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Making Bathrooms Safer for Seniors

Architect sounds alarm about 'killer bathrooms' and offers solutions

BY FRED A. BERNSTEIN

If Americans fell less, they would live longer. In fact, falls are the leading cause of injury-related death among adults aged 65 and older.

And many of those falls occur at home.

Toronto-based architect and author Lloyd Alter has been sounding the alarm for years about the part of the house he calls the "killer bathroom."

A longtime writer on green architecture, Alter believes that the most sustainable building is the one that remains useful the longest.

But when it comes to houses, few are designed to serve their occupants safely into their 70s, 80s and beyond.

"Unlike deaths from guns and cars, we don't talk about deaths from falls as something we can fix," he says. "We apparently accept them as a function of aging, when they're really about bad design."

We spoke with Alter about the dangerous aspects of bathroom design, and what can be done about them.

Dangers of slipping

WSJ: What do you have against the bathroom?

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LLOYD ALTER: It's wet, it's slippery, it requires us to contort ourselves, and it's filled with germs.

The fixtures themselves seem ready to maim or kill.

WSJ: Are there trends that are making things worse?

ALTER: Freestanding bathtubs look good in magazines, and they may be safe for people during their peak years of agility and fitness. But they're impossible for older people to get in and out of. The tub edge should be wide enough to sit on and swing a leg over. But these tubs have super-thin edges, for effect. And the bottoms are often rounded, increasing your chances of slipping as you get in or out. And since there are no walls nearby, there are no grab bars to help you.

If you have one of these tubs, it is probably a good idea to reinforce your ceiling, because at some point, you might need a winch and a bosun's chair to get in and out of it.

WSJ: But most bathrooms don't have free-standing tubs. Are ordinary tubs much safer?

ALTER: Yes, but of course most of those tubs double as showers. Who ever thought it was a good idea to combine a tub's curved bottom with a shower's soap and water? When getting out of this kind of shower, one foot rests on a slippery surface, while the other foot lifts high over the side of the tub and down onto what is often another slippery surface. Neither foot is stable.

WSJ: What's the solution?

ALTER: Everyone should have a stall shower, separate from the tub. If you don't have the room, then perhaps you should just have a shower without the tub. But don't put the controls under the water source. Sixty years ago, architecture professor Alexander Kira noted that "any number of serious accidents have occurred

Free-standing bathtubs, left, look pretty but can be dangerous.

Grab bars in bathrooms save lives.

either through scalding or through the violent evasive movements made by the bather's trying to reach and adjust the controls while avoiding the stream." That's still the case. And, of course, every shower needs to have grab bars.

WSJ: Yes, grab bars. It's hard to think of anything that could prevent so many injuries and deaths at such low cost.

ALTER: There are many more deaths from falls than from fires, but smoke detectors are required everywhere.

WSJ: And what about floors?

ALTER: The likelihood of accidents depends on the floor's "coefficient of friction," a measure of slipperiness. That's why scientists in Arizona are strapping volunteers into harnesses and lowering them onto wet floors: to find what kinds of surfaces are safest. But you don't have to compute the coefficient to know that matte tiles are better than shiny ones, and small tiles are better than the big ones because the grout lines provide friction.

The perilous commode

WSJ: I have to turn to a more delicate topic. The toilet may be the greatest invention since the wheel. Surely it isn't dangerous.

ALTER: Many bathroom injuries involve the toilet. Getting to, from, on and off the toilet are all opportunities for falls. Some are caused by "orthostatic hypotension"—a drop in blood pressure that can happen when you stand up quickly. Straining to pee or poop can also cause vasovagal syncope, which, to quote the Mayo Clinic, "causes your heart rate and blood pressure to drop suddenly. That leads to reduced blood flow to your brain, causing you to briefly lose consciousness." Loss of consciousness means falls.

WSJ: But that's not the toilet's fault.

ALTER: In a way, it is. Anatomically, we're built to squat. When you're sitting up or standing, it makes you strain, and the higher you sit, the worse it is. Even regular- height toilets are too high. But these days, builders and renovators often choose taller, "comfort height" toilets, usually with good intentions, like accommodating the disabled.

WSJ: But lower toilets are harder, and therefore more treacherous, to get on and off of. So what's the solution?

ALTER: I met a Russian engineer who designed a toilet for his aging aunt that starts high (21 inches) and then lowers itself, hydraulically, to a better position (10 inches). It is a work of engineering genius, but it's expensive to build one and it seems not to have gone into production.

WSJ: What should you do if you're not the aunt of a brilliant engineer?

ALTER: The ideal is a lower toilet, which better suits our anatomy, with grab bars that make it safer to get on and off. Almost nobody has grab bars around their toilet, but they should. Grab bars don't have to be ugly and institutional looking. Aesthetically, of course, they are least intrusive when the toilet is in a separate room. And that's how it should be anyway, because that's where the unhealthy germs are.

WSJ: Do you think the bathrooms of the future will make safety a high priority?

ALTER: When magazines show bathrooms of the future, they are usually just bathrooms of the present, with more gizmos and connectivity. Imagine a futuristic bathroom with a killer bathtub at the top of two slick steps, a shower with no grab bars, a computer screen in place of a mirror, and a toilet you'd fall off if you tried to reach the toilet paper. We have to stop adding digital bells and whistles and instead design fixtures that people—especially older people— can use safely.

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