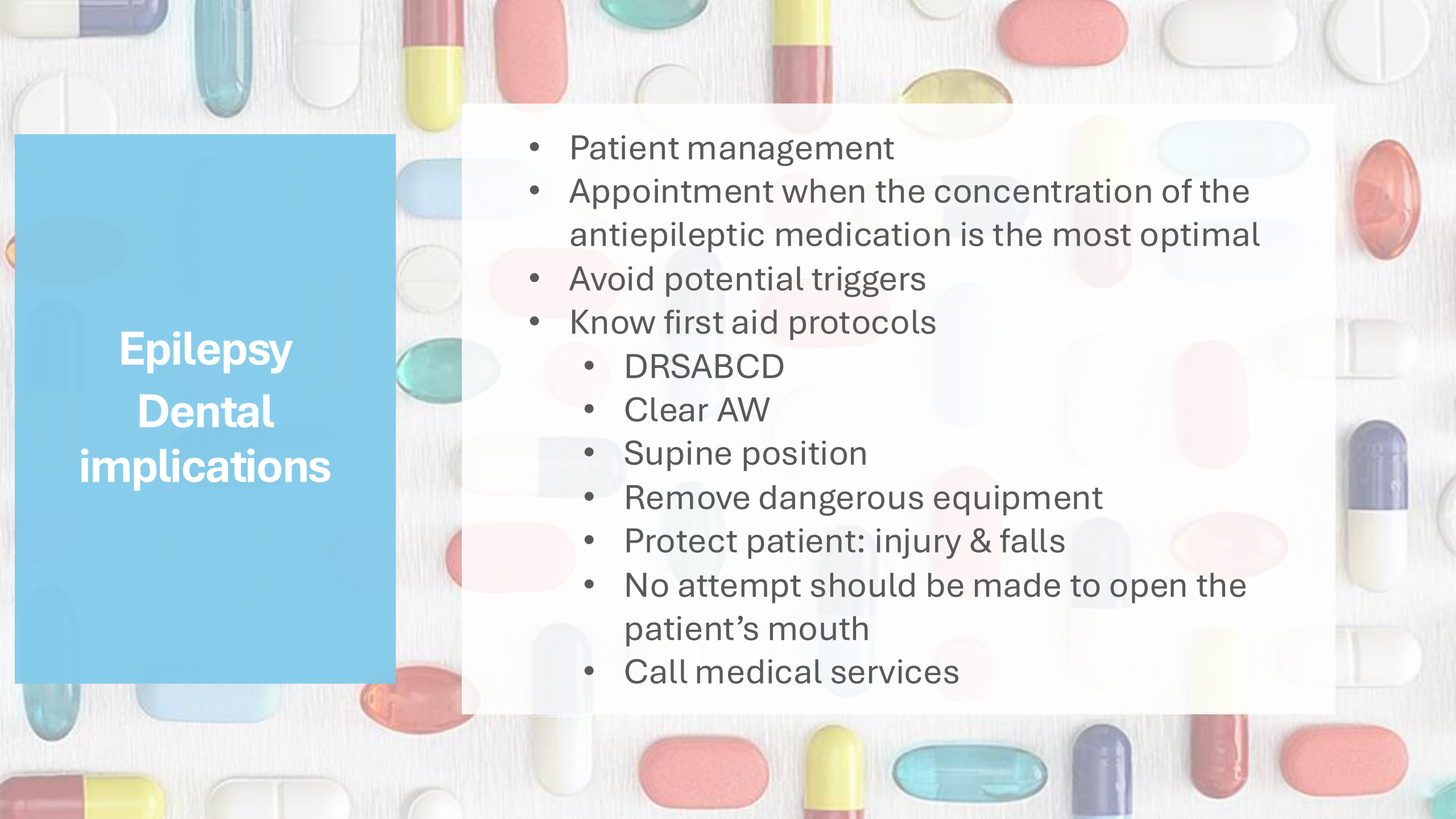
Selected drug (brand)	Selected ADR
Carbamazepine (Tegretol)	[common]: drowsiness, ataxia, dizziness, dry mouth [rare]: severe skin reactions, orofacial dyskinesia
Ethosuximide (Zarontin)	[common]: dizziness, drowsiness, ataxia [rare]: Steven Johnson's
Lamotrigine (Lamictal)	[common]: dizziness, ataxia, hyperkinesia [rare]: severe skin reactions
Levetiracetam (Keppra)	[common]: drowsiness, dizziness, vertigo, ataxia [rare]: severe skin reactions
Oxcarbazepine (Trileptal)	[common]: dizziness, tremor, ataxia, nystagmus [rare]: severe skin reactions
Phenytoin (Dilantin)	[common]: sedation, ataxia, nystagmus, vertigo, gingival hyperplasia [rare]: severe skin reactions
Topiramate (Topamax)	[common]: dizziness, nervousness, agitation, speech disorder [infrequent]: aphasia, nystagmus, taste disturbance
Valproate (Epilim)	[common]: ataxia, dizziness, tremor,

Other antiepileptics

- [Acetazolamide](#)
- [Brivaracetam](#)
- [Cannabidiol](#)
- [Carbamazepine](#)
- [Ethosuximide](#)
- [Lacosamide](#)
- [Lamotrigine](#)
- [Levetiracetam](#)
- [Oxcarbazepine](#)
- [Perampanel](#)
- [Phenytoin](#)
- [Rufinamide](#)
- [Stiripentol](#)
- [Sulthiame](#)
- [Tiagabine](#)
- [Topiramate](#)
- [Valproate](#)
- [Vigabatrin](#)
- [Zonisamide](#)

Anti-epileptics drugs Dental implications

- **Drug interactions**
 - CNS depressants
 - CYP3A4
 - **ADR**
 - **[common]:** drowsiness, oversedation, cognitive impairment, altered mood and behaviour, lightheadedness, hypersalivation, ataxia, dizziness, vertigo, dysarthria, tremor, dry mouth, nystagmus, taste disturbances
 - **[rare]:** serious skin reactions
 - Phenytoin: gingival hyperplasia
- especially with
changing dose or
starting new*

