

Managing vehicle risks in the workplace

forklifts, pedestrians, reversing, manoeuvring

Deirdre Sinnott
Senior Inspector
Work Related Vehicle Safety Programme

Safe Workplace - Design & Layout

- Right for own and visiting vehicles
- Parking for cars separate to vans/trucks
- Entrances/gateways wide enough
- Routes marked and controlled
- One way systems where necessary
- Workplace signs
- Sensible speed limits



Managing pedestrian movement

- Control entry
- Accompany visitors
- Separate routes for pedestrians
- Barriers or rails at entrances/exits
- Fork lift routes indicated by floor lines
- Where pedestrian & vehicle routes cross, safe crossings provided
- Routes for public clearly signposted
- Visiting drivers supervised

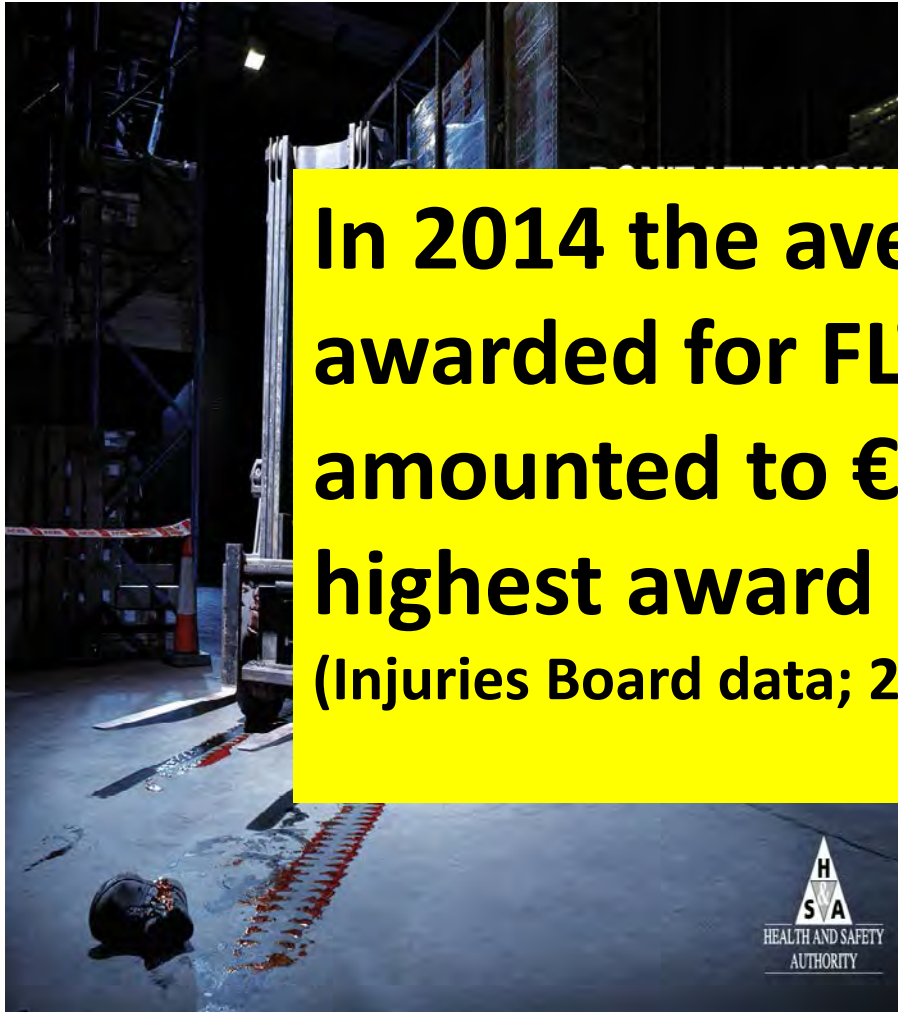


Parking Areas

- Suitable & sufficient parking areas for work & private vehicles
- Mark parking areas. Sufficient space between cars.
- Safe locations – drivers should not have to cross dangerous areas
- Delivery and collection areas assigned
- Parking areas well signed and lit
- ‘Reverse in Drive out’ rule for car parks



Forklifts are dangerous



In 2014 the average claim awarded for FLT injuries amounted to €28,000, the highest award was €116,000 (Injuries Board data; 2015)

- Involved in many workplace accidents

Forklift is a dangerous machine. The driver did not see the load and it fell on him. Forklifts are often caused by poor supervision and a lack of training.



Forklift training and pre use checks



Employers must

- make sure that drivers are familiar with the vehicle they are driving
- give **appropriate instruction, information and training** to use the vehicle in the correct and safe manner.
- Make sure the operator carries out a forklift pre-checks before use
 - The pre-check only takes a few minutes. It makes sure that obvious defects that could affect forklift safety and the safety of others are identified

Forklift Safety Resources & Guidance

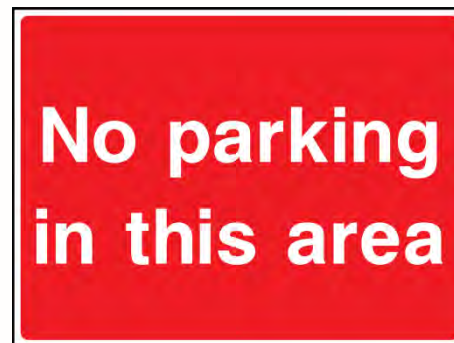
http://www.hsa.ie/eng/Publications_and_Forms/Publications/Information_Sheets/forklift-safety-tips.pdf

http://www.hsa.ie/eng/Publications_and_Forms/Publications/Information_Sheets/forklift-operator-pre-checks.pdf

[HSA YouTube Channel](#)



Reversing, slow speed manoeuvres and pedestrians



Assess the risks

Reversing / manoeuvres

- Is it absolutely necessary?
- Are there alternatives that have less risk? Such as.....

