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# Understanding and identifying risks of polypharmacy for the older person with a mental health problem

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Older Persons Mental Health Working Group's Education Forum

# What is polypharmacy?

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**Wikipedia**

"Use of four or more medications by a patient"

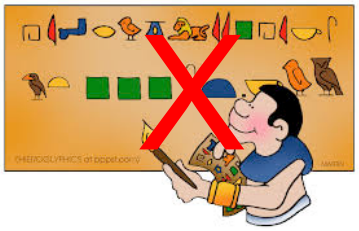
**Pubmed**

search for "polypharmacy" in the article title

**971** papers

**783** when limited to humans

**716** when limited to english language



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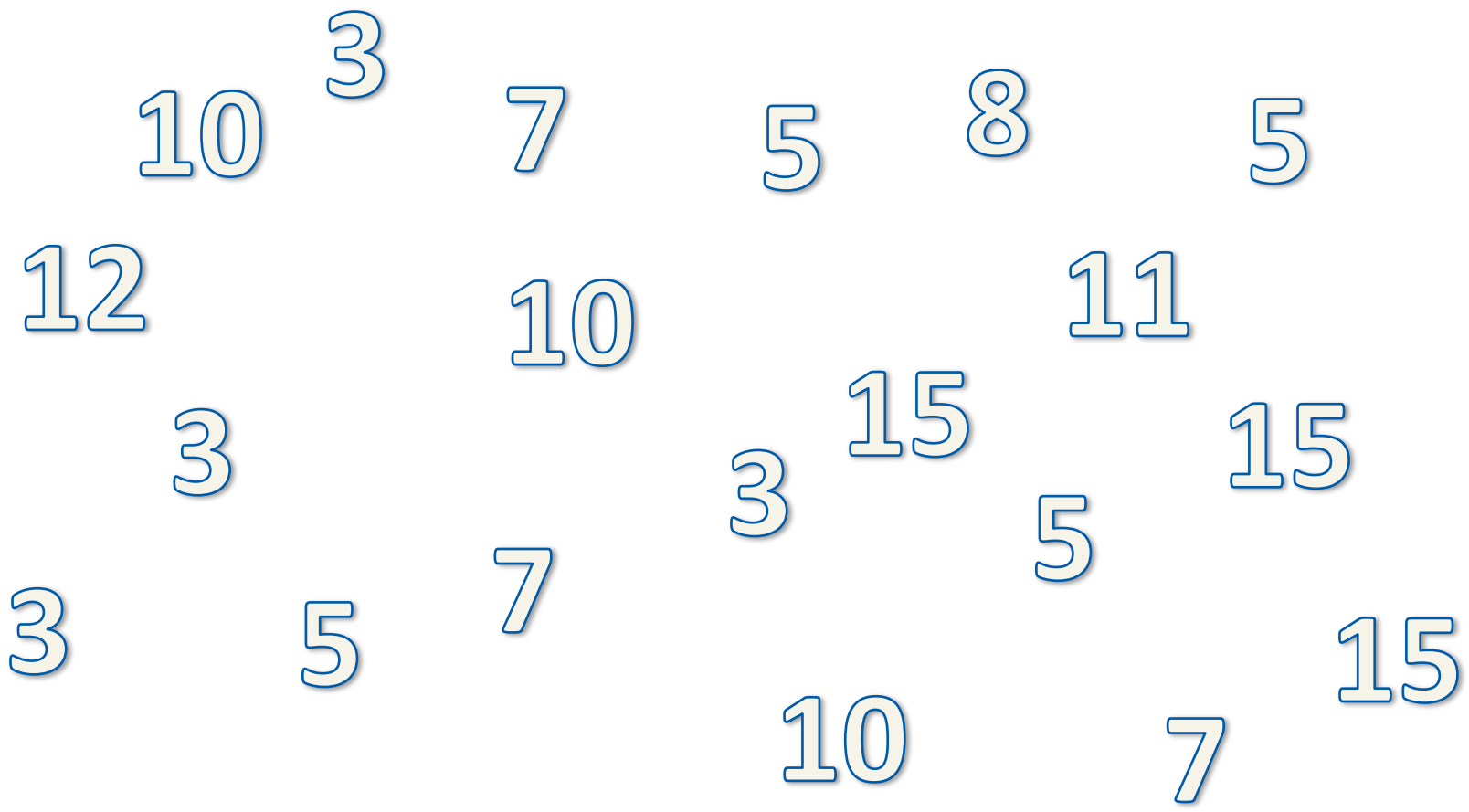
(Pubmed-http://www.ncbi.nlm.nih.gov/pubmed/)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**Medicine risks**