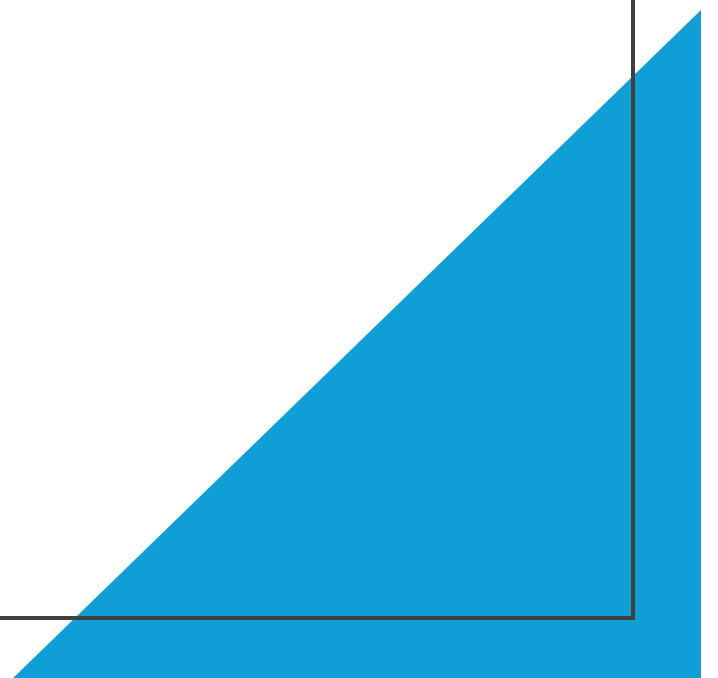


Epilepsy Dental implications

- Patient management
- Appointment when the concentration of the antiepileptic medication is the most optimal
- Avoid potential triggers
- Know first aid protocols
 - DRSABCD
 - Clear AW
 - Supine position
 - Remove dangerous equipment
 - Protect patient: injury & falls
 - No attempt should be made to open the patient's mouth
 - Call medical services

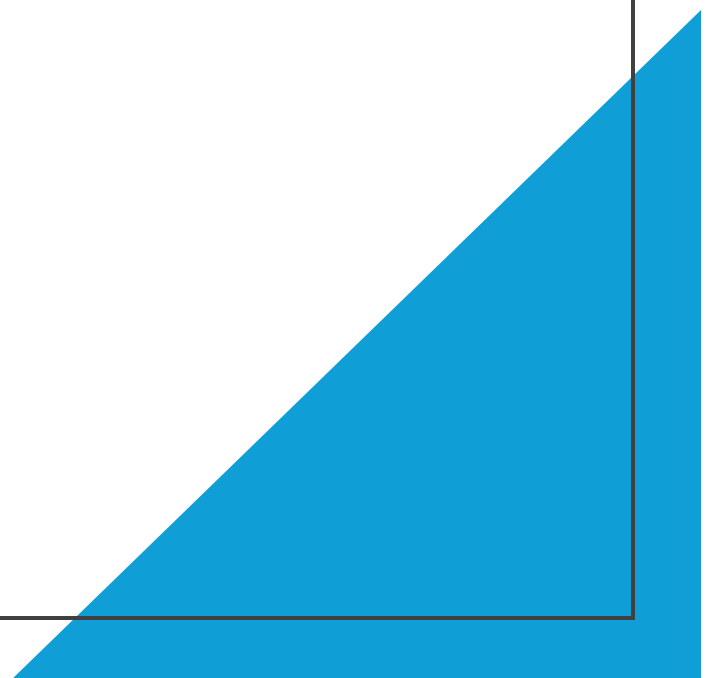
Case 1: Mr Shake Scaler

Scenario: Mr SS, 29-year-old male with known epilepsy suddenly experiences a generalized tonic-clonic seizure mid-treatment. The dental chair is reclined, and several sharp instruments on the dental tray, operator side



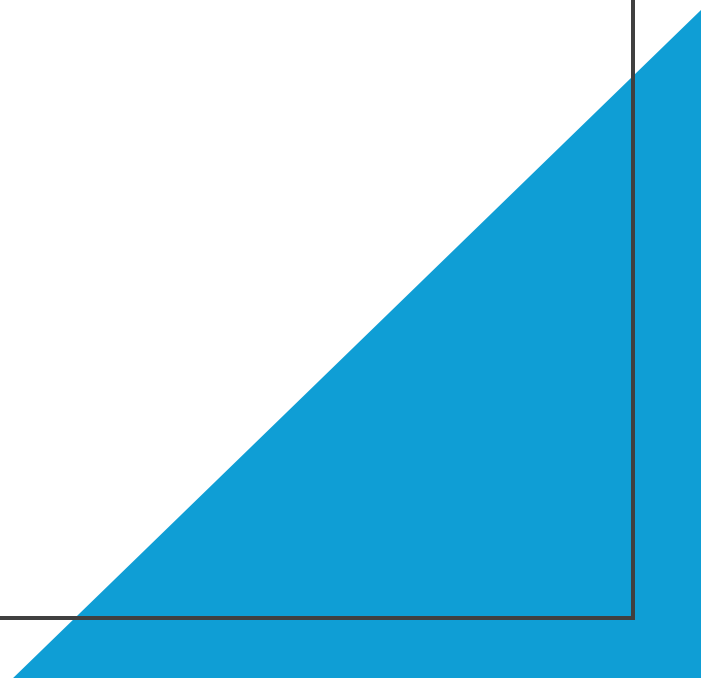
Case 2: Ms Seizure Sinus

Scenario: Ms SS, a 43-year-old female with epilepsy presents with gingival enlargement and bleeding gums. She has been on phenytoin for several years and reports difficulty maintaining oral hygiene



Case 3: Mr Vertigo Veneer

Scenario: Mr VV, a 35-year-old male with newly diagnosed epilepsy presents for a check-up. He reports feeling dizzy and having a very dry mouth. He recently started gabapentin



Parkinson's Disease

- Usually **older** population
- **Characteristics:** tremor, difficulty coordinating fine movements, hypokinesia, shuffling gait, skeletal muscle rigidity
- **Normal muscle movement:** balance muscarinic cholinergic and dopaminergic activities
- **Parkinson's disease:** dopaminergic fibres and/or dopamine receptor degenerate
- **Rationale tx:** provide sx relief
- **Pharmacological:** dopamine agonists, anticholinergics, MAO-B, others

Dopamine agonists

- **MOA:** stimulate dopamine receptor
- **Drug interactions**
 - Apomorphine: clarithromycin, erythromycin, fluconazole → prolong QT
 - Bromocriptine + erythromycin: increase ADR
 - Cabergoline + clarithromycin, itraconazole: increase ADR
- **ADR**
 - Dizziness, drowsiness
 - Orthostatic hypotension
 - Dyskinesia
 - Impulse control disorders

Generic name	Brand Name
Apomorphine	Movapo inj
Pramipexole	Sifrol
Rotigotine	Neupro
Ergot derivative	
Bromocriptine	Parlodel
Cabergoline	Dostinex

Anticholinergics

- **MOA:** block muscarinic actions of acetylcholine
- **Drug interactions**
 - Benztropine, trihexyphenidyl: nil dental interactions
- **ADR**
 - Dizziness, drowsiness
 - Orthostatic hypotension
 - Dyskinesia
 - Dry mouth

Generic name	Brand Name
Benztropine	Benztrop
Trihexyphenidyl	Artane

Tertiary amines

[Atropine, Atropine \(antidote\)](#)

[Benztropine](#)

[Darifenacin](#)

[Hyoscine hydrobromide](#)

[Orphenadrine](#)

[Oxybutynin](#)

[Solifenacin](#)

[Tolterodine](#)

[Trihexyphenidyl](#)

Quaternary amines

[Glycopyrronium \(anaesthesia\)](#)

