# Weekly Safety Briefings

Week 40 – September 23-29

***Pinch Points – The Machine Does Not Care***

The industrialization of our daily tasks causes frequent interaction between people and machines. One major risk of this interaction is pinch point hazards. In some cases, pinch points can lead to amputation or death. In 2015 alone, workplace accidents led to nearly 3,000 amputations. An injury like this is irreversible and often times, difficult to mentally cope with.

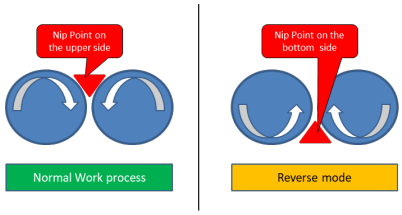
Current statistics show that 1 in every 20,000 employees will fall victim to amputation. This number is higher in industrial fields, such as manufacturing, construction, and agriculture, which average about 1.6 amputation injuries for every 10,000 employees. The overall number of workplace injuries has been steadily decreasing over the years, but amputation rates are on the rise in the manufacturing industry. This industry alone accounts for 57% of worker amputation.

This week, we will discuss how to recognize, protect against, and work around pinch points.

## Monday – Pinch Point Risk

A pinch point is when two or more objects come together and create an area where body parts or loose clothing can get caught. Pinch points are typically one of two types, press or rotative.

- **Press** type pinch points occur when two parts come in contact with each other. The risk associated with this type is the potential to have a body part get caught and grinded in the machine. Press type pinch points can also cut or lacerate your body but the most common injury is amputation.
- **Rotative** pinch points occur when motorised machines have components that rotate opposite of each other. The risk is present between the rotating pieces and typically at 45 degrees. Some material, such as rubber, increases the risk of being caught in the pinch point.



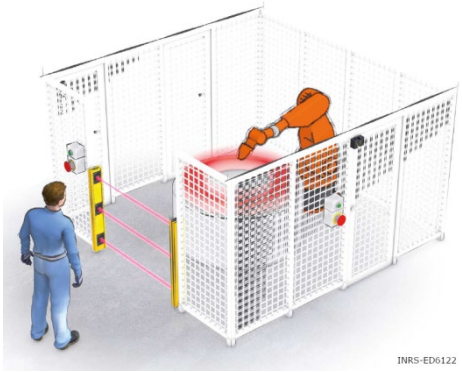

**True or False**? Rotative pinch points can appears on both sides of the rotating components.

**True:** Most of the time, rotation occurs on only one side so the risk for a pinch point is only present in that location. However, it is important to stay aware of any situations that can generate a change of rotation. For example, some mills have automatic reverse mechanisms. In the case of a caught finger or hand, the equipment reverses the rotation. The pinch point that was on the upper side of the equipment is now on the bottom. In any situation, before starting a task, survey the equipment for pinch points and make sure you have the proper equipment to prevent injury.

**Tuesday – Collective Protection**

There is an exhaustive list of collective protective equipment that aids in preventing incidents and injuries.

- **Machine guarding** is a form of collective protection that safeguards machines. This includes guard rails, safety shields, safety switches, and more. When working with machines where safe guarding is in a fixed position, it is important to maintain the guarding in the proper place in order to provide adequate protection. If the guarding is of a removable form, stop the machine and follow LOTO procedures beforehand. Some guarding operates in the form of a hinge. This equipment should utilize a safety contactor that releases the energy of the machine in the case of an accident. Remember to never shunt any safety contactor or stand behind a safety guard. In the case of an incident, this increases the severity of a potential injury.
- **Light curtains** are a form of collective protection that allow access to an area without removing guarding. This protection is favored when frequent access to a danger zone is necessary. When crossing through the light curtain, energy to the machine inside the danger zone is stopped. In order for the process to go on, you have to go outside and restart the machine. Never stand behind the light curtain if the machine is running. This situation can lead to serious injury.




- Other equipment, such as **Personal Protective Equipment** (PPE), exists to keep you safe as you work with these machines. Remember that in order for PPE to protect you, you must wear it properly and as needed. For more information about PPE, refer to Personal Protective Equipment.

**True or False**? If I cut a light curtain I will be protected.

**False:** A light curtain will stop the machine and energy in the area you are going in, but stay aware of the machine. Some residential energy stays in the danger zone and can cause an incident.

**Wednesday – Pinch Points and Material Jam**

Sometimes a jam occurs in a pinch point area. In this case, we face 2 risks: an energy concentration at the pinch point and a sudden release of the energy.

- When a jam occurs at a pinch point, the material can generate a **concentration of energy**. When the jam is removed, the equipment can restart without warning and catch you in the pinch point. You should always use a tool and not your hands to unjam a process.
- When a jam is removed, there is a **sudden release of energy** which generates a potential falling risk. To prevent this kind of incident, make a risk analysis of the situation and favor a mechanical solution over a manual one. If that is not possible, make sure to position yourself in a strong supported posture to prevent any falls.

**Thursday – Dress Appropriately for the Machine**

We discussed the potential for bodily injury when a limb or appendage comes in contact with a pinch point, but other elements can also put you at risk for injury.

- **Clothes and jewelry** can easily get caught in a machine. This situation poses serious risk as clothes or jewelry may not tear and can drag your body towards the pinch point. Make sure clothing is fitted well. Remove any loose articles, such as scarves or dangly bracelets, before beginning a task.

- **Hair** is similar to loose clothing and jewelry. When hair is caught in a pinch point, there is a large potential for serious injury. Always secure hair before beginning a task.

If your facility has a loose clothing, jewelry, and hair policy, please follow it. It is there to keep you safe. If no policy exists, follow the above advice to secure or remove loose elements before working.

**Friday – The Perfect Tool**

As discussed throughout the week, the major risk associated with pinch points is getting caught and injured. This most commonly happens at the hand but is easily preventable by:

- Always using protective equipment, like gloves, when working with a machine.
- Paying attention to machine guarding and ensuring it is properly working.
- Staying aware of pinch points that can generate power outside the process, such as reverse modes or residual energy.
- Using tools if working near a pinch point or fixing a jammed machine.
- Not wearing loose clothing or jewelry, and securing hair.

Our hands are the perfect tools. They are not replaceable with any other tool. Accidents to the hands have potential to cause serious injuries and even permanent disability.

Has anyone had a hand injury due to a pinch point or a lack of machine guarding? What happened? Do you think proper equipment is currently available in your facility to prevent pinch point incidents from happening in the future?