What are the risks?

- Damage to property / vehicles
- Customer / Client service delivery failure
- Legal implications
- Poor company image
- Personal and or third party injury – Fatality!

Reversing Vehicles key points

- Remove need for reversing of trucks and vans
- One way systems
- Identify & mark reversing areas
- Exclude non-essential personnel from areas
- Use banksmen and recognised signals
- Install stop blocks or buffers to prevent vehicles reversing onto people/structures
- Reversing aids



Keeping Pedestrians Safe



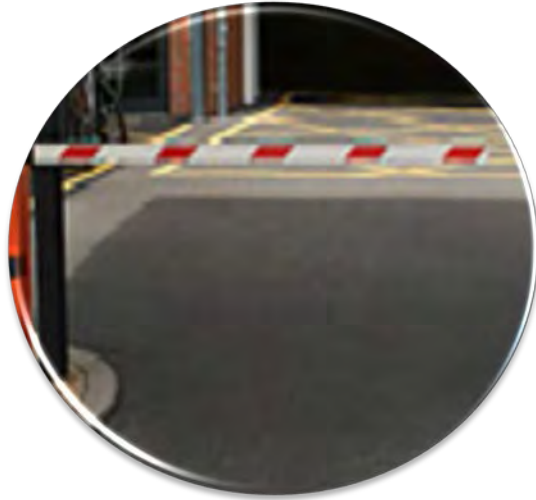
This picture shows the driver's potential blind spots of nearby pedestrians.

Clear warning of risks of moving vehicles



DO NOT
Stop or
Stand
Within 20ft of
this Equipment

Top Tips



**Control
Entry**



Segregate



**Eliminate
reversing**

Top Tips



**Clear
Routes**



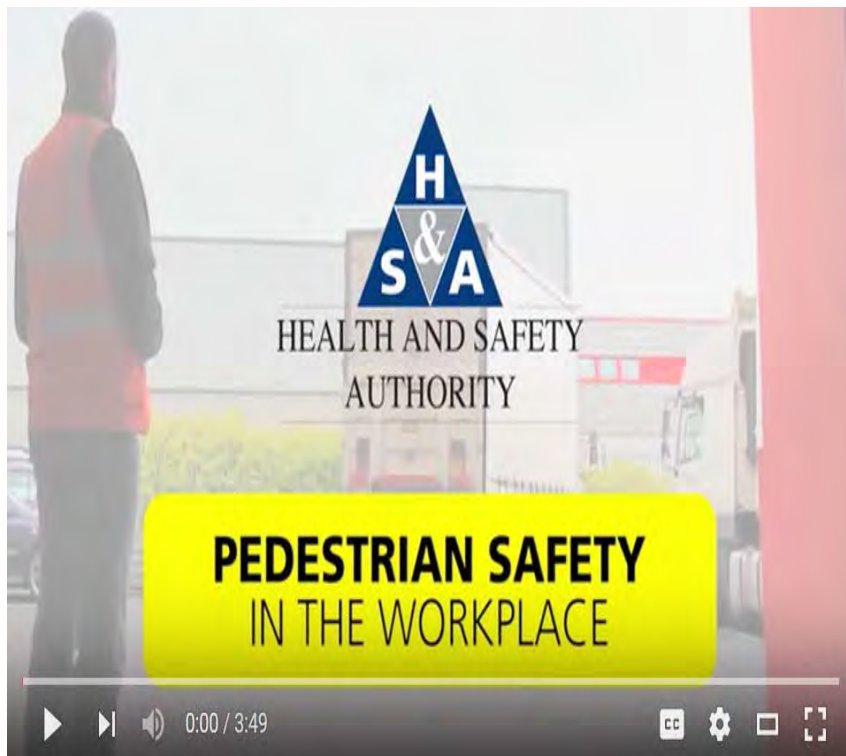
Be Seen



Accompany

Pedestrian Safety Resources & Guidance

[HSA YouTube Channel](#)



[Information Sheets Pedestrian Safety in the Workplace.pdf](#)



E-learning resources



Workplace Transport Risk Management 4 courses

Cross Sectoral approach

Launched June 2015

[Workplace Transport e-learning courses](http://hsalearning.ie)