[Hyoscine butylbromide](#)

[Propantheline](#)

Monoamine oxidase inH type B

- **Aka MAOB inH**
- **MOA:** inH MAOB, reduce breakdown of dopamine, may block dopamine re-uptake
- **Drug interactions:** nil dental interactions
- **ADR**
 - Orthostatic hypotension
 - Dyskinesia

Generic name	Brand Name
Rasagiline	Azilect
Safinamide	Xadago
Selegiline	Eldepryl

Other drugs for Parkinson

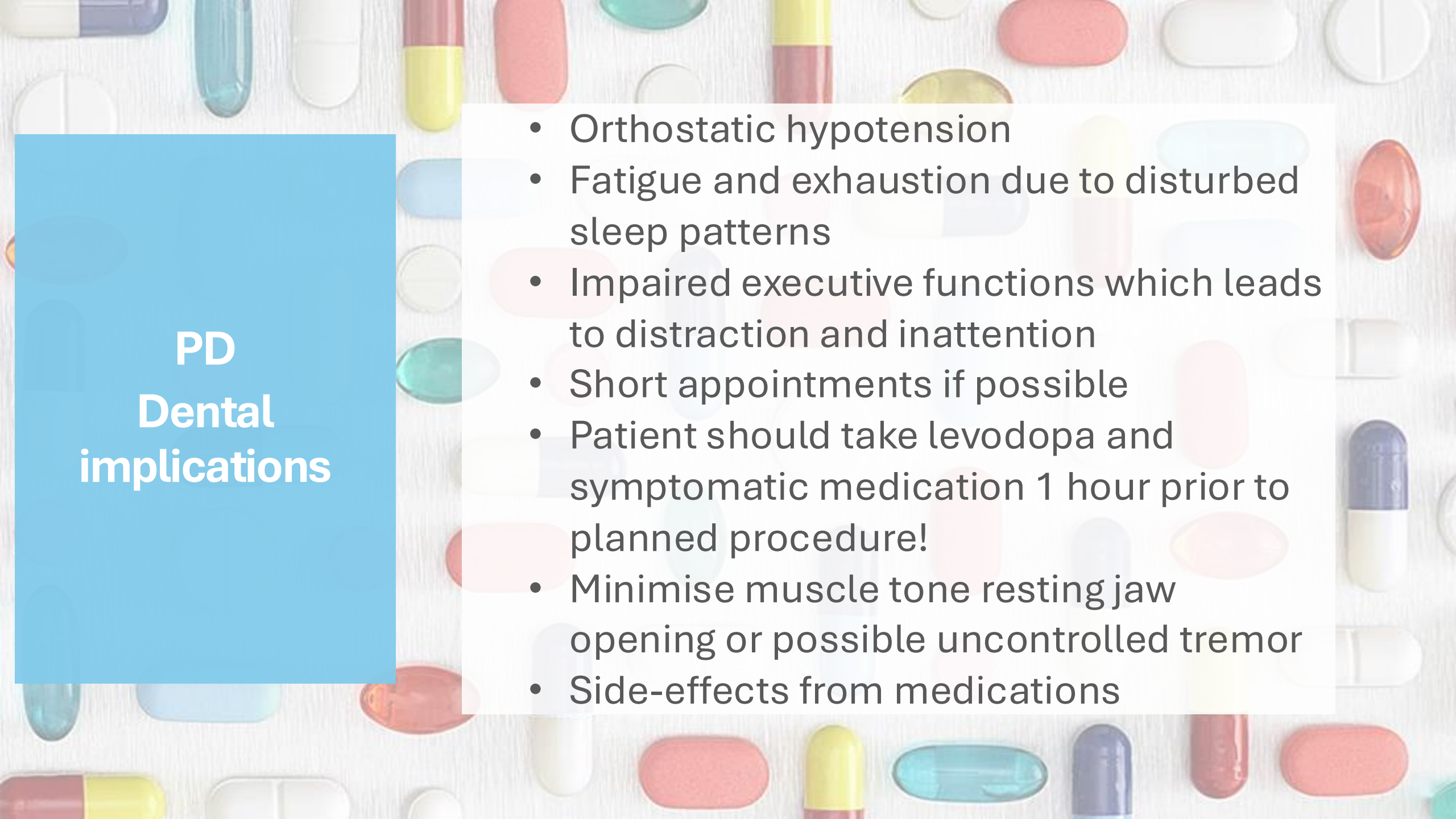
- **Drug interactions:** Entacapone + adrenaline: dental relevance?
- **Amantadine [ADR]:** Orthostatic hypotension, dizziness, dry mouth
- **Entacapone [ADR]:** Orthostatic hypotension, dry mouth, dyskinesia
- **Opicapone [ADR]:** Dry mouth, dizziness, dyskinesia
- **Combination [ADR]:** orthostatic hypotension, dyskinesia, drowsiness, impulse control disorder

Generic name	Brand Name
Amantadine	Symmetrel
Entacapone	Comtan
Levodopa + benserazide + carbidopa	Madopar Kinson, Sinemet
Levodopa + carbidopa & entacapone	Carlevent, Lecteva
Opicapone	Ongentys



Drugs for PD Dental implications

- Drug interactions
 - QT prolongation drugs
 - CYP3A4
- ADR
 - [common]: dizziness, drowsiness, orthostatic hypotension, dyskinesia, impulse control disorders, dry mouth



PD Dental implications

- Orthostatic hypotension
- Fatigue and exhaustion due to disturbed sleep patterns
- Impaired executive functions which leads to distraction and inattention
- Short appointments if possible
- Patient should take levodopa and symptomatic medication 1 hour prior to planned procedure!
- Minimise muscle tone resting jaw opening or possible uncontrolled tremor
- Side-effects from medications



Case 1: Mr Dopamine Dentrifice

Scenario: Mr DD, 72 years old, presents for a dental extraction. He has Parkinson's disease with prominent resting tremor and is currently taking **levodopa/carbidopa and entacapone**. His caregiver mentions he sometimes feels dizzy when standing up

OTM + dizziness
↳ help in clw

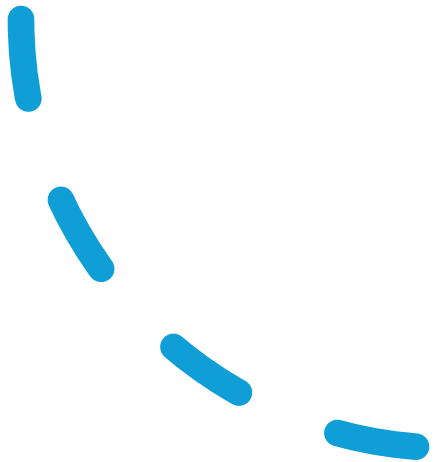


Case 2: Mrs Rigid Root-Canal

Scenario: Mrs RR is a long-standing Parkinson's patient on **amantadine** and **benztropine**. She complains of dry mouth and difficulty chewing

orthostatic hypotension

Locky



Alzheimer's Disease

- A form of dementia
- Characteristics: neuronal cell loss, brain shrinkage, enlarged ventricles, significant histological changes in brain tissue
- Progressive deterioration
- Pathophysiology: neuronal cell death, B-amyloid plaques, neurofibrillary tangles
- Reduction in Ach and raised glutamate?
- Pharmacological: iNH acetylcholinesterase, glutamate receptor antagonists

