

You Can Save the Life of a Child

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Published [September 2009](#)

As the parent of a three-year-old, I worry endlessly about how to protect her from everything — from ill-intentioned strangers to random bullets and stray dogs — but as an inspector, I can't overlook one of the biggest threats to a child's safety and well-being: her own home.

Experts say that children ages 1 to 4 are more likely to be injured by falls, burns, drowning, choking, cuts or poisoning than by a stranger. As former Surgeon General C. Everett Koop said, "If a disease were killing our children in the proportion that accidents are, people would demand that this killer be stopped."

Now that I am a parent, I find I am more alert to home safety issues for children than I was during my early years of inspecting. As I consult with clients, I ask about the ages of children who may live in or visit the home. While many of my clients don't have children, some may plan to have children or may have friends with children who visit their home. I am careful in how I ask this question because it is a personal issue for many people. Ultimately, my goal is to help clients understand that dangers to children should be considered in the overall safety aspects of the home.

This article outlines some major areas of the inspection that I consider danger zones for children. It is not meant to be exhaustive of all home safety issues or every nuance of the code. There are more hazards in a home than those mentioned here. A discussion of environmental hazards alone would require a separate, lengthy article. The intent is to help you rethink your approach to report writing when it comes to the safety of little ones.

Exterior Railings

I always inspect deck, balcony and porch baluster spacing. The code requires that balusters be spaced with gaps less than 4" to prevent fall-through or entrapment of a small child (IRC R312.2). I also recommend that open risers in deck stairs be closed to within 4-3/8" for the same reason.

I find that most decks have stairs that are not compliant with this code (IRC R311.5.3.3). Further, while not all standards require it, I report on the condition of guard railings for retaining walls over 30" high whether they're attached to the home or not. I always recommend adding properly constructed protective railings to retaining walls where missing. Stairs and retaining walls are particularly inviting for children looking for a place to play.

Garage door opening automatic reverse feature

Garage doors are typically among the heaviest moving objects in the home and are held under high tension. One of the most common defects I identify in my reports is with the safety features of garage door openers. Typical photoelectric sensors are often installed too high above the slab. Accepted standards require that these sensors are installed 4"–6" above the slab. They are installed to protect children, not mom's new minivan.

In homes built before 1992 with automatic pressure reverse features, testing should be done with care so as to not damage the door or otherwise documented in the report about the limitations of the evaluation. The wall-mounted switch must be present and positioned as high as is practical above the standing surface (at least five feet as measured from the bottom of the switch) so that children do not gain access. Refer to UL 325 (garage door safety standards) or manufacturer's printed instructions where available.

Smoke alarms

Current standards require interconnected and hard-wired smoke detectors on every level of the house, in hallways in the vicinity of sleeping rooms and inside the sleeping rooms (R313.2 and R313.3). Because smoke alarms provide such an important safety function, I recommend this standard for older homes as an update even though not required by most standards.

A working smoke detector cuts the chances of dying in a fire in half, according to the National Fire Protection Association. The NFPA further recommends replacing smoke detectors every 10 years. If a child is going to be living in the home, I also encourage you to talk to your client about a family fire escape plan.

Carbon monoxide detectors

Because CO kills hundreds of people each year and injures thousands, the International Association of Fire Chiefs recommends a carbon monoxide detector on every floor of a home, including the basement. A detector should be located within 10 feet of each bedroom door and there should be one near or over any attached garage, but not in the garage. Each detector should be replaced every five to six years. The importance of smoke alarms and CO detectors cannot be overstated to your clients.

Emergency egress

Smoke alarms can't save a child who cannot escape the home. As inspectors, we probably have worn out our computer keyboards writing comments in our reports about inoperable windows, sticking windows or even worse — windows bolted closed. But, we know it's important to help our clients understand the dangers created when windows don't open or don't open easily. When there's a fire, people panic and egress needs to be simple and without any special effort. Far too many existing homes have inoperable windows, which suggests homeowners don't consider this a danger. Certainly, minimum window sizing for bedrooms and basements should be evaluated for egress of occupants

or ingress of emergency personnel.

In most cases, emergency escape and rescue openings shall have a minimum net clear opening of 5.7 square feet. I also take the time to consult with my clients about the need for rope ladders for children who might get trapped in second- and third-story bedrooms.

But what about interior doors? When I first became an inspector, I considered problematic interior doors only an incidental inspection defect. After getting trapped in bedrooms a couple times during inspections, it dawned on me that an interior door that sticks or has a defective handle set could also trap a child during a fire. I now consider improperly functioning interior doors a significant safety hazard when writing my reports. Obviously, my sentiment is the same for exterior doors.

Safety glass

The detection of safety glass is often difficult for some older homes. Sometimes, I have paid less attention to recommending updating safety glass for older homes. Recently, I attended the party of a good friend who lives in a 1940s bungalow in Decatur, Ga. She recently had the glass in the back exterior door replaced because her six-year-old slammed the door and the glass shattered everywhere. Fortunately, no one was hurt, but it could have been devastating if the scenario had been only slightly different.