Thank you
www.vehiclesatwork.ie
www.loadsafe.ie

Ergonomics Risk Management in Transport Operations

Frank Power Ergonomist (Inspector)
May 2018

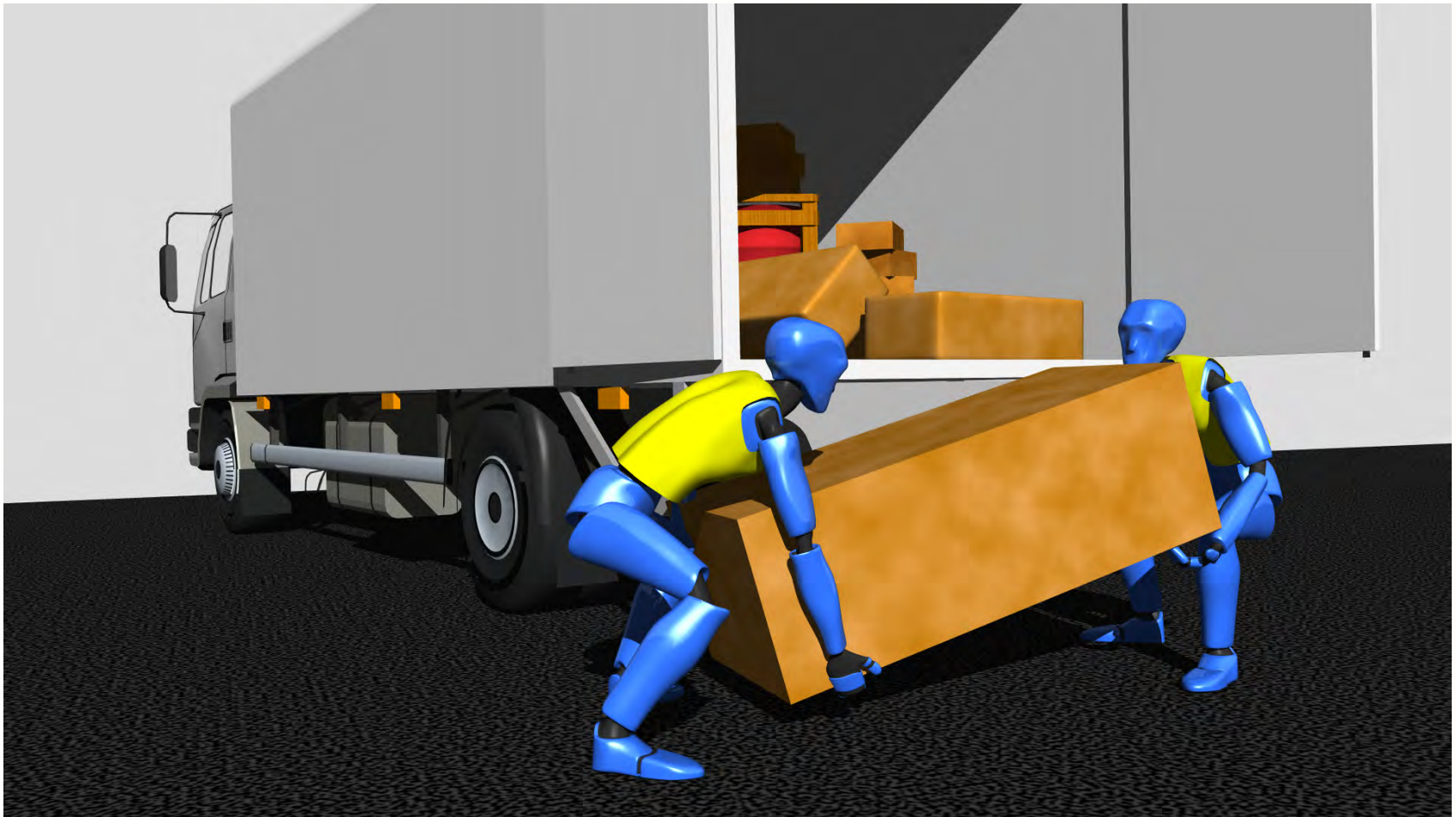
Ergonomics Risk Management in Transport Operations

Ergonomics?

“Fitting the task to the human”(Grandjean)

- Studying the way work impacts on the individual
- Quantifying the physical risks such as excessive force, awkward posture, repetition.
- Developing better ways of carrying out a work activity
- Managing the risks so that the workers can work within their capabilities and protect their musculoskeletal health.

Placing loads in the back of a truck from ground level: Load Weight 80kg



This is not Ergonomics Risk Management

Hazard	Who is affected	Control Measures
Manual Handling of Loads	All staff	<p>When lifting a load:</p> <ul style="list-style-type: none">Assess the loadThink before you lift;Keep the load close to your waist;Adopt a stable position;Ensure a good hold on the loadAvoid twisting the trunk or leaning sideways, especially while the back is bent;Keep you head up when handlingMove smoothly;Don't lift more than you can handle

Ergonomics Risk Management: Use of Appropriate Handling Equipment



Statistics

- The occupational illness rate increased from 21.7 per 1,000 workers in 2001 to 27.1 per 1,000 workers in 2012. (ESRI 2015)
- Manual Handling continues to be the most common accident trigger accounting for 33% of all reported non-fatal accidents (*Health and Safety Authority Summary of Workplace Injury, Illness and Fatality Statistics*)
- 28% of over 10000 occupational injury benefit claims relate to injuries to the back, with an average of 57 lost days (*Occupational Injury Benefit Claims, Department of Social Protection 2015*)

Statistics: Transport and Logistics Sector

- Between 2009 and 2013 there were 4,991 work related accidents in this sector and 25% resulted in injuries to the musculoskeletal system including the back.
- In 2016 over 40% of all injuries reported in the Transport and Storage Sector were injuries resulting from manual handling work activities

What is the law? The Manual Handling of Loads Regulation in S.I. 299 of 2007

- Provide appropriate mechanical equipment or change the way the work is done to avoid the need for manual handling which involves risk
- Where manual handling of loads cannot be avoided, take steps to reduce the risk involved by using appropriate mechanical equipment or changing the way that work is done
- Risk Assess the specific work activity, take account of the ergonomic risk factors in Schedule 3 of S.I. 299 of 2007 and take steps to avoid or reduce the risk of injury

Ergonomics Risk Management:

What does it require?