Anticholinesterases

- **MOA:** decrease breakdown of acetylcholine
- **Drug interactions [Galantamine]**
 - QT prolongation: clarithromycin, erythromycin, fluconazole
 - [CYP3A4 inh]
- **ADR**
 - Drowsiness, dizziness, tremor, increased sweating, hypertension, fainting

Generic name	Brand Name
Donepezil	Arazil, Aricept
Galantamine	Galantyl, Reminyl
Rivastigmine	Exelon

Other drugs for Alzheimer's

- **MOA:** N-methyl-D-aspartate (NMDA) antagonist
- **Drug interactions:** limited information
- **ADR**
 - [common]: confusion, dizziness, drowsiness, headache, agitation, hallucinations, dyspnoea
 - [infrequent]: anxiety

Generic name	Brand Name
Memantine	Ebixa, Memanxa



Drugs for AD Dental implications

- **Drug interactions**
 - QT prolongation drugs
 - CYP3A4
- **ADR**
 - [common]: Drowsiness, dizziness, tremor, increased sweating, hypertension, fainting, confusion, headache, agitation, hallucinations, dyspnoea
 - [infrequent]: anxiety

Case 1

Mr Forgetful

Fillings

Scenario: Mr. FF, 78, presents for a routine dental check-up. He has early-stage Alzheimer's and is currently taking **galantamine**. His medical history also includes hypertension. He reports dizziness and occasional fainting spells

Case 2

Ms Confused Composite

Scenario: Ms CC, 81, with moderate Alzheimer's disease, is on **memantine** (an NMDA antagonist). She arrives for an extraction and is visibly confused and agitated. Her caregiver reports recent hallucinations

Psychotropic drugs

- Major depression
- Anxiety & related disorders
- Eating disorders
- Bipolar disorder
- Insomnia
- ADHD
- Alcohol withdrawal
- Long term treatment for alcohol dependence
- Nicotine dependence
- Opioid dependence

Antidepressants

- **Major depression**
 - Relieve psychological and physical symptoms
 - Improve functional capacity
 - Reduce the likelihood of self-harm or suicide
- **Anxiety and related disorders**
 - Control symptoms and improve social functioning
- **Eating disorders**
 - A multidisciplinary approach
 - Psychological treatments [cognitive behaviour therapy, interpersonal psychotherapy, family psychotherapy]
 - SSRIs: bulimia nervosa, binge eating disorder

Antidepressants: adverse effects

- **Serotonin toxicity**
 - Tramadol
- **Withdrawal effects**
 - Nausea, vomiting, anxiety, agitation, tremor and many more

MOA inhibitors

- **MOA:** Nonselective MAOIs irreversibly inhibit monoamine oxidases A and B
- **Drug interactions**
 - Serotonin toxicity: tramadol (CI)
 - Adrenaline: may increase effect of adrenaline (caution)
 - Tapentadol: increase risks for HTN (CI)
- **ADR [common]**
 - Orthostatic hypotension, headache, drowsiness, fatigue, weakness, agitation, tremors, twitching, myoclonus, hyperreflexia, dizziness, dry mouth

(CI) = Contraindicated

Generic name	Brand Name
Phenelzine	Only through SAS
Tranlycypromine	Parnate

Myoclonus: sudden, brief, involuntary muscle jerks or twitches, often described as shock-like movements, that can affect a single muscle or a group of muscles.

SSRIs

- **MOA:** SSRIs selectively inhibit the presynaptic reuptake of serotonin
- **Drug interactions**
 - Serotonin toxicity: tramadol
 - Citalopram, escitalopram, fluoxetine + QT prolongation
 - Fluoxetine, fluvoxamine + CYP3A4 inH
- **ADR [common]**
 - Agitation, drowsiness, tremor, dry mouth, dizziness, headache, sweating, weakness, anxiety

Generic name	Brand Name
Citalopram	Celapram
Escitalopram	Lexapro
Fluoxetine	Zactin
Fluvoxamine	Luvox
Paroxetine	Paxtine
Sertraline	Setrona

Tricyclic antidepressants

- **MOA:** inhibit reuptake of noradrenaline and serotonin into presynaptic terminals
- **Drug interactions**
 - QT prolongation drugs
 - CNS depressant drugs
 - Adrenaline: added sympathomimetic effects (caution)
 - Clomipramine, imipramine: serotonin toxicity
- **ADR [common]**
 - Sedation, dry mouth, orthostatic hypotension, tremor, dizziness, sweating, agitation, anxiety, confusion

Generic name	Brand Name
Amitriptyline	Endep
Clomipramine	Anafranil
Dothiepin	Dothep
Doxepin	Deptran
Imipramine	Tofranil
Nortriptyline	Allegron

