

Dropped Objects Handb NLG Never Let Go

Contents

Introduction	3
Why drops happen	4
Cost of drops	5
Hierarchy of controls	6
Physics of drops	7
Methods of containment	8
Role of PPE	9
Primary vs. secondary	10
Tool tethering	11
Protecting other people	13



GRAVITY AT WORK An introduction to dropped objects

Working at height continues to represent a major safety management challenge for health and safety professionals throughout the globe. However, increasingly, it is not just 'people falls' that are an issue.

A total of 19 people died as a direct consequence of a fall from a height in the period 2013/14 in Great Britain; over 20% of total fatalities. Surprisingly however, an additional 13 people died in the same period as a consequence of being hit by a falling object; over 14% of total fatalities.

This makes *dropped objects from height* the second biggest workplace killer. *Dropped objects* were also responsible for 1,877 major injuries for the same period, and caused over 714,000 lost work hours.



Source: HSE RIDKIND1 2013/14 - RIDDOR

Given that these types of injury are the first and second ranked cause of death and significant causes of injury, the challenge is, are these avoidable? Or with a different approach, could they have been prevented altogether?

GET TO GRIPS WITH Why drops happen

CAUSES

NLG

Elements

- Environmental (wind, rain, snow, sea motion
- Corrosion or other deterioration
- Vibration
- Body effects (sweaty or numb hands, fatigue)

Worker or Equipment Generated

- Tripping or colliding
- Poor housekeeping
- Not following procedures
- Miscalculations and poor design
- Missed or inadequate inspections
- Homemade tools and equipment

RISKS

NLG

Poor housekeeping risks

- Disorganised and unclean workplace •
- Unnecessary movement and time spent at height
- Cables and cords lying across walkways, platforms, etc.
- Foreign material concerns

Improper equipment transport risks

- Not maintaining 3 points of contact while climbing
- Overloading a climber
- Exceeding fall protection capacity
- Physical toll on body
- Overflowing containers
- Using containers not suitably rated

Static or dynamic dropped objects?



Static

Any object that falls from a stationary position under its own weight.

Dynamic

Any object that falls as a result of a secondary force such as being struck by another object or involved in a collision.



THE REAL COST OF Drops in the workplace

There are 3 main areas:

Time

Dropping tools and equipment has a huge negative impact on productivity. Often tools fall long distances, costing considerable time to retrieve. If they fall into water, machinery or other 'non-retrievable' locations, it can delay or even prevent the task being completed on schedule.

Money

Dropping and losing tools costs money to replace. Another important consideration is that, in the event of a dropped object incident, there can be lengthy legal implications and expensive bills to pay. If members of the public are involved, this can compound problems and lead to other intangible costs, like brand and reputational damage.

Lives

Most importantly, of course, is the potential loss of life. Even with recoverable injuries, it is traumatic for the persons and families involved - it can lead to the loss of income and ongoing medical expenses. Remember, if you are working in public areas, it is not just your workforce at risk, but anyone passing nearby.



Illustrations of workplace incidents involving dropped object at height.



YOU NEED TO PRIORITISE The hierarchy of controls

Under the Hierarchy of Control, managing risk out is considered to be the best approach to prevent injury. Engineering a hazard out altogether or utilising alternative means of access to minimise fall risks would always be considered best practice.

Wherever possible, preventing the fall of a person or tools through the use of barriers, containment and tool tethering is the most appropriate means of protection possible. It removes the risk of people or objects falling in the first place.



BACK TO SCHOOL The physics of drops

People often don't realise the impact forces that are generated when an object is dropped. Even with some form of protection, the result of being struck by an item of relatively low weight can be significant.



Deflection

Gravity as a force, does all it can to make dropped items fall vertically. Unfortunately, life isn't always straight forward and dropped objects often have their vertical path obstructed, causing the tool to be deflected – making the dropped object a projectile. An object that has fallen just 37m, hitting an obstruction at 6m, will be deflected over 66m away.