**Medicine benefits**

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# Medicines and aging

Changes in kidney function
Changes in liver function
Changes in muscle and body fat
Medicines stay around in the body longer

Changes in how medicines work within the body
Increased sensitivity to some medicines

Changes in vision
Changes in cognition
Changes in communication
Changes in ability to manage medicines

Increased number of medical conditions
Increased number of medicines

→ **Increased potential for harm**

# Multiple medicines

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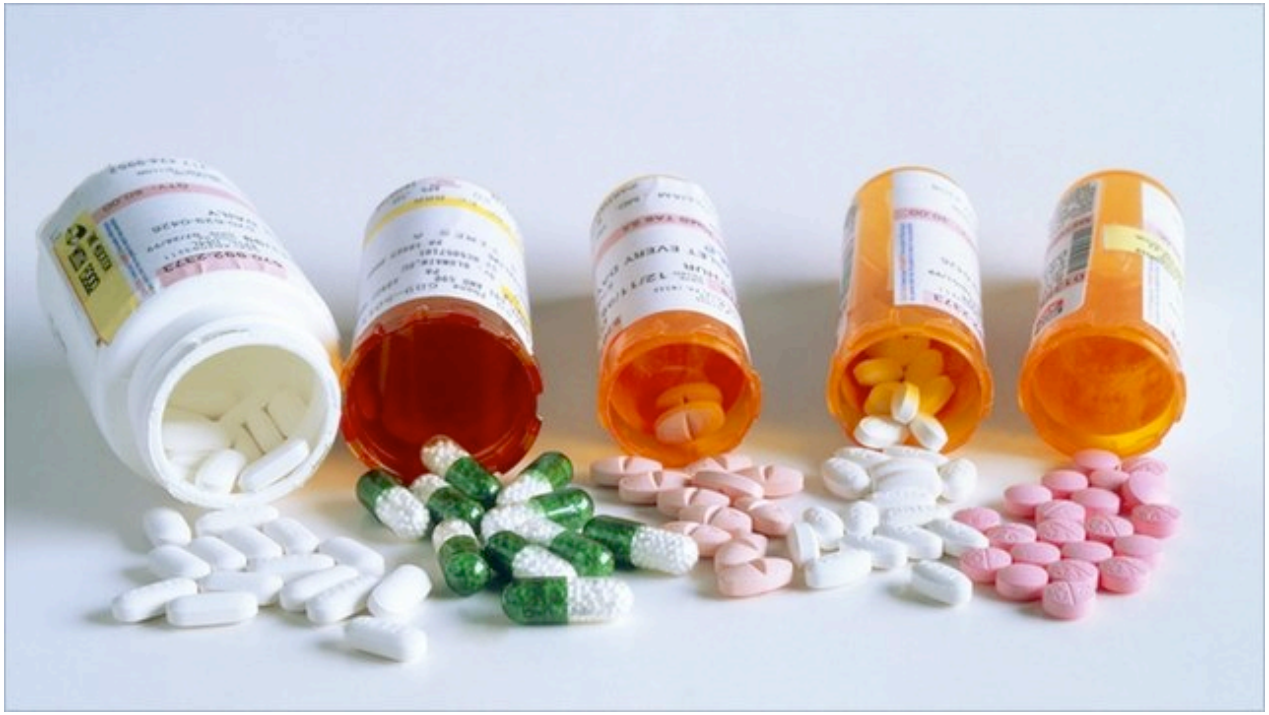
Multiple medicines increase the risks of medicine related harms



