

The right to bear nails

By Tasha Hodges

Since the building boom of the 2000's, pneumatically driven nailers and staplers (commonly referred to as "[nail guns](#)") have become the preferred tool of trade in the construction industry. However, with the capability of firing 30 nails a minute at speeds up to 490 feet per second (roughly 334 miles per hour), this easy-to-use tool can also be a threat to workplace safety. According to the National Institute for Occupational Safety and Health ([NIOSH](#)), emergency departments across the U.S. treat 22,200 work-related injuries and 14,800 consumer injuries caused by nail guns.

From 1997 to 2006, the Oregon Department of Consumer and Business Services received notification of 596 accepted disabling claims due to nail guns, an average of just fewer than 60 claims per year. Eighty percent of these disabling injuries occurred when a discharged nail struck a worker.

During this ten year period, there were no compensable fatalities due to nail guns. The majority of disabling injuries involved the upper extremities (320 claims), including fingers (155 claims) and hands (91 claims) or the lower extremities (212 claims), such as legs (116 claims) and feet (68 claims). Puncture wounds were the most common type of disabling injury caused by nail guns (65.8 percent); however, it is unknown how many of these puncture wounds led to infections or other medical complications. Fractures were the second most common disabling injury (18.5 percent).

The feature most often cited as having an effect on safety is the nail gun's [firing mode](#). Most nail guns use a trigger and push lever design. This design fires a nail when both the push lever on the nose of the gun and the trigger button on the handle of the gun are depressed. Trigger and push lever nail guns are available with a variety of firing modes. For example, the sequential firing mode will only shoot a nail after the push lever on the nose of the gun makes contact with a surface and the trigger is depressed – in that order. The single shot firing mode allows the push lever to remain pressed against the surface, and will fire a nail when the user pulls the trigger. Conversely, the contact trip firing mode allows the trigger to remain depressed, and will fire whenever the push lever makes contact with a surface.

On April 15, 2008, the [Sacramento Bee](#) published an in-depth look at nail guns, specifically the poor safety record of contact trip guns. Injury victims and safety experts have charged the contact trip mode sacrifices safety for convenience. Hester Lipscomb, an occupational epidemiologist at Duke University, found that between [65 percent to 68 percent](#) of nail gun injuries could have been prevented with the use of sequential firing guns.

According to the Sacramento Bee's report, nail gun manufacturers acknowledge that the sequential guns have a safety advantage over the contact trip guns, but many construction workers prefer the contact trip guns because they are considered to be faster and easier to use. However, [some studies](#) show that the contact trip guns provide little or no improvement in work speed, and that any labor cost savings are offset by the cost of more injuries and higher insurance rates.

In addition to using the appropriate firing mode, there are other [precautions](#) that can be taken to reduce the risk of injury. The nail gun user, and others on the worksite, should wear safety glasses to protect their eyes and face from misfired nails. Additional personal protective equipment, such as hard hats, protective footwear, and ear protection should also be used. The gun should always be pointed away from the user; it should never be used to back-nail materials toward the operator's body. Most importantly, safety devices should never be dismantled or bypassed to save time or money. Doing so could put the worker and those around him at risk.

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