- Knowledge of the nature of work carried out with a focus on work activities to avoid or reduce manual handling that involves risk
- Ability to effectively communicate and consult with staff
- Ability to use evidence based risk assessment tools (e.g. use of Manual Handling Assessment (MAC) Tool) to identify the ergonomic risk factors that contribute to the risk of musculoskeletal injury or ill health
- Ability to develop appropriate or innovative solutions to reduce or eliminate risk factors including force, repetition and awkward posture
- Ability to transfer knowledge of new control measures or solutions in place
- Ability to influence management

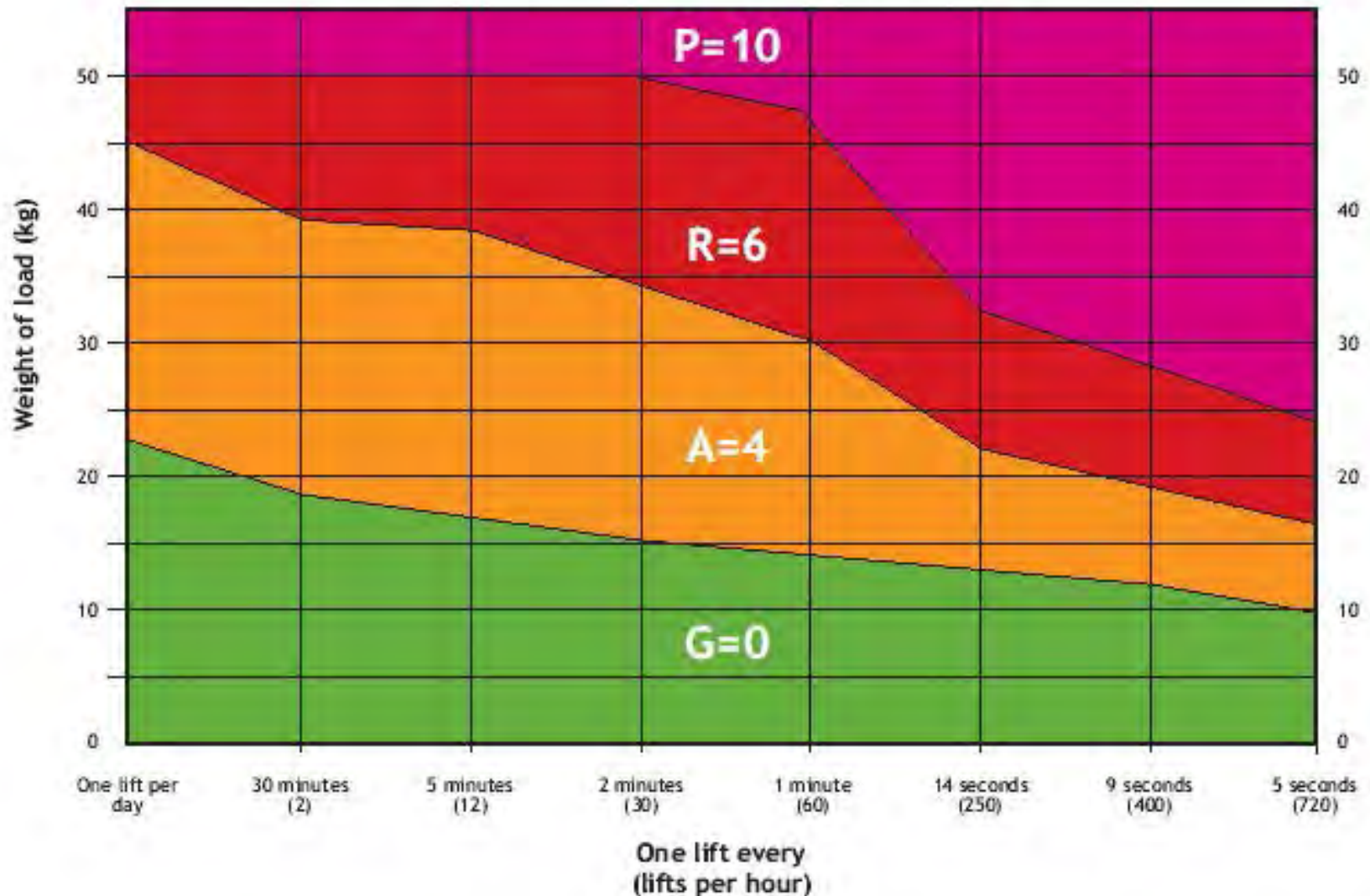
The Health and Safety Executive Manual Handling Assessment Charts (Mac Tool)



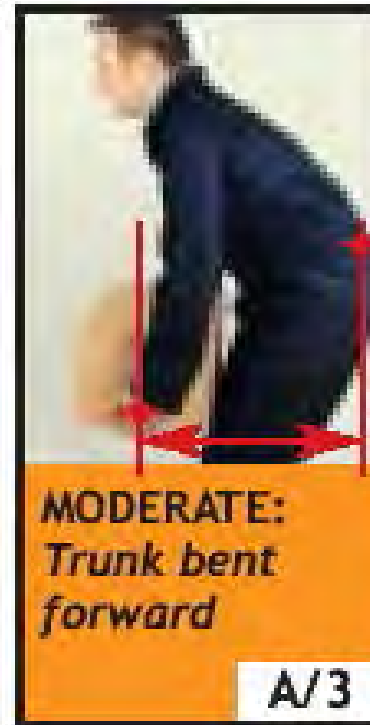
- This is a tool designed to assess and quantify the most common risk factors in lifting, carrying and team handling operations
- It is evidence based and validated
- It is widely used in the UK at workplace level to manage ergonomic risk
- It can be used in to determine whether or not there is a contravention of the Manual Handling of Loads Regulation