This was a wake-up call for me to change how I evaluate and comment on the presence or absence of safety glass in older homes. Not only do I use the standards for new construction for safety glass, but sometimes I recommend that clients consider upgrading some components that are sometimes excepted from the code.

Window glass within 24" horizontally of an exterior door, windows above bathtubs, windows adjacent to stairways and landings, and glass or mirrors used in hinged and sliding doors, with few exceptions, should make use of tempering or equivalent safety coating. Refer to IRC Section 308 for more detailed information and requirements.

Stairs and railings

Stairs are one of the most dangerous places in a home for anyone. In 2002, more than 2.3 million children ages 14 and younger were treated in emergency rooms for fall-related injuries. More than half of those were children under the age of five.

As I have become a more experienced inspector and parent, I now document all stair and railing deficiencies throughout a home. I use the standards for new construction for all homes for any stairs that are present, including basement and exterior stairs.

The most common deficiencies I see are open risers, improperly spaced balusters, and missing or improperly installed handrails. To review, generally stairs should have riser openings closed to within 4 3/8"; balusters should have gaps spaced less than 4"; and handrails should have a proper profile, be continuous and have returns. Refer to IRC Section 311.5 and related subsections for details and applicable exceptions.

GFCIs, AFCIs and tamper-resistant receptacles

The debate among inspectors about recommending electrical updates will never end. Some of us don't recommend retrofitting older homes with GFCIs and some of us will recommend them. Some experts contend that over two-thirds of residential electrocutions could be prevented if all U.S. homes were retrofitted with GFCIs.

I have always used the most current electrical safety standards when it comes to the GFCI for older homes. I consider it to be a rather easy upgrade and most real estate agents have come to expect GFCI issues with real estate inspections.

Just a few years ago, the AFCI hit the market for new construction. The debate started again. Do we recommend this upgrade for older homes or do we only consider it applicable to homes built since 2004? My inspection philosophy on these issues is pretty much black and white. If there is technology on the market that will make a home's electrical system safer, I am going to recommend my client consider it as an upgrade. Occasionally, agents get a little anxious about what's an "upgrade" versus what's "grandfathered," but I have found ways to craft my wording so as to not upset agents, yet fairly and objectively communicate to my clients how they can adopt upgrades to make their homes safer.

For the past year, I have applied current standards for all homes in my reporting for GFCIs, AFCIs, and tamper-resistant receptacles.

To review the most common applications of GFCI technology, all kitchen countertop, bathroom, unfinished basement, exterior, garage, carport, Jacuzzi and pool/hot tub receptacles should be GFCI-protected.

Beginning January 2008, only "combination type" AFCIs meet the NEC requirement. The 2008 NEC requires installation of combination-type AFCIs in all 15- and 20-amp residential circuits with the exception of laundries, kitchens, bathrooms, garages and unfinished basements. These requirements vary by state and jurisdiction.

Pools and spas

About 300 children under the age of five drown each year in U.S. swimming pools, as reported by the Mayo Clinic. Nearly 70 percent of the children were not expected to be near the pool when they were found in the water. Pools should be completely surrounded by fencing material at least 4 feet tall. A slatted fence should have no gaps wider than 4 inches so kids can't squeeze through. The gap at the bottom of the fence should be less than 2" unless over concrete, where it should be less than 4".

Gates should be self-closing and self-latching. The latch should be out of a child's reach. Also, I usually recommend installing alarms.

If the house serves as one of the walls of the pool enclosure, any door leading to the pool area should be protected with an alarm. In addition, I recommend consideration of an underwater pool alarm that sounds when something hits the water and is audible inside the home. Pool covers may be permitted by some jurisdictions, but they don't provide the passive protection that other features provide.

Anti-scald devices and hot water temperature

According to kidshealth.org, scalds are the number one cause of burning for small children. Since every fixture in a home's plumbing system doesn't necessarily have an anti-scald control valve, one of the simplest scald-prevention measures a homeowner can take is to lower the water heater thermostat to 120 degrees. I report on the hot water temperature in all the homes I inspect.

Anti-tip bracket

Attorney Dan Sciano of San Antonio, Texas, has worked on more than 100 lawsuits involving stove tip-overs; he maintains that brackets are often installed incorrectly or not at all. One major oven manufacturer estimated that less than five percent of their customers had safety brackets installed. As inspectors, we see this almost every day. I encourage you to look at the wording in your reports to make sure that your clients understand the danger that this simple bracket can prevent.

Children are curious by nature; they will explore and plunder at any given opportunity. Parents want to ensure that there are no hidden dangers in their homes. As inspectors, we should and can make it part of our mission to educate parents about particular dangers to children. We should look at each room from a child's eye level.

The National Safe Kids Campaign reports that more than 2,400 children died in home-related injuries in 1997. About 2 million children are hurt in home-related injuries each year. Many of these accidents can be easily prevented, and that's where we can help. As committed professionals, we can advocate for safer homes for the little ones in our world.

An earlier version of this article was published by the ASHI Georgia Chapter, which granted permission to reprint it.