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# Medicine related risks

All medicines have risks

- -prescription medicines
- -over the counter medicines
- -herbal and complementary medicines
- -traditional medicines

# Medicine related risks

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Adverse reactions

- "Side effects"
- "Allergies"
  - Not all people using a medication will experience side efffects

Interactions

- When 2 or more medicines affect each other in the body

Lack of benefit

# Reducing medicine related risks

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**Brand name** versus **generic name**

**Brand name** belongs to the manufacturer
One medicine may have many different brand names

*Sertra, Sertracor, Setrona, Eleva, Xydep, Zoloft*

**Generic name** belongs to the active ingredient

*Sertraline*

# Reducing medicine related risks

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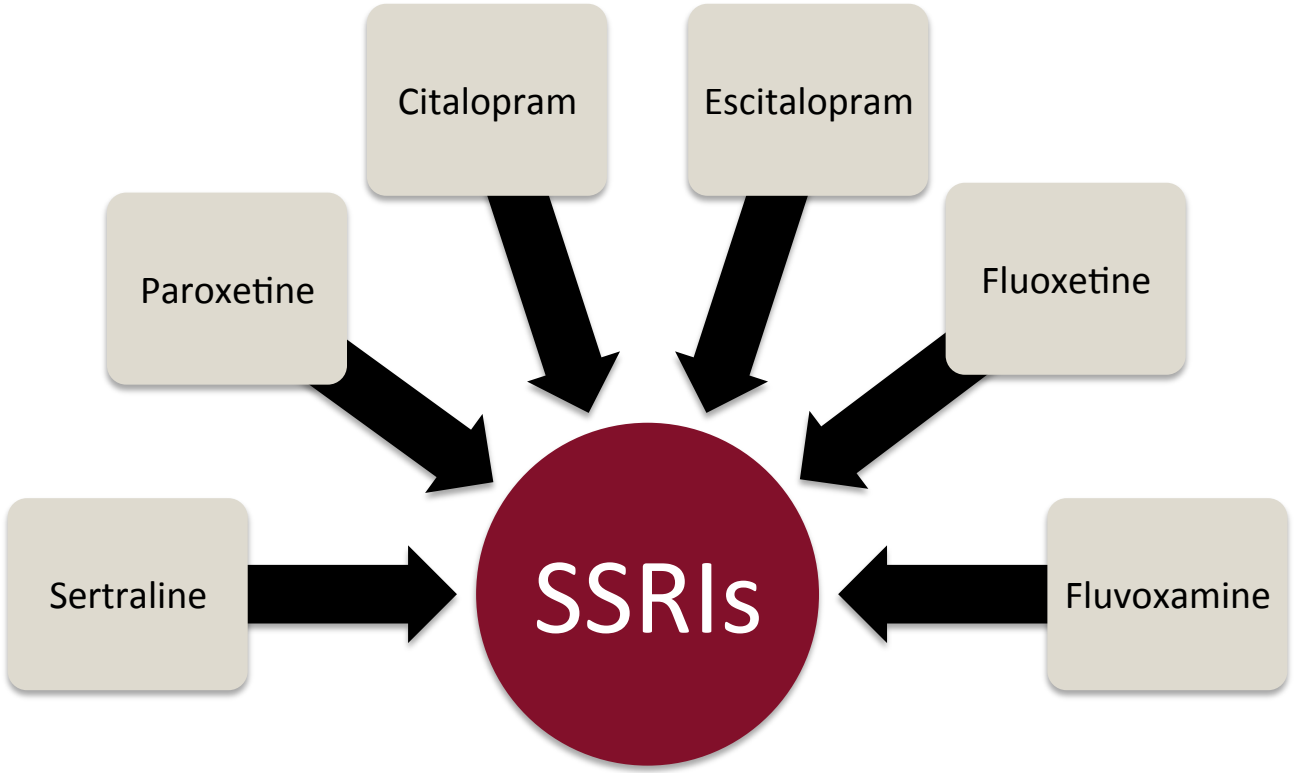
**Medicine classes**