Identifying Risk Factors: Use of the HSE (UK) Mac Tool: Load Weight/Frequency

Load weight/frequency graph for lifting operations



Risk Factors: Horizontal Hand Distance from Lower Back

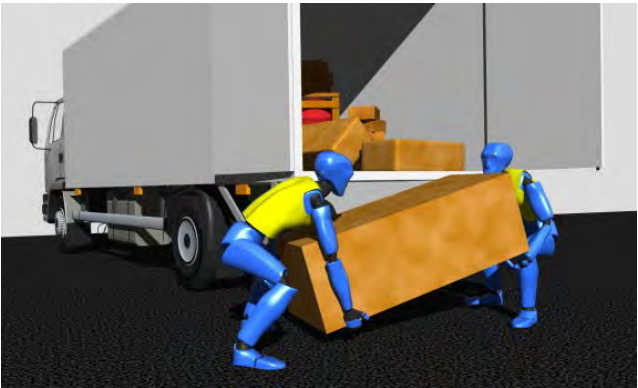
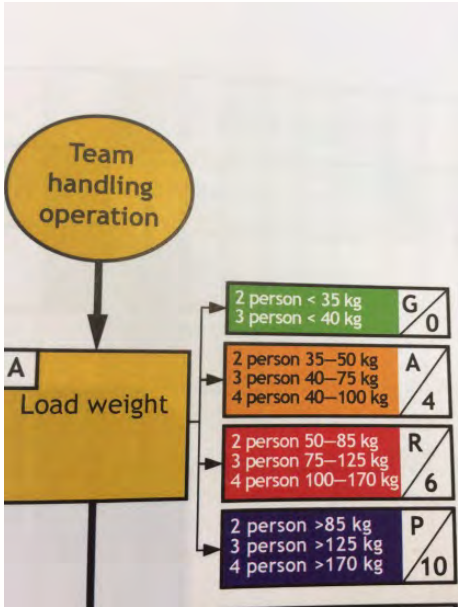


Identifying Risk Factors: Use of the HSE (UK) Mac Tool: Vertical Lift Region



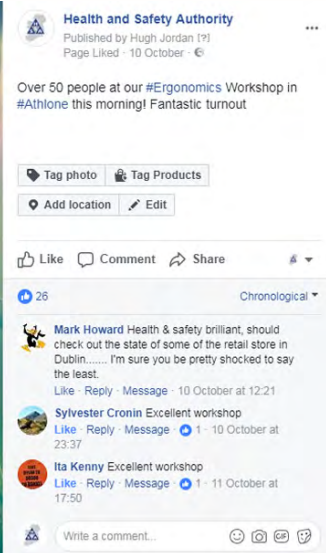
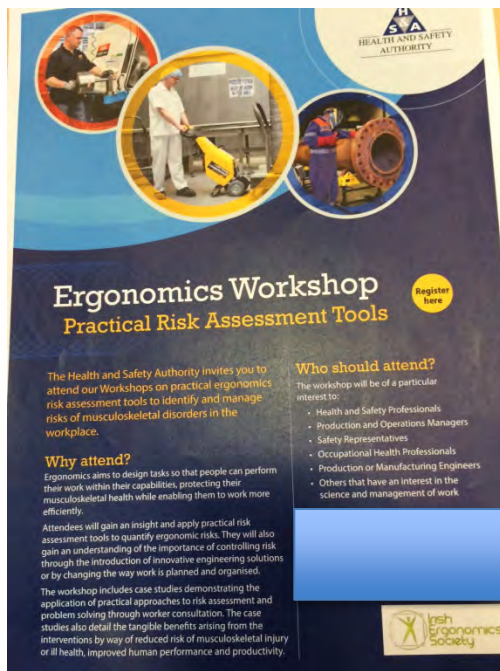
Insert the colour band and numerical score for each of the risk factors in the appropriate boxes below, with reference to your assessment using the tool

Risk Factors	Colour Band (G, A, R, or P)			Numerical Score		
	lift	carry	Team	lift	carry	Team
Load weight and lift/carry frequency			R			6
Hand distance from the lower back			R			6
Vertical lift region			R			3
Trunk twisting / sideways bending Asymmetrical trunk / load (carrying)			A			1
Postural constraints			A			1
Grip on load			R			2
Floor surface			G			0
Other environmental factors			G			0
Carry distance (carrying only)						
Obstacles en route (carrying only)						
Communication and co-ordination (team handling only)						
Other risk factors e.g. individual factors, psychosocial factors, etc.	TOTAL SCORE:					19



Ergonomic Risk Assessment Workshops for Industry: October/November 2018

- Raise awareness amongst stakeholders on the need to manage ergonomic risks at workplace level: Practical Ergonomic Risk Assessment Workshops