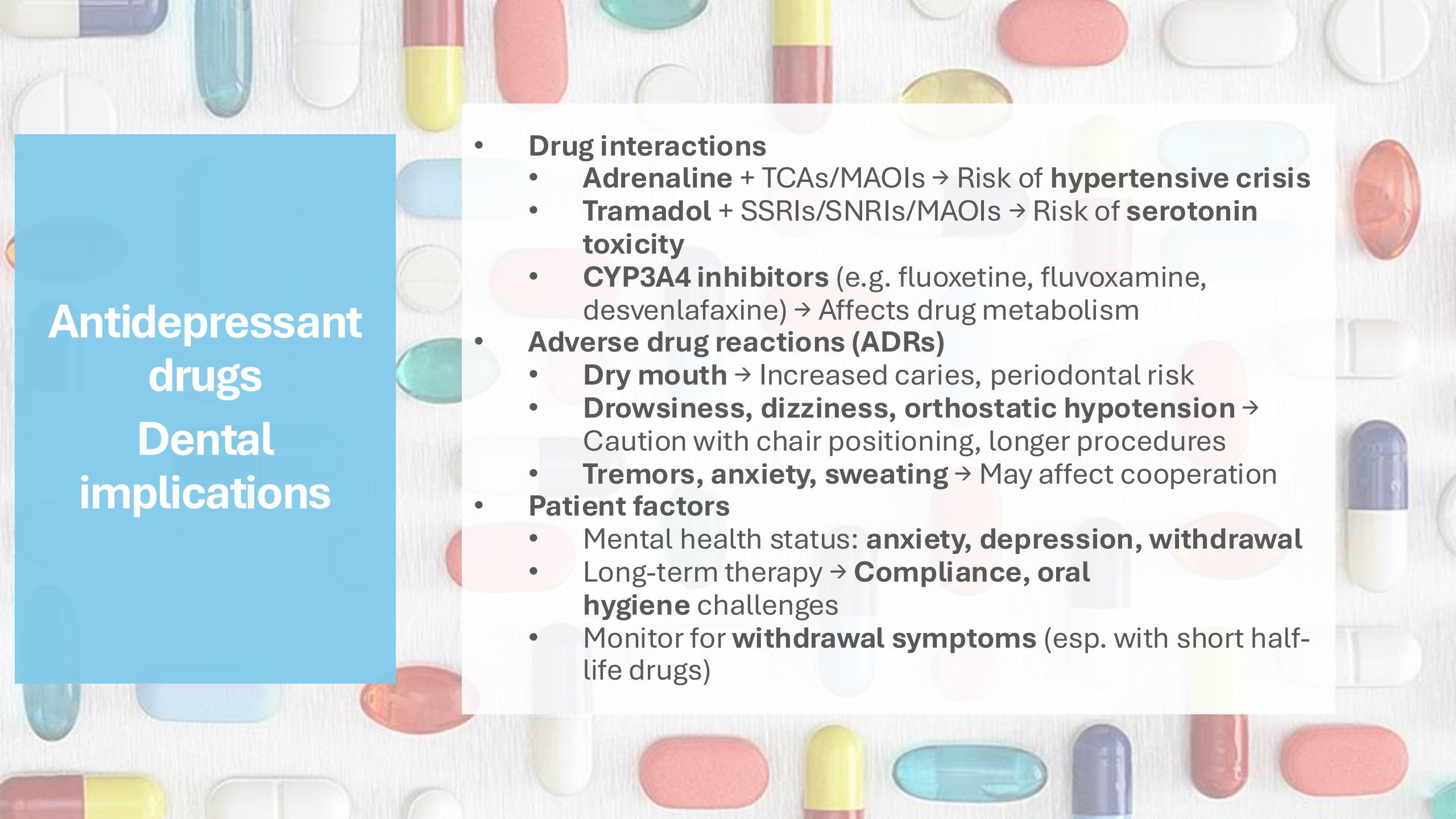
SNRIs

- **MOA:** inH serotonin and noradrenalin reuptake
- **Drug interactions**
 - Serotonin toxicity
 - Desvenlafaxine + CYP3A4 inH
- **ADR**
 - **[common]:** dry mouth, yawning, sweating, dizziness, headache, tremor
 - **[infrequent]:** orthostatic hypotension and fainting

Generic name	Brand Name
Desvenlafaxine	Pristiq
Duloxetine	Tixol
Venlafaxine	Efexor

Other antidepressants

Generic name (Brand)	Selected drug interaction	Selected ADR
Agomelatine (Valdoxan)	Nil dental	Infrequent (0.1–1%): Anxiety, fatigue, excessive sweating, itch
Mianserin (Lumin)	Nil dental	Common (>1%): Sedation, dry mouth, dizziness, vertigo
Mirtazepine (Axit)	Maybe contribute to serotonin toxicity???	Common (>1%): Sedation, weakness Rare (<0.1%): Orthostatic hypotension, seizures
Moclobemide (Amira)	Serotonin toxicity (tramadol)	Common (>1%): Dry mouth, anxiety, dizziness, headache
Reboxetine (Edronax)	CYP3A4 inH	Common (>1%): Dry mouth, sweating, orthostatic hypotension, headache, paraesthesia, dizziness
Vortioxetine (Brintellix)	Maybe contribute to serotonin toxicity???	Common (>1%): Dry mouth, itch



Antidepressant drugs Dental implications

- **Drug interactions**
 - **Adrenaline** + TCAs/MAOIs → Risk of **hypertensive crisis**
 - **Tramadol** + SSRIs/SNRIs/MAOIs → Risk of **serotonin toxicity**
 - **CYP3A4 inhibitors** (e.g. fluoxetine, fluvoxamine, desvenlafaxine) → Affects drug metabolism
- **Adverse drug reactions (ADRs)**
 - **Dry mouth** → Increased caries, periodontal risk
 - **Drowsiness, dizziness, orthostatic hypotension** → Caution with chair positioning, longer procedures
 - **Tremors, anxiety, sweating** → May affect cooperation
- **Patient factors**
 - Mental health status: **anxiety, depression, withdrawal**
 - Long-term therapy → **Compliance, oral hygiene** challenges
 - Monitor for **withdrawal symptoms** (esp. with short half-life drugs)

Antipsychotics

- **Indication:** acute & chronic psychosis, bipolar disorder
- **MOA:** blockade of dopaminergic transmission?
- **Drug interactions**
 - **CNS depressants:** check individual monograph
 - **QT prolongation:** Amisulpride, droperidol, haloperidol, ziprasidone
 - **CYP3A4 inH:** Aripiprazole, brexpiprazole, cariprazine, haloperidol, lurasidone, quetiapine, ziprasidone
- **ADR [common]:** sedation, anxiety, agitation, EPSE, orthostatic hypotension, dry mouth
 - EPSE: dystonia, akathisia, parkinsonism, tardive dyskinesia