- Each medicine belongs to a family or class
- Families and classes share actions and side effects
- Knowing which medicines relate to each other makes it easier to identify medication related problems

# Medicine classes/families



# Mental health medicines

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Often called psychotropic medicines

Used for a variety of indications

Mental health related and non-mental health related

One medicines may have multiple indications

eg some antidepressants are used for pain or for urinary incontinence

# Commonly used medicines in mental health

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Antidepressants
Antipsychotics
Lithium
Benzodiazepines
Z-drugs
Stimulants
Medicines for drug and alcohol dependence

# Common side effects

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Psychoactive medicines all act in the brain

- -drowsiness
- -confusion

Psychoactive medicines often also have anticholinergic effects

- -dry mouth
- -constipation
- -blurred vision
- -drowsiness
- -confusion

Using multiple psychoactive agents will increase the risk of these side effects

# How common are common side effects?

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Common

>1%

more than 1 in every 100 people using the medicine

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# How common are common side effects?

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Infrequent

>0.1-1%

between 1 in every 100 people using the medicine to 1 in 1000 of people using the medicine

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# How common are common side effects?

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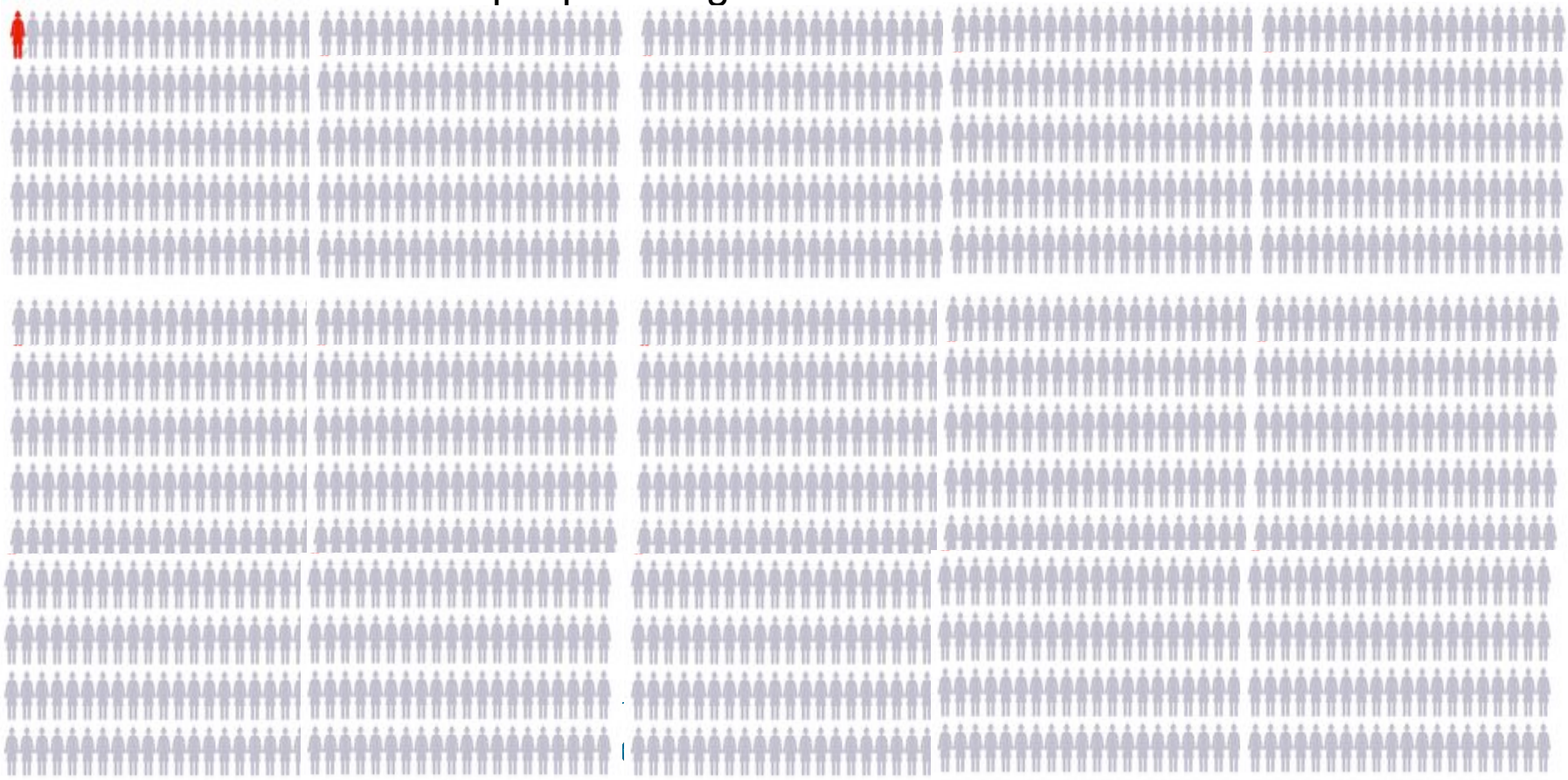
Rare