The Rapp Tool and Art Tool



Section 3 continued

The Rapp Tool and Art Tool

- The Rapp Tool can be used to assess pushing and pulling work activities which involve moving loads on wheeled equipment such as hand trolleys, pump trucks and moving loads without wheels which might involve actions such as dragging or sliding.
- The Art Tool can be used to assess repetitive tasks that involve actions of the upper limbs that are repeated every few minutes or more frequently and occur for at least 1-2 hours per day. (e.g. assembly production or packaging)

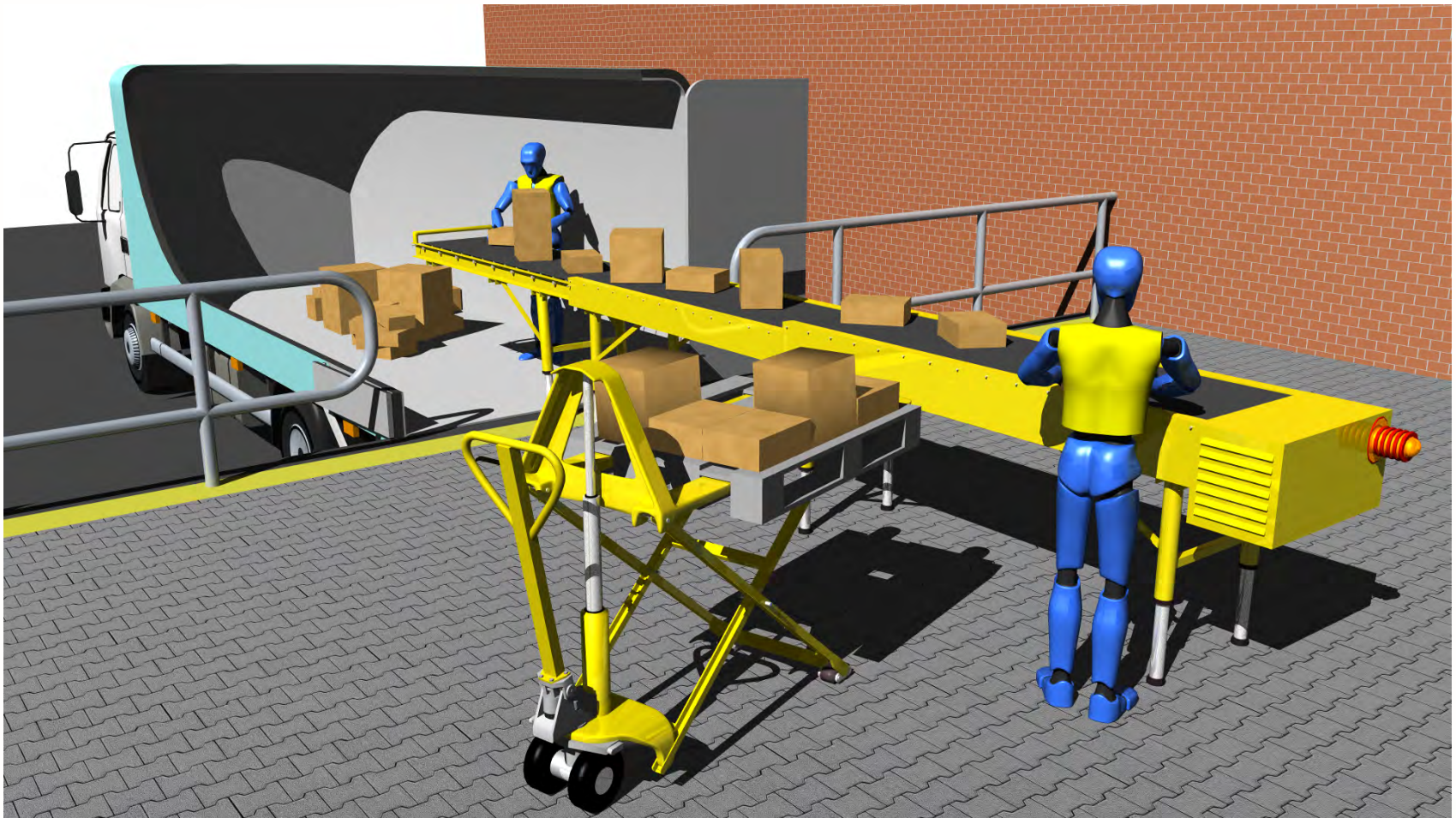
How do I reduce the risk

- Recognise that manual handling activity is a potential workplace hazard
- Understand the nature of manual handling work activities carried out in your workplace (e.g. be aware of the type of loads that are handled, what do they weigh? how are they handled? do you have good handling systems in place? have you planned how loads will be handled?)
- Collect the information needed to make informed judgments (e.g. weight of loads, take pictures or video of the activity, work environment issues such as stairwells, working in tight space)
- Use tools such as the Mac Tool and Rapp Tool to quantify risk
- Develop appropriate control measures by using appropriate mechanical handling equipment or changing the way work is done

Risk Factors: Force: Carrying a 45kg load over a distance



Use of Appropriate Handling Equipment







Key Questions

- Is there evidence that regulatory requirements are being met?

