

Polypharmacy and Deprescribing

Too many pills pile up when each new symptom gets a new drug instead of asking if an old drug caused it. Review the full list every visit and stop what's no longer needed.

THE ONE-LINE TRUTH

Five or more medicines at once raise the risk of dangerous drug interactions, side effects, and falls—especially in older adults.

The chain — how it unfolds

1. Chronic diseases accumulate (diabetes, high blood pressure, heart failure, arthritis, depression, insomnia), and each condition is treated by a different doctor who adds a medicine without reviewing the full list. — why: Fragmented care and lack of medication reconciliation mean nobody is watching the total pill count or asking 'Does this patient still need all of these?' The list grows to five, ten, or fifteen medicines.
2. A side effect from one drug (dizziness, heartburn, constipation, insomnia) is mistaken for a new disease, so another drug is prescribed to treat it—this is called a prescribing cascade. — why: Instead of stopping or lowering the first drug, the team adds a second one. For example: blood-pressure medicine causes dizziness → dizziness is blamed on 'a spinning sensation (vertigo)' → a sedating anti-a spinning sensation pill is added → that pill causes confusion → confusion is blamed on 'dementia' → a memory drug is added. The cascade keeps going.
3. The liver (which breaks down drugs using enzymes like CYP3A4 and CYP2D6) and kidneys (which filter waste) become overloaded, especially in older adults whose organs work more slowly. — why: Too many drugs flood the system at once. The liver can't break them down fast enough, and the kidneys can't clear the leftovers, so drug levels climb above the safe range even at normal doses—causing toxicity (confusion, falls, low blood sugar, bleeding).
4. Drug-drug interactions kick in: one medicine blocks the breakdown of another (levels spike and cause toxicity), or one speeds up the breakdown of another (levels drop and the drug stops working). — why: For example, an antibiotic or antifungal can block the enzyme that breaks down a blood thinner, so bleeding risk jumps; or a seizure medicine can speed up breakdown of birth control, so it fails. With ten drugs, dozens of possible interactions exist, and most go unnoticed until a serious side effect appears.

5. The patient becomes confused by the complicated schedule (ten pills, three times a day, some with food, some without), forgets doses, takes double doses by accident, or skips medicines to save money. — why: Non-adherence and medication errors create wild swings: blood sugar crashes (too much diabetes medicine), blood pressure spikes (missed dose), or sedation deepens (double dose of sleeping pill). Each swing can trigger a fall, seizure, stroke, or trip to the emergency room.
6. Side effects pile up and feed off each other: sedation from sleeping pills and pain pills slows thinking and weakens muscles, blood-pressure pills cause dizziness when standing, and diuretics ('water pills') cause dehydration and electrolyte imbalance. — why: The brain gets fogged by sedatives and anticholinergic drugs (which block acetylcholine, a brain messenger needed for memory and attention). Muscles weaken from low potassium or magnesium (flushed out by diuretics). Balance fails because inner-ear and brain signals are dampened. All of this raises fall risk.
7. A fall happens—often with a hip fracture, head bleed, or serious bruising—and the patient is hospitalized. In the hospital, delirium (sudden severe confusion) sets in, triggered by the drug overload, pain, infection, and strange environment. — why: The fall is the visible crisis, but the root cause is polypharmacy. Hospitalization adds more stress: new drugs (antibiotics, pain medicine, sedatives) are piled on, worsening confusion and making it even harder to sort out which pills are helping and which are harming.
8. Without deprescribing (carefully stopping unneeded or harmful drugs), the cycle repeats: more symptoms, more pills, more side effects, more falls, more hospitalizations, loss of independence, and higher risk of death. — why: Breaking the cycle requires a methodical medication review at every visit—asking 'Is this drug still needed? Is the benefit greater than the risk? Can we stop it slowly and safely?' Deprescribing, done with the patient's input and close monitoring, reduces pill burden, clears confusion, prevents falls, and improves quality of life.

Spot it — what you see, and why

- Taking five or more medicines at the same time (prescription, over-the-counter, or supplements): Each medicine adds to the load on the liver and kidneys (the body's filtering stations), raises the chance that medicines will bump into each other and change how they work, and makes it harder for the person to remember what to take and when.
- Confusion, dizziness, or falls that started after a new medicine was added: Many medicines (especially sedatives, blood pressure pills, and pain medicines) slow brain signals or drop blood pressure too low, making the person woozy or unsteady on their feet.
- Trouble keeping track of doses, missing doses, or taking the wrong pill: When someone has many bottles and a complicated schedule, it is easy to lose track, skip a dose, or double up by mistake—especially if memory or vision is slipping.