<0.1%

less than 1 in 1000 people using the medicine



# Finding information on side effects

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**Australian Medicines Handbook**

-also available via CIAP

Information on adverse effects

Information on how to use medicines in the elderly

Easy to use


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# MIMs-Amitriptyline

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**Simple Search**

Product Info | Pill ID | CMI | Drug Interactions

amitriptyline Search Advanced Search | Browse Products | Preferences

Amitriptyline hydrochloride

**Found 4 result(s) in 0.035 seconds**

**Did you mean :** Aminophylline nortriptyline

Didn't find what you want? Try Advanced Search

APO-**Amitriptyline** Tablets [Apotex] — Full PI | Abbreviated PI | CMI

**Amitriptyline** hydrochloride

Use: TCA. Major depression (50 mg tabs: maintenance treatment only); nocturnal enuresis (where organic pathology excluded)

Dose: May be taken with or without food. Depression. May incr dose gradually until satisfactory response; maintain at lowest effective dose for greater than or equal to 3 mths. Adult outpatients: initially ...

MIMS Class: Antidepressants

Drug Interactions

Chemmart **Amitriptyline** Tablets [Apotex] — Abbreviated PI

**Amitriptyline** hydrochloride

MIMS Class: Antidepressants

Drug Interactions

Endep Tablets [Alphapharm] — Full PI | Abbreviated PI | CMI | Crush?

**Amitriptyline** hydrochloride

Use: TCA. Major depression (50 mg tablets: maintenance treatment only); nocturnal enuresis (where organic pathology excluded)

Dose: Depression. Divide doses; may incr gradually until satisfactory response; maintain at lowest effective dose for greater than or equal to 3 mths; Change dose according to clinical response; Adult outpa...

MIMS Class: Antidepressants

Drug Interactions Pill Identifier

Terry White Chemists **Amitriptyline** Tablets [Apotex] — Abbreviated PI

**Amitriptyline** hydrochloride

MIMS Class: Antidepressants

Drug Interactions

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# MIMs-Amitriptyline

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**Adverse Reactions** *TGA Report Form* ***Note.*** Included are a few adverse effects which have not been reported with this specific medicine. However, pharmacological similarities among the tricyclic antidepressants require that each of the effects be considered when amitriptyline is administered.

***Cardiovascular.*** Hypotension, syncope, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke, nonspecific ECG changes and changes in atrioventricular A-V conduction.