Antipsychotics

Amisulpride

Aripiprazole

Asenapine

Brexpiprazole

Cariprazine

Chlorpromazine

Clozapine

Droperidol

Flupentixol

Haloperidol

Lurasidone

Olanzapine

Paliperidone

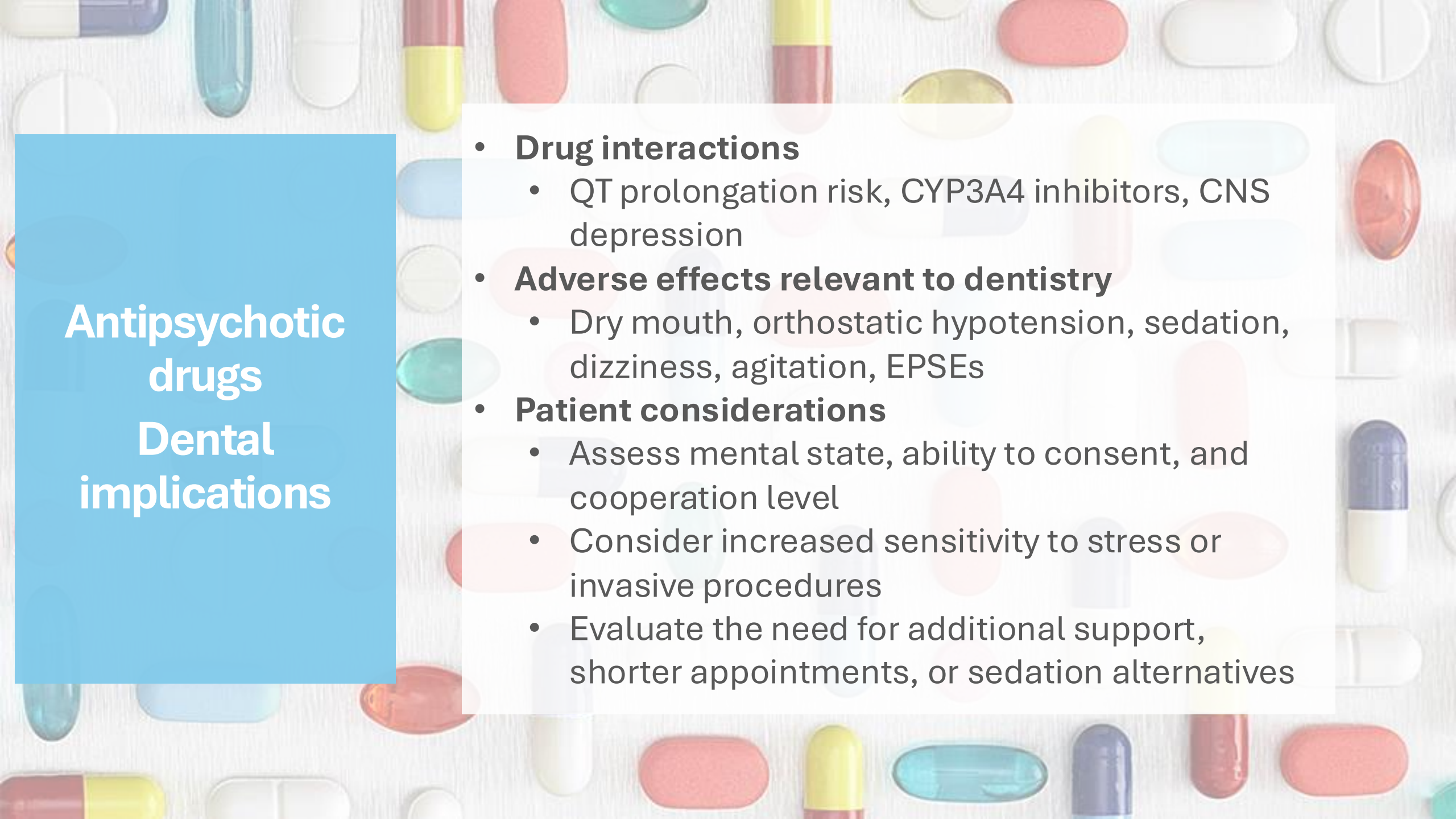
Periciazine

Quetiapine

Risperidone

Ziprasidone

Zuclopenthixol



Antipsychotic drugs Dental implications

- **Drug interactions**
 - QT prolongation risk, CYP3A4 inhibitors, CNS depression
- **Adverse effects relevant to dentistry**
 - Dry mouth, orthostatic hypotension, sedation, dizziness, agitation, EPSEs
- **Patient considerations**
 - Assess mental state, ability to consent, and cooperation level
 - Consider increased sensitivity to stress or invasive procedures
 - Evaluate the need for additional support, shorter appointments, or sedation alternatives

Drugs for bipolar disorder

- **Pharmacological**
 - **Antipsychotics, antiepileptics (carbamazepine, lamotrigine, valproate)** – *mentioned in antiepileptic lectures*
 - **Lithium** (*Lithicarb, Quilonum SR*)
- **Lithium: [MOA]** unknown? Inh dopamine release? Enhance serotonin release?
 - **Drug interactions**
 - **Serotonin toxicity:** tramadol
 - **NSAIDs:** reduce renal lithium excretion
 - **ADR [common]:** metallic taste, fatigue, headache, vertigo, tremor, acne, psoriasis



Drugs for bipolar disorder

Dental implications

- **Lithium interactions**
 - Avoid NSAIDs (except low-dose aspirin) → risk of lithium toxicity
 - Monitor for signs of toxicity if analgesics are prescribed
- **Serotonin toxicity risk:** caution with tramadol
- **Common side effects relevant to dentistry**
 - Metallic taste → altered taste perception
 - Tremor, fatigue → difficulty with fine motor control, cooperation during procedures
 - Dry skin or acne → consider skin sensitivity around oral cavity
- **Communication and care**
 - Assess for sedation, mental alertness, and ability to consent
 - Schedule shorter or more frequent appointments if needed

Drugs for anxiety & sleep disorders

- **Non-pharmacological**

- CBT first line: insomnia & anxiety
- Remove source of sleep disturbance
- Sleep hygiene principles

- **Pharmacological**

- Benzodiazepines
- Non-amphetamine psychostimulants
- Orexin receptor antagonists
- Other: diphenhydramine, doxylamine, melatonin, zolpidem, zopiclone

Benzodiazepines

- **MOA:** potentiate inhibitory effect of GABA
- **Drug interactions**
 - Other CNS depressants: monitor sedation
 - Alprazolam: itraconazole, ketoconazole → enhance sedation & respiratory depression
 - Diazepam + fluconazole → increase adverse effect
 - Midazolam + [CYP3A4 inh] → enhance sedation & respiratory depression
- **ADR:** drowsiness, oversedation, lightheadedness, hypersalivation, ataxia

[Alprazolam](#)

[Bromazepam](#)

[Clobazam](#)

[Clonazepam](#)

[Diazepam](#)

[Flunitrazepam](#)

[Lorazepam](#), [Lorazepam \(neurology\)](#)

[Midazolam \(anaesthesia\)](#), [Midazolam \(neurology\)](#)

[Nitrazepam](#)

[Oxazepam](#)

[Temazepam](#)

Ataxia refers to a loss of coordination and balance, resulting in clumsy or awkward movements, often affecting walking, speech, and fine motor skills.

Non-amphetamine psychostimulants

- **MOA:** unknown
- **Drug interactions**
 - CYP3A4 inH
- **ADR:** dry mouth, headache, anxiety, palpitations, nervousness, dizziness, hypertension