Precise and clear evidence that risk factors are addressed

If not

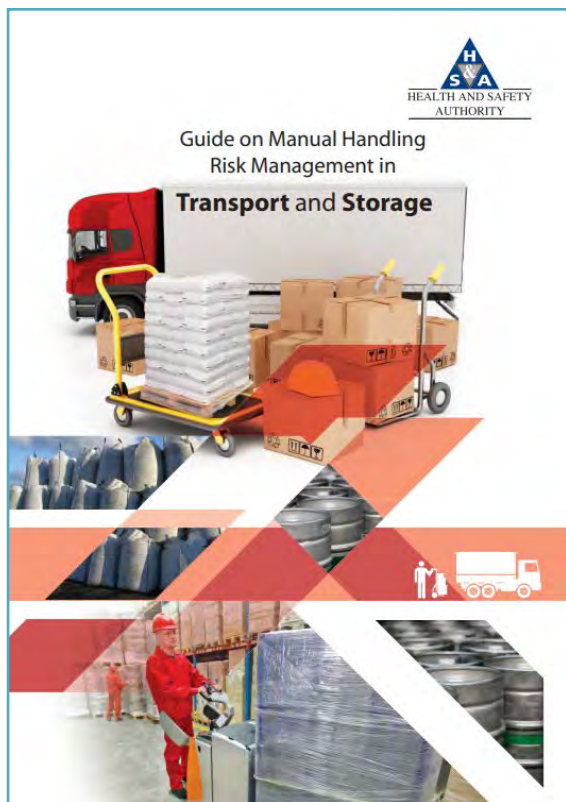
- What is needed to meet the requirements of a specific regulation?

Direction on the appropriate measures that need to be taken to address risk factors

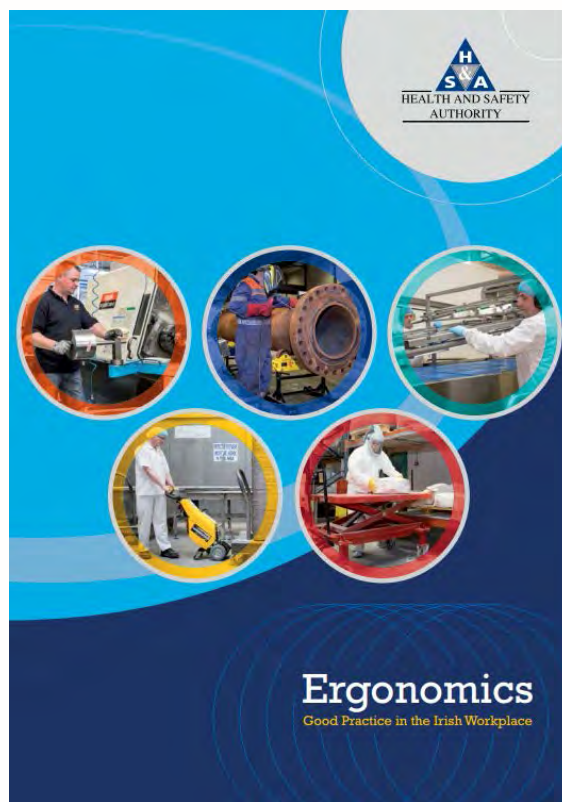
HSA Priority

- Compliance with Regulation 69 (a), 69 (b), 69 (c) which place the emphasis on managing ergonomic risks and implementing appropriate measures to avoid or reduce risk.
- Complete task specific risk assessments of work activities in order to identify ergonomic risk factors and appropriate control measures to avoid or reduce poor ergonomic conditions in the workplace (e.g. Use of Mac and Rapp Tool)
- Implement the appropriate task specific control measures which address the ergonomic risk factors that were identified in the task specific risk assessments
- Develop a safe system of work plan demonstrating and documenting the interventions that have been put in place
- Provide appropriate training to the workers so that they understand what changes have been put in place, how the changes will address ergonomic risk and how they should carry out the task using the appropriate equipment

Useful Guidance Documents



[Guide on Manual Handling Risk Management in Transport and Storage.pdf](#)



[Ergonomics Good Practice.pdf](#)



<http://www.hse.gov.uk/publications/indg383.pdf>

Link to New Ergonomics Webpage on HSA Website

[www.hsa.ie/Topics/Display Screen Equipment/](http://www.hsa.ie/Topics/Display_Screen_Equipment/)

Thank you

Vehicle maintenance

Michael Walsh

Inspector

Work Related Vehicle Safety Unit



Vehicle maintenance

- Regular vehicle maintenance is vital in order to prolong the life of the vehicle and ensure that it is safe to operate
- Different types of maintenance can be distinguished:
 - **corrective maintenance (reactive)**
 - when actions are required to restore from a **failed state** to a working state
 - **preventive maintenance**
 - at **predetermined intervals** or according to prescribed criteria intended to reduce the probability of failure or the degradation of the functioning
 - prevent accidents and delays due to mechanical failure, minimise repair downtime and prevent excessive wear and breakdown



Vehicle maintenance

- prescriptive requirements
 - e.g., tailboard goods lift, lorry loader cranes and forklift trucks - **thoroughly examined** every 12 months
- Regular preventative maintenance **should be planned and carried out at predetermined intervals**
- carried out by a **competent** person.
- records must be **kept for all workplace vehicles**
- Drivers should carry out **basic safety checks**.
 - e.g., tyres, windscreen wipers, washers, lights, indicators and warning devices.
 - checklist.
 - instruction, information and training.

Vehicle maintenance

Necessary
to ensure the continued safety of the vehicle

Inherently dangerous activity

Vehicle maintenance hazards

(name the hazard – vehicle maintenance has it.....
.....they're all here)

- Noise and vibration
- Manual handling
- Ergonomics – awkward positions
- Electrical safety
- Work at height



Vehicle maintenance hazards

(name the hazard – vehicle maintenance has it.....