***Central nervous system and neuromuscular.*** Confusional states, disturbed concentration, disorientation, delusions, hallucinations, excitement, anxiety, restlessness, insomnia, drowsiness, nightmares; numbness, tingling, paraesthesiae of the extremities, peripheral neuropathy, incoordination, ataxia, tremors, coma, seizures, alteration in EEG patterns, extrapyramidal symptoms including abnormal voluntary movements and tardive dyskinesia; dysarthria, tinnitus.

***Anticholinergic.*** Dry mouth, blurred vision, disturbance of accommodation, constipation, paralytic ileus, urinary retention, dilatation of urinary tract, increased intraocular pressure, hyperpyrexia.

***Allergic.*** Skin rash, urticaria, pruritus, photosensitisation, oedema of face and tongue.

***Haematological.*** Bone marrow depression including agranulocytosis, leucopenia, eosinophilia, purpura, thrombocytopenia.

***Gastrointestinal.*** Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhoea, parotid swelling, black tongue, rarely hepatitis (including altered liver function and jaundice).

***Endocrine.*** Testicular swelling and gynaecomastia in the male, breast enlargement and galactorrhoea in the female, increased or decreased libido, impotence, elevation or lowering of blood sugar levels, syndrome of inappropriate ADH (antidiuretic hormone) secretion.

***Other.*** Dizziness, weakness, fatigue, headache, weight gain or loss, oedema, increased perspiration, urinary frequency, mydriasis, drowsiness, alopecia.

***Serotonin syndrome.*** The serotonin syndrome (alterations in cognition, behaviour, autonomic nervous system function and neuromuscular activity) has been reported with amitripyline when given concomitantly with other serotonin enhancing medicines.

***Withdrawal symptoms.*** Abrupt cessation of treatment after prolonged administration may produce nausea, headache and malaise. Gradual dosage reduction has been reported to produce, within two weeks, transient symptoms including irritability, restlessness, and dream and sleep disturbance. These are not indicative of addiction. Rare instances have been reported of mania or hypomania occurring within two to seven days following cessation of chronic therapy with tricyclic antidepressants.

***In enuresis.*** The doses of Endep recommended in the treatment of enuresis are low compared with those used in the treatment of depression, even allowing for differences in age and weight. Consequently, side effects are less frequent than when the medicine is used in treating depression. The most common side effects are drowsiness and anticholinergic effects.

***Causal relationship unknown.*** A lupus-like syndrome (migratory arthritis, positive ANA and rheumatoid factor) has been reported rarely; however, a causal relationship to therapy with amitriptyline could not be established.

# AMH-Amitriptyline

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## Adverse effects

- Adverse effects from Tricyclic antidepressants

*See also Adverse effects of antidepressants*

**Common (>1%)**

sedation, dry mouth, blurred vision, mydriasis, decreased lacrimation, constipation, weight gain, orthostatic hypotension, sinus tachycardia, urinary hesitancy or retention, reduced GI motility, anticholinergic delirium (particularly in the elderly and in Parkinson's disease), impotence, loss of libido, other sexual adverse effects, tremor, dizziness, sweating, agitation, insomnia, anxiety, confusion

**Infrequent (0.1–1%)**

slowed cardiac conduction, T wave inversion or flattening (particularly at high doses), arrhythmias, sinus tachycardia, nausea, hyperglycaemia, gynaecomastia in males, breast enlargement and galactorrhoea in females, allergic skin reactions, manic episodes

**Rare (<0.1%)**

blood dyscrasias, hepatitis, paralytic ileus, hyponatraemia (as part of SIADH), seizures, prolonged QT interval, increased intraocular pressure

# MIMs-Interactions

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Interactions ***Other antidepressant drugs.*** A potentially lethal interaction can occur between monoamine oxidase inhibitors (MAOIs) and tricyclic antidepressants. It is advisable to discontinue the MAOI for at least two weeks before taking Endep (see Contraindications).