STOPPING THE DROP Methods of containment

Below is an example list of some of the methods of containing dropped objects:











Working Platforms

Lower the working platform to the ground / perform all work on a structure at ground level and then lift it into position once complete rather than taking the tools and equipment to height.

Toe boards / Handrails

Kick boards and handrails should be fixed on scaffolding, platforms and walkways. By using additional closed mesh solutions, plywoods or other solid surface materials, coverage can be provided for all the gaps through which items can potentially fall.

Netting

Utilise safety mesh or rated barrier netting (with debris lining) in areas outside walkways and underneath conveyors, walkways, platforms and along building / structure perimeters to prevent the drop of materials to a lower level.

Tool Tethering System

Utilise tool lanyards, tool cinches, tool pouches, tethering devices, holsters, tool buckets and other drop containment devices to secure tools and other items during work at height activities.

Training

Provide worker education on the risks and outcomes of dropped objects and provide them with the means by which they can minimise that risk.



NOT AS SAFE AS YOU THINK Personal protective equipment

The use of general Personal Protective Equipment (e.g. hard hats) can be a good front-line barrier to reduce the impact of a dropped object if it is relatively light and not dropped from a high location. Their effectiveness is, however, limited when exposed to falling bricks, rocks or other heavy items such as hand tools when dropped from significant heights.

You should always ensure that correct fitting PPE is used, because a poor fit can lead to dropped objects or even become a dropped item itself. Ill-fitting gloves, for example, make tool handling a challenge and can lead to the tool being dropped. Safety helmets without a chinstrap or tether, risk becoming a dropped object and endangering people working below.

We should also make sure through training that PPE doesn't provide a false sense of security. As the Hierarchy of Controls shows, it is better to stop the drop with tool tethering than try to minimise the injury with Personal Protective Equipment alone.



FIRST THINGS FIRST It's a primary concern

There are many ways to prevent or reduce the risk of objects falling.

These include toe boards, netting and hard hats which are all considered to be secondary defence. All these are really a 'back up' system for when an object, such as a tool, has been dropped and are designed to catch it or ensure an individual doesn't get hurt after the drop.

Tool tethering is a primary system as it prevents tools from falling in the first place. Today, proactive Health and Safety Officers across the globe are adopting this methodology and introducing tool tethering policies to stop drops before they happen.





A SIMPLE YET ROBUST Tool tethering system

NLG have worked hard to make tool safety easy to understand and easy to use.



Here's why it works:

A simple 3 Step System

Tether Point, Tool Lanyard and Anchor Point - it's widely praised in the UK as the simplest tool safety system for working at height.

A robust concept

The system works with any brand. Unlike other tool tether systems, NLG's accommodates any brand of tethering equipment - it gives you the ultimate flexibility and is compatible with tools or equipment from other manufacturers.

You keep your tools (undamaged and in-warranty)

The retrofit tool tethers mean that you don't need to change your tools. The system is non-invasive so that you can always remove the tether point if no longer required. Unlike other systems, your tools will be undamaged - no drilling of holes in your tools, no unpleasant residue left by heat shrink - and ready to use again, and again.



A QUICK GUIDE TO Getting started with tool tethering



With the UK's largest range of tool tethering equipment, NLG have options for every tool.

View the full range online





Dropped objects affect other people

Preventing dropped objects is not just the responsibility of the Health & Safety Officer or site operator. It is everyone's responsibility to manage these risks, because often the injury is not personal, but it affects your fellow co-workers and public nearby.

Tether your tools - and protect the people around you!

Want to stop drops?

NLG will support you with:

- Bespoke Dropped Object Policy
- Risk Assessments
- Awareness Training and Tool Box Talks
- UK's largest range of Tethering Equipment

Speak to an expert today.

Sources: HSE RIDKIND1 2013/14 - RIDDOR, Southern Polytechnic University (Python Safety) Never Let Go +44 (0)330 016 0030 neverletgo.uk