Power Take Off – Rotating Hazards Stats and Facts

FACTS

Accidents caused by rotating hazards associated with PTOs:

- An operator’s clothing, hair, or body part gets caught in the rotating PTO components leading to severe entanglement injuries, such as amputations, lacerations, or fractures.
- Accidental contact with rotating PTO parts, can cause cuts, bruises, and broken bones.
- Pull-ins occur when loose clothing, ropes, or other objects are drawn into the PTO and wrap around the rotating components leading to injuries or being pulled into the machinery.
- PTO-driven equipment may experience sudden stops or jams, causing a kickback effect that can throw the operator off balance or cause them to collide with surrounding objects.
- Accidents can occur if the PTO is engaged inadvertently or unexpectedly while the operator is close to the rotating parts.
- When PTO components are not adequately guarded, there is a higher risk of accidental contact or entanglement with the rotating parts, leading to injuries.
- Mechanical failures, such as shaft breakage or coupling detachment, can result in flying debris or parts.
- Accidents can happen due to operator error, such as engaging the PTO while someone is in a hazardous position or not following proper safety procedures.

STATS

- During 12 years of 739 patients admitted to a Wisconsin referral Trauma Centre with injuries incurred whilst farming, the injury mechanisms in 7% of cases involved a

power take-off (PTO) shaft. Illustrative of the severity of this injury was the fact that three of the 16 deaths in the series occurred as a result of this device.

    - Of the 47 accidents involving a PTO device in the Wisconsin trial, 32 resulted in upper limb trauma; there were six major amputations; 10 patients sustained a serious injury to the brachial plexus and peripheral nerves; one patient had a severe degloving urogenital injury; and there were 3 near strangulations.
    - Additionally 20 patients had residual significant permanent disability. In this paper, five case summaries of PTO injuries collected from the admissions to two West Dublin City hospitals over 2 years are presented and the injury precipitating factors are explored concerning this type of injury.
- In 2019 there were 119 fatalities in agriculture directly involving vehicles. This equates to 68% of all fatalities in the industry with tractors the most common vehicle involved, accumulating 40 fatalities at 23% of the total followed by quad bikes at 14%. Over the five years, 12 fatalities were due to a rollover of non-road vehicles whilst 14 fatalities were caused by being trapped by moving machinery.