Concurrent use of fluoxetine and tricyclic antidepressants has produced increased plasma concentrations of the tricyclic antidepressants. Some clinicians recommend dosage reductions for tricyclic antidepressants of about 50% if used concurrently with fluoxetine. Any patient receiving amitriptyline and fluoxetine concurrently should be observed closely for adverse effects and consideration should be given to monitoring the plasma levels of the tricyclic antidepressant with dosage reduction where necessary.

There have been no reports of untoward events when patients receiving amitriptyline hydrochloride were changed immediately to protriptyline or vice versa.

***Guanethidine.*** Amitriptyline may block the antihypertensive action of guanethidine or similarly acting compounds.

***Anticholinergic agents/ sympathomimetic medicines.*** When amitriptyline is given with anticholinergic agents or sympathomimetic medicines, including adrenaline combined with local anaesthetics, close supervision and careful adjustment of dosage are required. Paralytic ileus may occur in patients taking tricyclic antidepressants in combination with anticholinergic type medicines.

***Anticholinergic agents/ neuroleptic medicines.*** Hyperpyrexia has been reported when tricyclic antidepressants are administered with anticholinergic agents or with neuroleptic medicines, particularly during hot weather. Concurrent use of phenothiazines and tricyclic antidepressants have the potential to elevate plasma levels of both agents. The sedative and anticholinergic effects may be prolonged and the risk of seizures and neuroleptic malignant syndrome increased.

***Medicines metabolised by cytochrome P450 2D6.*** Concomitant use of tricyclic antidepressants with medicines that can inhibit cytochrome P450 2D6 (e.g. quinidine, cimetidine) and those that are substrates for P450 2D6 (many other antidepressants, phenothiazines and the type 1C antiarrhythmics, e.g. flecainide) may require lower doses than usually prescribed for either the tricyclic antidepressant or the other medicine. Whenever one of these other medicines is withdrawn from cotherapy, an increased dose of tricyclic antidepressant may be required. While all the selective serotonin reuptake inhibitors (SSRIs), e.g. fluoxetine, sertraline and paroxetine, inhibit P450 2D6, they may vary in the extent of inhibition.

***Cimetidine.*** Cimetidine is reported to reduce hepatic metabolism of certain tricyclic antidepressants, thereby delaying elimination and increasing steady-state concentrations of these medicines.

***Central nervous system depressants.*** Amitriptyline may enhance the response to alcohol and the effects of barbiturates and other CNS depressants.

***Disulfiram.*** Delirium has been reported with concurrent administration of amitriptyline and disulfiram.

***Electroshock therapy.*** Concurrent administration of amitriptyline and electroshock therapy may increase the hazards of therapy. Such treatment should be limited to patients for whom it is essential.

***Antithyroid drugs.*** Concurrent use may increase the risk of agranulocytosis.

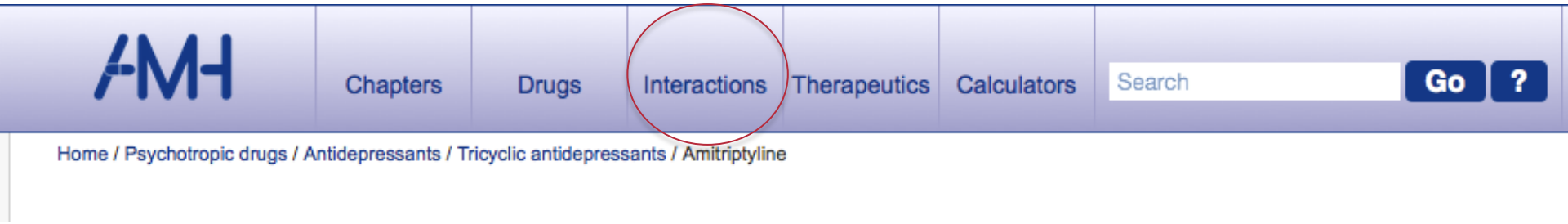
***Thyroid hormones.*** Concurrent use with tricyclic antidepressants may increase the therapeutic and toxic effects of both medications. Toxic effects include cardiac arrhythmias and CNS stimulation.

