

# Health and Safety **Solution**

## Workplace Health and Safety Queensland

### Safe use of nail guns

#### What is the problem?

Most injuries from nail guns are caused by the user accidentally striking the gun's muzzle into a part of the body while holding the tool's trigger switch.

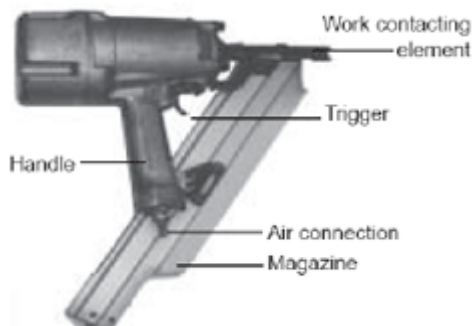
These incidents usually involve nail guns with contact trip actuation (also known as bump-fire, bounce-fire or simultaneous discharge). This type of gun fires automatically when the muzzle comes into contact with a surface when the trigger is pressed, and is prone to accidental firing due to sensitive spring compression units within the muzzle.

#### What are the risks?

There is a risk of nails penetrating the body:

- by direct contact with the muzzle of a loaded gun
- by deflection, when skewing off a hard surface, or
- through a soft material.

The power generated by a nail gun can drive a nail through human bone.



Other people can also accidentally place themselves into positions where they are directly exposed to the projectile path of a nail gun.

These situations have resulted in people being partially or permanently disabled, blinded, and in some cases killed.

*Left: The key parts of a pneumatic type nail gun.*

#### What is a solution to the problem?

##### Sequential firing nail guns

Safer types of nail guns, such as sequential firing nail guns, allow for a single fire from the trigger after the muzzle makes contact. These nail guns reduce the risk of accidental firing when handling the gun and when in restricted work areas.

### **When bump-fire guns may be used**

Bump-fire nail guns may be used to reduce the risk of musculoskeletal injuries (e.g. strains and sprains) for jobs that involve high volume production and repetitive tasks. When this is the case, safety measures that should be implemented include:

- establishing an appropriate exclusion zone around the nailing operation with specially laid out work areas and jigs to hold the work pieces in place
- placing signage to alert people that a nailing tool is in use
- reassigning workers not directly involved in the nailing work away from the area where the nailing operation is taking place
- ensuring users and other workers at risk wear appropriate eye and hearing protection and any additional personal protective equipment (PPE) as specified within the user's manual, and comply with all work site rules.

### **When bump-fire guns must not be used**

Bump-fire nail guns, including those fitted with switchable levers that allow the gun to be used in another mode, must **not** be used:

- where the user is required to climb ladders or other elevated areas with a loaded gun
- in restricted and tight spaces where the gun's muzzle could be bumped
- where other people could come within the nail gun's firing path, or there is a foreseeable risk of being struck by a flying nail (e.g. by ricochet or deflection).

### **All nail guns**

All workers who use any type of nail gun should be trained in how to use it safely. Training should cover:

- the safe operation of the nail gun
- PPE requirements
- any other specific directions as stated in the manufacturer's manual.

Nail guns should be maintained to ensure the firing mechanism is operating correctly. Any problems with the tools should be repaired by a competent person (i.e. an authorised agent) or be replaced.

Workplace Health and Safety Queensland considers that bump-fire type nail guns should only be used under the strictest of controls. Nail guns with sequential firing mechanisms are preferred.

### **Further information**

More information about the [safe use of nail guns](#) and other workplace health and safety issues is available from [www.worksafe.qld.gov.au](http://www.worksafe.qld.gov.au) or by calling the WHS Infoline on 1300 369 915.

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