



## Deck collapses more common than people think

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**BRIDGEPORT** ---- On Sept. 26, 2004, a Jack and Jill bridal shower was taking place on a second-floor deck of a home on Gillette Street in Milford. It was a perfect day, warm with a few puffy clouds relaxing in a lapis lazuli sky.

At 2:30 p.m., not long after the party began, the deck, with about nine people on it, pulled off the rear of the house and collapsed like a house of cards, almost without warning. Eight people, including the future bride, were carted off to New Haven hospitals for broken bones, lacerations and other injuries.

Although this sounds like an isolated event, it's not.

Since the Milford collapse, 17 others were injured in four deck collapses in Connecticut alone. In the last 15 years in the United States, there have been more than 1,000 reported injuries and more than 20 deaths as a result of decks collapsing. Thirteen died in the Chicago porch collapse in 2003.

The problem is seen not only at single-family homes. One of these deaths occurred on July 4 when a second-floor deck gave way at a Hoover, Ala., condo complex. Last week, a second deck collapsed at the very same complex, injuring four.

And just this summer, there were more than 10 reported deck collapses nationwide, resulting in one death and nearly 100 injuries.

Experts say that many more deck collapses are likely to occur. Millions of these structures were erected in the 1980s and 1990s, and now they're beyond the point where they should be considered safe.

### Questionable skills

"There's always been a problem with decks, and it's not just an age issue," said [Jim DeStefano](#) of the Fairfield structural engineering firm [DeStefano & Chamberlain Inc.](#) "Wood decks have always had dramatically higher failure and collapse rates than any other wood structure."

He said that many were built by the homeowners and others with questionable carpentry skills.

"Decks are challenging to build for a number of reasons," DeStefano said. "There's very little of what engineers call redundancy."

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When something gives way on a deck, there's nothing there to save you."

As was the case on Gillette Street in Milford, most decks fail because they pull away from the house.

"Often, they're just lightly nailed through the siding into something or into nothing, and after a few years the nails get tired, and when they give out, they give way suddenly."

The attachment of the board that links the house to the deck, called the ledger board, is critical to its safety.

Experts say that it wasn't until 2003 and later that nailed-on ledger boards were prohibited by the model residential building code.

Add to that, decks are often asked to carry a heavy load. It's not unusual for a deck over the Labor Day weekend to be crowded with 10, 20 or even 30 people, in addition to outdoor furniture, a barbecue grill, potted trees and the like.

"All these factors tend to converge on decks ---- shoddy construction, weathering and heavy loads," DeStefano said.

A deck ledger board that's only nailed in place is never safe, according to [Frank Woeste](#), professor emeritus of [Virginia Polytechnic Institute and State University](#), who has written the book on deck safety, "Manual for the [Inspection of Residential Wood Decks](#) and Balconies."

Woeste said that many how-to books show siding between the ledger board and the "band joist" of the house. This condition is a visual warning for a homeowner that the deck-ledger-to-house connection may be woefully inadequate, he says.

"The most robust design is a self-supporting deck," Woeste said.

"A self-supporting deck has posts and support beams next to the house just like on the other side of the deck, and the deck should be tied to the house for lateral support as well."

Many decks lack permits

There's another reason why decks fail ---- many are constructed without a building permit, and even those that are often remain standing long after they're unsafe.

Brian Donovan, the Stratford building official, said that he frequently comes across decks built without a permit.

"Some of these are built absolutely perfectly, but others, you look at them from the street, and you say to yourself, 'Oh my God.' "

But municipal officials can only do so much to protect citizens from unsafe decks.

"I don't know if there's an effective way to police that," DeStefano said. "A city official can't come onto your property and tell you that's it's old and tired and you have to tear it down," he said.

"Deck safety is an issue," said [Val Ericson](#) of the [DeSalvo-Ericson Group](#) in Ridgefield. "The real problem is that it's a very heavily loaded area of the house. And it's construction issues, too ---- the connection to the house is critical.

"In the 1980s, a lot of things were added, and many weren't built professionally, and without building permits."

Ericson notes that even pressure-treated lumber "has a defined lifespan." And fasteners often corrode, particularly those that affix the ledger board to the home.

"People don't have this on their radar screens," said [Meredith K. Appy](#), president of the [Home Safety Council](#).

"There are 40 million decks in the U.S., and about half of them are in danger of collapse."

And it's not just the deck that can kill you. Guard rails, according to Woeste, often fail, "and when they do, the injuries are often quite severe and can be fatal."

So if you're at you're cousin's Labor Day party, is there anything you can do to protect yourself?

Beware of the gap

Ricardo Arevalo, vice-president of engineering, Simpson Strong-Tie, said that any deck that has even the slightest gap between the ledger board and the home should never be used. Simpson manufactures metal brackets and fasteners for the home construction industry.

And [Jack McGraw](#) of the [American Society](#) of Home Inspectors warns that any deck older than 15 years should be considered suspect.

"We surveyed our home inspectors, and we found that 75 percent of the decks that were inspected had something wrong," McGraw said.

If you think you're safe if you're alone on your deck, think again.

"It was just me and my husband out on the deck, and just as he went inside the house, the deck gave way," said [Jennifer Tallmadge](#) of Williamstown, N.J.

This was the summer of 2003, and she was vacationing with her husband in the Smoky Mountains.

When the deck gave way, literally dropping off the side of the cabin, Tallmadge fell 40 feet and landed in a tangle of heavy lumber, nails and hot charcoal from a grill.

She suffered severe burns and number of broken bones and lacerations. She had to have six surgeries and skin grafts to repair the damage.

Weathering was not a factor in her case; both the cabin and the deck were constructed only a few months earlier. But the ledger board was only nailed in place.

"No bolts or anything like that," she said.

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