***Analgesics.*** Tricyclic antidepressants may enhance the seizure risk in patients taking tramadol.

***Selective serotonin reuptake inhibitors (SSRIs).*** The serotonin syndrome (alterations in cognition, behaviour, autonomic nervous system function and neuromuscular activity) has been reported with amitriptyline when given concomitantly with other serotonin enhancing medicines including selective serotonin reuptake inhibitors (SSRIs).

***Other medicines.*** Because tricyclic antidepressants may delay gastric emptying and decrease intestinal motility, careful dosage monitoring is essential with any medicine that may be subject to gastric inactivation (e.g. levodopa) or which may be absorbed to a greater extent because of the increased time available for absorption (i.e. anticoagulants).

# AMH-Interactions



# AMH-Interactions

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## Amitriptyline

**cinacalcet + amitriptyline**

Cinacalcet may increase amitriptyline concentration and risk of toxicity; monitor closely for amitriptyline's adverse effects and decrease its dose if necessary.

**fluconazole + amitriptyline**

Fluconazole may increase amitriptyline concentration and risk of toxicity, including prolonged QT interval; monitor closely for amitriptyline's adverse effects and decrease its dose if necessary.

**terbinafine + amitriptyline**

Terbinafine may decrease amitriptyline's metabolism, increasing the risk of adverse effects; monitor closely for amitriptyline's adverse effects and decrease its dose if necessary.

# Reducing medicine related risks

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Know the **common side effects** and **interactions**

Make life easy!

-use **generic** names

-use **medicines classes/families**

-classes often share side effects

eg SSRI antidepressants

# Side effects associated with SSRI antidepressants

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**Common (>1%)**

nausea, diarrhoea, agitation, insomnia, drowsiness, tremor, dry mouth, dizziness, headache, sweating, weakness, anxiety, weight gain or loss, sexual dysfunction, rhinitis, myalgia, rash

**Infrequent (0.1–1%)**

extrapyramidal reactions (including tardive dyskinesia and dystonia), sedation, confusion, palpitations, tachycardia, hypotension, hyponatraemia (usually occurs early in treatment, may be asymptomatic, and is part of SIADH), abnormal platelet aggregation/haemorrhagic complications (eg bruising, nose bleeds, GI, vaginal or intracerebral bleeding), mydriasis

**Rare (<0.1%)**

elevated liver enzymes, hepatitis, hepatic failure, hyperprolactinaemia, eg galactorrhoea, blood dyscrasias, seizures, akathisia, paraesthesia, taste disturbance, acute angle-closure crisis (especially with paroxetine)

# Interactions with SSRIs

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## SSRIs

These are escitalopram, citalopram, dapoxetine, fluoxetine, fluvoxamine, paroxetine and sertraline.

SSRIs can cause serotonin toxicity; administration with other drugs that may contribute to serotonin toxicity (table) may increase likelihood; avoid combinations or monitor clinical course carefully. Some combinations* are contraindicated (in particular, dapoxetine is contraindicated with any drug that may contribute to serotonin toxicity). Occasionally, the use of SSRIs with opioids that do not usually affect serotonin metabolism may result in serotonin toxicity.

They can lower the seizure threshold; administration with other drugs that can also lower the threshold may decrease it further, see Table - Drugs that may cause seizures; avoid combinations.

SSRIs can affect platelet aggregation so that combinations with other drugs* that affect the clotting process may increase the risk of bleeding (especially GI).

They may cause hyponatraemia; this risk may be increased if they are taken with other drugs* that also have this adverse effect.

# Reducing medication related risks with mental health medications among older persons

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**Know your medicines**

- Generic names
- Medicine families or classes

Know how to find **good quality medicines information**

Know your **pharmacist**

- Part of the multidisciplinary health team
- Great source of information
- Home medicines reviews
- Residential medication management review
- Dose administration aid packing


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