Generic name	Brand Name
Armodafinil	Nuvigil
Modafinil	Modafin

Orexin receptor antagonists

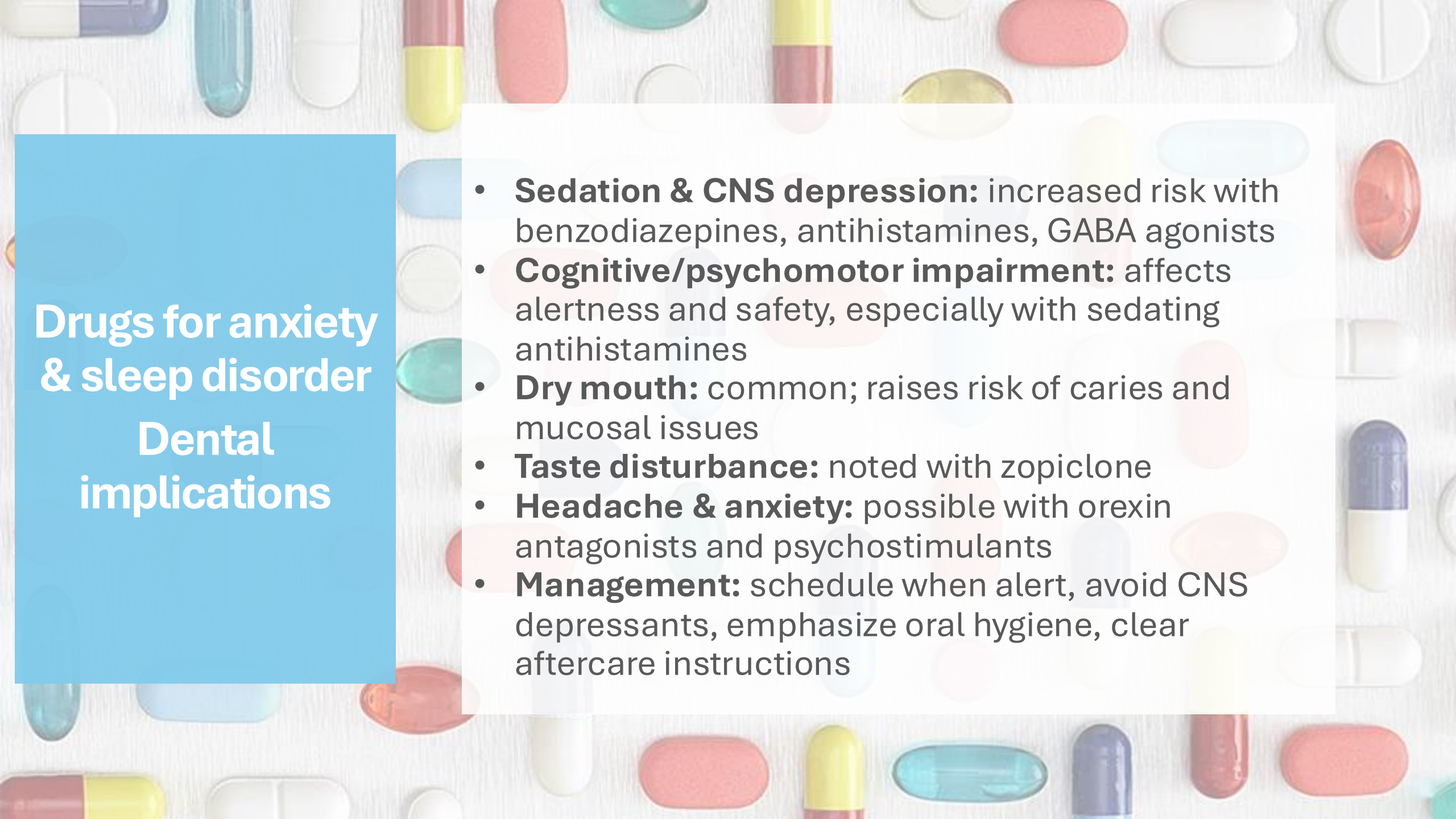
- **Indication:** chronic insomnia
- **MOA:** block the binding of wake-promoting orexin A and B neuropeptides
- **Drug interactions**
 - CYP3A4 inH
- **ADR:** headache

Generic name	Brand Name
Lemborexant	Dayvigo
Suvorexant	Belsomra

Other

- **Drug interactions:** other CNS depressants
- **Sedating antihistamines:** diphenhydramine, doxylamine
 - **ADR:** sedation, psychomotor impairment, dizziness, confusion, headache, dry mouth
- **Melatonin:** control of circadian rhythms
 - **ADR:** nil dental
- **GABA agonists:** zolpidem, zopiclone
 - **[Zopiclone] ADR:** taste disturbance (bitter), dry mouth, drowsiness, impaired alertness the next morning

Generic name	Brand Name
Melatonin	Circadin
Zolpidem	Stilnox
Zopiclone	Imrest



Drugs for anxiety & sleep disorder

Dental implications

- **Sedation & CNS depression:** increased risk with benzodiazepines, antihistamines, GABA agonists
- **Cognitive/psychomotor impairment:** affects alertness and safety, especially with sedating antihistamines
- **Dry mouth:** common; raises risk of caries and mucosal issues
- **Taste disturbance:** noted with zopiclone
- **Headache & anxiety:** possible with orexin antagonists and psychostimulants
- **Management:** schedule when alert, avoid CNS depressants, emphasize oral hygiene, clear aftercare instructions

Drugs attention deficit hyperactivity disorder

- **Chronic condition:** inattentive, hyperactive-impulsive, combination
- **Pharmacological**
 - Drug choice: psychostimulants
 - Other: Atomoxetine, guanfacine or clonidine
 - Lack of evidence
 - Dietary replacement
 - Supplementation of selected vitamins
 - Biofeedback
 - Perceptual stimulation

Psychostimulants

- **MOA:** enhance dopaminergic and noradrenergic neurotransmission
- **Drug interactions:** Nil dental
- **ADR**
 - **[common]:** dry mouth, anxiety, irritability, headache, dizziness, aggression, palpitations
 - **[Infrequent]:** movement disorders, tics

Generic name	Brand Name
Dexamfetamine	Dexamfetamine
Lisdexamfetamine	Vyvanse
Methylphenidate	Concerta

Other

- **Atomoxetine:** selectively inhibits presynaptic noradrenaline reuptake
 - **Drug interactions:** nil dental
 - **ADR [common]:** dry mouth, dizziness, irritability, aggression, temper tantrums
 - **ADR [infrequent]:** palpitations, orthostatic hypotension
- **Guanfacine:** selective α_{2a} adrenoreceptor agonist
 - **Drug interactions:** CNS depressant, CYP3A4 inH
 - **ADR [common]:** drowsiness, dizziness, dry mouth, headache, hypotension, fatigue, sedation
 - **ADR [infrequent]:** fainting

Generic name	Brand Name
Atomoxetine	Atomoxetine
Guanfacine	Intuniv

Drugs for ADHD

Dental implications

- **Psychostimulants (dexamfetamine, methylphenidate, lisdexamfetamine)**
 - ADR: dry mouth, anxiety, irritability, headache, palpitations, movement disorders (rare)
 - Drug interactions: none significant in dentistry
- **Atomoxetine**
 - ADR: dry mouth, dizziness, irritability, aggression, temper tantrums, palpitations (rare)
 - Drug interactions: none significant in dentistry
- **Guanfacine**
 - ADR: drowsiness, dry mouth, dizziness, hypotension, sedation, fainting (rare)
 - Drug interactions: CNS depressants, CYP3A4 inhibitors

Drugs for alcohol dependence

- **Alcohol withdrawal sx:** CNS depressants (benzodiazepines)
 - Symptomatic tx: analgesics, antiemetics, antipsychotics (severe agitation & hallucination)
- **Long term tx for alcohol dependence**
 - Support ongoing abstinence from alcohol.
 - Decrease alcohol intake where abstinence is not achieved.
 - Minimise social, physical and psychological consequences.
- **Drug choice**
 - **Acamprosate:** MOA unclear, nil ADR in dental
 - **Naltrexone:** [ADR] transient, subsides after 1-2wks, interact w/ opioids
 - **Disulfiram:** [ADR] drowsiness, headache, avoid metronidazole