- New or worsening symptoms that look like a disease but are actually a side effect (for example, shaking, slow movement, or trouble peeing): Some medicines block dopamine (a brain messenger that controls smooth movement) or anticholinergic receptors (switches that control the bladder and gut), causing symptoms that can be mistaken for Parkinson disease or an infection.
- Feeling tired, weak, or foggy-headed all the time: Sedating medicines (like antihistamines, benzodiazepines, or opioids) dampen signals in the brainstem and cerebral cortex (the parts that keep you alert and thinking clearly), leaving the person sluggish and cloudy.
- Stomach upset, nausea, or bleeding in the gut: Medicines like NSAIDs (ibuprofen, naproxen) block prostaglandins (chemicals that protect the stomach lining), so acid can eat through and cause sores or bleeding.

Red flags — act now

- New confusion, severe dizziness, or a fall—especially after starting or changing a medicine
- Black or bloody stools, vomiting blood, or severe belly pain (signs of stomach bleeding)
- Very slow heart rate, chest pain, trouble breathing, or fainting (possible toxic levels or dangerous interaction)
- Sudden shaking, stiff muscles, or trouble moving (may be medicine-induced parkinsonism or serotonin syndrome)
- Cannot pee, severe constipation, or blurry vision with a racing heart (anticholinergic overload)

Treat it — in this order

1. Medication reconciliation: collect ALL medicines (prescription, over-the-counter, supplements, herbal products) from the patient, family, and pharmacy records, then compare them to the medical chart → You find out what the patient is actually taking and catch duplicates (two medicines in the same class), dangerous interactions (warfarin plus aspirin plus ibuprofen), and medicines that work against each other. This stops the hidden pile-up before it causes more harm.
2. Apply the Beers Criteria (AGS) or STOPP/START tool to flag high-risk medicines based on the patient's age, kidney function (eGFR), liver function, and other conditions → You identify which medicines are dangerous for THIS person right now — anticholinergics (block acetylcholine and fog the brain), benzodiazepines (slow breathing and cause falls), NSAIDs in kidney disease (damage kidneys further), long-acting sulfonylureas in older adults (cause dangerous low blood sugar). Mark these for stopping or switching.

3. For each medicine, ask and write down: (1) Is this still needed for a current condition? (2) Is it working — are symptoms better? (3) Is it safe in this person's kidneys, liver, and age? (4) Does keeping it match what the patient wants for their life? → You replace automatic refill habits with careful thinking. Medicines that fail any of these four tests get stopped or swapped for safer ones. This cuts down the total number and removes the ones doing more harm than good.
4. Slowly taper and stop high-risk deprescribable medicines (benzodiazepines, proton pump inhibitors, beta-blockers, SSRIs, opioids, anticholinergics) using published tapering schedules, not cold-turkey → Gradual tapering prevents dangerous rebound effects like seizures (from stopping benzodiazepines suddenly), rebound high blood pressure (from stopping beta-blockers suddenly), or rebound acid (from stopping PPIs suddenly). It gives the brain and body time to re-balance themselves.
5. Simplify the schedule: switch to once-daily dosing when safe (example: long-acting metoprolol instead of short-acting three times a day), use a pill organizer or blister pack, print a one-page chart of what to take when → A simpler routine cuts forgetting, accidental double-doses, and confusion. Adherence goes up — people take the medicines they truly need — and falls and side effects go down.

Your top priorities at the bedside

1. Create a complete medication list by checking pill bottles, pharmacy records, and asking family members what the patient actually takes at home. — why: The home medicine routine often differs from the medical chart because patients stop drugs without telling anyone, take medicines prescribed by multiple doctors who do not communicate, or add over-the-counter products; accurate reconciliation prevents duplicate therapy and dangerous drug interactions.
2. Check kidney function with serum creatinine (a blood test measuring waste that kidneys remove) and calculate estimated glomerular filtration rate before every deprescribing decision. — why: Kidneys clear most medicines from the body; when kidney function drops, drugs accumulate to toxic levels even at normal doses, so doses must be lowered or the drug stopped entirely to prevent poisoning.
3. Screen every medicine against the Beers Criteria list to identify high-risk drugs that cause falls, confusion, or bleeding in older adults. — why: The Beers Criteria names specific medicines that are dangerous for people over 65 because aging changes how the body processes drugs; these medicines often cause more harm than benefit and should be stopped first.