

## Drugs to Use with Caution in the Golden Years

By Christina Johnson | January 09, 2015

**A**s we age, drugs affect our bodies differently. Some medications may become more potent, others less so. Yet others can be risky at doses that would have been safe in earlier decades.

One reason for these age-related changes: our metabolism slows. As a result, the liver and kidneys may take longer to clear some drugs from our system, or to break down [prodrugs](#) into their active, therapeutic forms.

We also, in general, lose muscle mass with age, and this (because muscle holds relatively more water than fat) alters the residence times of both fat- and water-soluble drugs in the body, as well as their distributions. Fat-soluble drugs tend to reside in the body for a longer period of time, while water-soluble drugs are flushed out faster.



Perhaps the biggest complexity in deciding whether a drug is safe occurs when a person is taking several medications at once. This challenge is relevant to people of all ages, but it is especially germane to senior health as older adults are more likely to be coping with multiple chronic conditions.

To help improve the care and well-being of older adults, the [American Geriatrics Society](#) and a panel of medical experts in 2012 published a list of medications that people 65 and older should avoid or use with caution or that could exacerbate some diseases or conditions. The list, known as the [Beers Criteria](#) (named after a famous geriatrician [Mark H. Beers](#)), is long and somewhat daunting. It's really designed to be a clinical tool for medical professionals.

There are, however, a relatively small number of drugs associated with a high proportion of avoidable side-effects, said Jonathan H. Watanabe, PharmD, PhD, assistant professor of clinical pharmacy, Skaggs School of Pharmacy and Pharmaceutical Sciences. By becoming aware of these high-risk drugs and the Beers Criteria more broadly, seniors can protect and perhaps improve their health and quality of life for years to come.

Here are some of the top drugs to use with caution if you're age 65 or older:

**Warfarin** [↗](#), also called Coumadin and Jantoven, is an anticoagulant or blood thinner prescribed to prevent the formation of stroke- and heart-attack-inducing blood clots. The drug has a very narrow therapeutic range, meaning that slightly higher than ideal amounts in the bloodstream can lead to a dangerous over-thinning of the blood.

"Warfarin can cause bleeding in people of any age, but is especially risky for seniors," said Watanabe, who specializes in geriatric pharmacy. "Seniors are often more frail and have a higher risk of falling and bleeding already. Patients on warfarin should double-check that their health care provider is monitoring the level of anticoagulation in the blood stream, to ensure they are in the appropriate range."

Adding to the drug's complications, a person's specific genetic makeup can have a huge impact on the enzymes that are available to metabolize and activate the drug. Because of this, the same dose of warfarin can have vastly different effects on individuals, at any age. Warfarin also interacts with other medications, such as aspirin and Plavix, as well as supplements and foods such as ginseng, ginkgo, fish oil, and dark leafy greens rich in vitamin K.

**Insulin** [↗](#), the hormone produced by special cells in the pancreas, regulates the body's blood sugar levels. It is a large, complex protein and may, like other drugs, be metabolized at highly variable rates among seniors.

"Older people need to be more careful about monitoring their blood sugar levels," Watanabe said. "It is easier for older people to become hypoglycemic and faint or fall, especially when standing up or rising from bed. Older adults are also sometimes less attuned to many of the classic symptoms of hypoglycemia, such as sweating, shaking or heart pounding."

Watanabe suggests that seniors avoid rapid-acting insulin and that they consider decreasing the complexity of their medication regimen by choosing an insulin medication that can be taken once a day.

**Oral antiplatelet agents** [↗](#), such as clopidogrel (Plavix), treat and prevent heart attacks and stroke. Similar to warfarin, patients, particularly those 75 and older, should be closely monitored for bleeding risk if they are taking any oral antiplatelet, including aspirin. Clopidogrel, in particular, must be metabolized by enzymes in the liver before it is therapeutically active. If these enzymes are less active or "busy" metabolizing other drugs, the effective dose is less, he explained. As with warfarin, a person's genetics can greatly influence the drug's efficacy and safety. In addition, some medications may decrease the function of the enzymes needed to activate clopidogrel.

**Non-steroidal anti-inflammatory drugs** [↗](#) (NSAIDs) include common over-the-counter painkillers, such as ibuprofen (Advil, Motrin), naproxen (Aleve, Naprosyn) and aspirin, plus prescription brands such as celecoxib (Celebrex) and **fenoprefen** [↗](#) (Nalfon). NSAIDs can cause

ulcers or holes in the gastrointestinal tract and these problems can develop without warning and at any time during treatment.

“Older adults are at greater risk of bleeding because the integrity of the stomach linings is not as substantial,” Watanabe said.

A study published in the American Journal of Medicine and further detailed in the New England Journal of Medicine in the late 1990s estimated that NSAIDs were associated with more than 16,000 deaths annually in the U.S.

**Benzodiazepines** [↗](#) are used to treat insomnia or anxiety. Some common brands include temazepam (Restoril), diazepam (Valium) and lorazepam (Ativan). Older adults often have increased sensitivity to these drugs and decreased metabolism of long-acting agents.

“It is harder to predict how long these drugs will work in the elderly,” Watanabe said. These drugs also increase hip fractures due to falls and motor vehicle accidents.

Watanabe recommends a “less is more approach” for all medications. Review all the drugs you are taking with your entire medical team, he said, and ask whether it is advisable or possible to decrease the complexity of your medication regimen.

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