Drugs for nicotine dependence

- **Nicotine** : CNS stimulant → feelings of pleasure, relief of anxiety etc
 - Smoking cessation: unpleasant withdrawals
- **Non-drug treatment**: counselling, behavioural techniques, encouragement and support
- **Drug choice**
 - **Bupropion**: MOA unclear, [ADR] dry mouth, dizziness,, agitation, anxiety, tremor, headache
 - **NRT**: [ADR] dizziness, headache, burning-lip sensation (mouth spray), hiccups, cough (inhalation), vivid dreams (especially 24-hour patch)
 - **Varenicline**: [ADR] headache, taste disturbance, abnormal dreams, sleep disorder

Drugs for opioid dependence

- Chronic, frequently relapsing illness
 - Opioids produce euphoric effects but tolerance develops rapidly
- **Withdrawals symptoms:** extreme anxiety, restlessness, insomnia, nausea, unpleasant but not life threatening
- **Drug choice**
 - **Buprenorphine:** [ADR] not dental related, interaction (opioids, ketoconazole)
 - **Methadone:** [interaction] QT prolongation
 - **Naltrexone:** already mentioned

Substance of abuse

Drug	Dental implications
Cannabis	<ul style="list-style-type: none">• Poor oral and periodontal health• Acute dose + LA w/ adrenaline may prolong tachycardia• Chronic smokers: oral leucoplakia, oral cancer, oral candidiasis
Methamphetamine	<ul style="list-style-type: none">• Poor OH, rampant caries• Bruxism, clenching, non-carious tooth wear• Xerostomia• LA w/ vasoconstrictor avoid when patient is intoxicated
Cocaine	<ul style="list-style-type: none">• Bruxism, clenching, non-carious tooth wear• Gingival erosions, retraction, ulceration
Opioids	<ul style="list-style-type: none">• Rampant caries, periodontitis• Anxiety• Injectables → risks blood borne viruses & infective endocarditis



Drugs for dependence Dental implications

- Poor diet & oral hygiene worsen oral health
- Smoking increases risk of oral cancer
- Watch for “doctor shoppers” requesting analgesics/anxiolytics
- Know drug preferences & risks; refuse supply if unsure
- Multiple drug use common: cannabis, methamphetamine, cocaine, opioids
- Coordinate care with other healthcare providers for safe management



CASE 1: major depression

Scenario: 45-year-old female on **sertraline (SSRI)** for major depression presents for routine dental extraction. She complains of dry mouth and occasional dizziness



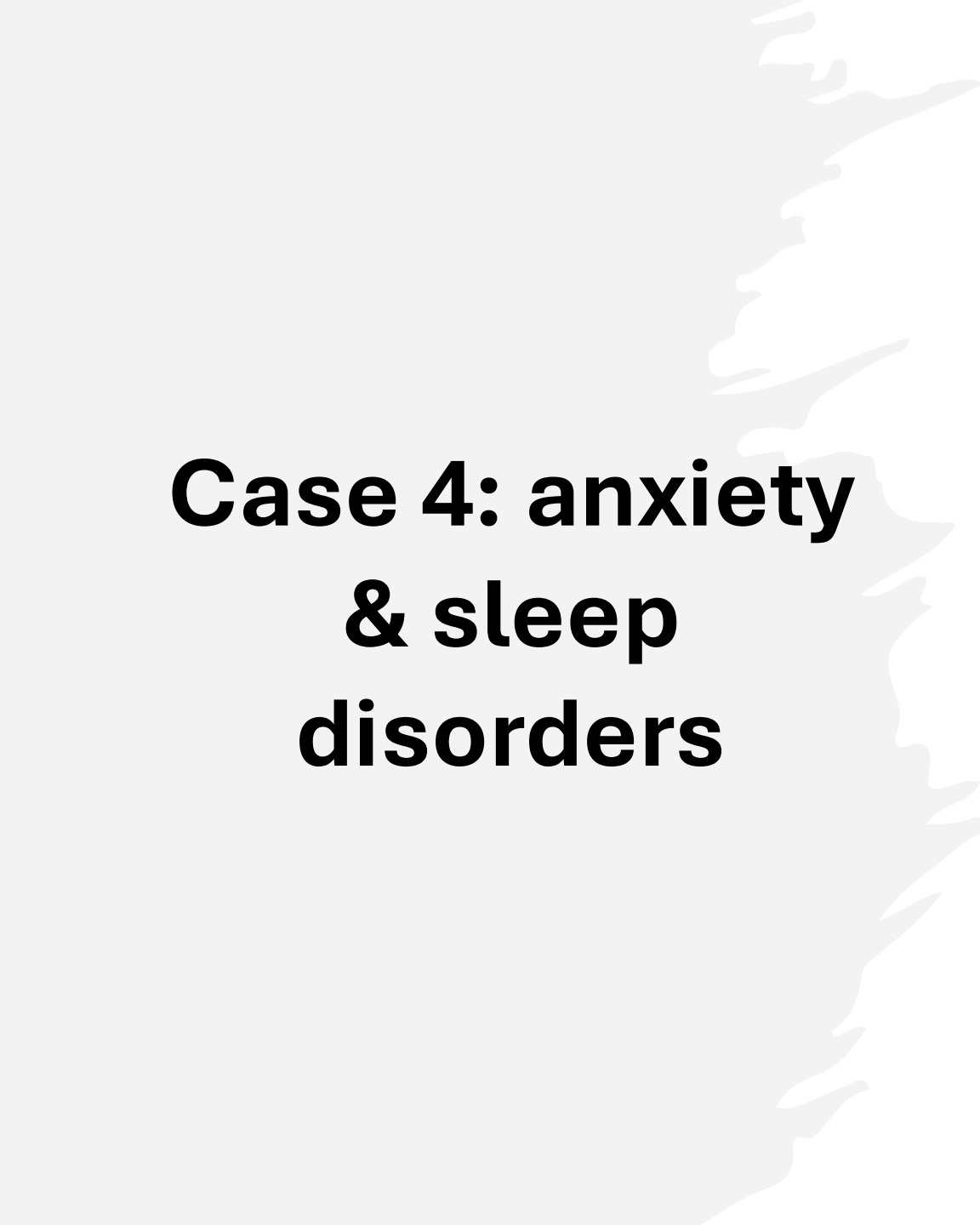
Case 2: Schizophrenia

Scenario: 32-year-old male on **haloperidol** for schizophrenia complains of dry mouth and tremors; requires scaling and root planning



Case 3: bipolar disorder

Scenario: 40-year-old male on **lithium** therapy presents for dental implant surgery. He reports metallic taste and mild tremor



Case 4: anxiety & sleep disorders

Scenario: 28-year-old female on **diazepam** for short term relief of anxiety requests extraction due to painful tooth



Case 5: ADHD

Scenario: 15-year-old male treated with methylphenidate for ADHD has dental caries and complains of dry mouth



**Case 6:
substance
dependence
treatment**

Scenario: 38-year-old male in methadone maintenance therapy for opioid dependence complains of rampant caries and poor oral health

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