.....they're all here)

- **mechanical hazards**
 - Engine running
 - Rolling roads and brake testing
 - Cutting and grinding equipment
- **Fire and explosion**
 - Fuels
 - Flame-cutting and welding
 - Tyre and wheel removal, replacement and repair
 - Staying outside the likely explosion trajectory – containment – manual handling of large tyres
 - Working with airbags and seat belt pretensioners
 - Compressed-air equipment
 - **thorough examinations**



Vehicle maintenance hazards

(name the hazard – vehicle maintenance has it.....
.....they're all here)

- **Chemical hazards**
 - Paint spraying
 - isocyanate paints
 - Proper design, application and use of spray booths and rooms
 - Air-conditioning systems - hydrofluorocarbons
 - engine oils and used oils
 - Dusts and waste products
- **Under-vehicle access**
 - Vehicle (or part of) elevated
 - Vehicle lifts – **thorough examinations**
 - Jacks (including trolley jacks)
 - Inspection pits
 - Preventing falls into pits, visibility, preventing fire and asphyxiation



Key Maintenance Issue

Never work beneath a vehicle supported only by a jack or jacks



- the **correct jack** for the job should be used.
- **capable of taking the load** of the vehicle to be lifted
- applied to **the correct jacking point** of its underside, as identified by the vehicle manufacturer
- the jack should **not be relied upon as the sole support** if work is to take place beneath the vehicle
- supplemented with appropriate **stands**
- **wheels** of the vehicle still in contact with the ground **should be chocked**
- **Never** work under an unsupported trailer tipping body or other hydraulically operated machinery, e.g. loading shovels, lifting arms, etc.

Risk assessment

Risk assessment

Risk assessment

- The only solution for controlling all of these hazards is to carry out a comprehensive risk assessment and implement the resulting controls
- Also remember general working conditions
 - ventilation
 - temperatures
 - toilet and washing facilities
 - skin care
- Personal protective equipment
- Emergency procedures and First aid

Vehicle maintenance guidance



[Motor Vehicle Repair - Hazardous Chemicals .pdf](#)



[Work Related Vehicles /WTS Safe Vehicle.pdf](#)



[Chemical and Hazardous Substances Motor Vehicle Repair Information Sheet.pdf](#)

<http://www.hse.gov.uk/Health and Safety in Motor Vehicle Repair Industry.pdf>



Thank you





Bobby Lyons

Denture Care Warehouse Manager

GSK Dungarvan

New HGV Entrance Denture Care Site

- R-20829

HGV Traffic Management Improvement Plan DC

D/C warehouse Teams Members



HGV Activity Yard Operations

Traffic Management of HGV's in the Oral Care site is impacted by a number of issues:

- There is no staging area between check in at security & when the truck is required to pull onto a bay.
 - This leads to a build up of units at Goods in & Out, all of whom are trying to get onto a bay. However, whilst they are parked up they represent an obstacle to the truck coming into or off the bay.
 - Drivers need to get out of their vehicles to open / close back doors & to speak to Warehouse staff
 - The operation of multiple vehicles in an area poses a risk to the drivers, whilst they are pedestrians.
 - There is limited space between the back gate of the OC facility & the security gatehouse. If there is a build up of HGV traffic this stretches down the IDA road. The HGV's take up considerable space on the road, forcing other traffic (principally employee's going to OTC) onto the opposite side of the road.
-

Stage 1 Inbound : HGV Traffic Management Issues – Oral Care



HGV Activity Yard Operations Before

HGV's parked up on IDA Road



Stage 1 Inbound : HGV Traffic Management Issues – Oral Care



HGV Activity Yard Operations Before

HGV's parked up waiting for Security



Stage 1 Inbound : HGV Traffic Management Issues – Oral Care

HGV Activity Yard Operations Before

HGV's Competing for Loading & Parking



Stage 1 Inbound : HGV Traffic Management Issues – Oral Care



HGV Activity Yard Operations Before

HGV's Operator at Risk of being Struck



Stage 1 Inbound : HGV Traffic Management Issues – Oral Care



HGV Activity Yard Operations Before

HGV's parked on inbound Loading Bay



Stage 1 Inbound : HGV Traffic Management Issues – Oral Care



HGV Activity Yard Operations Before



- Note the driver entering his vehicle after closing the back doors. Whilst closing the back doors & walking to this vehicle, two (2) HGV's passed him.
- In addition, the use of one (1) access way for in-bound & out-bound traffic from the site causes bottlenecks @ the gate-house.

Stage 1 Inbound : HGV Traffic Management Issues – Oral Care



HGV Activity Yard Operations Before

HGV's with no parking available



Stage 2 Out Bound (FD) : HGV Traffic Management Issues – Oral Care



HGV Activity Yard Operations Before

HGV's parked on Pedestrian walk way



Stage 2 Out Bound (FD) : HGV Traffic Management Issues – Oral Care



HGV Activity Yard Operations Before

HGV's parked at Goods out



Stage 2 Out Bound (FD) : HGV Traffic Management Issues – Oral Care



HGV Activity Yard Operations Before

HGV's parked on inbound Loading Bay



Stage 2 Out Bound (FD) : HGV Traffic Management Issues – Oral Care



HGV Activity Yard Operations Before

No dedicated parking area for Canteen /Courier deliveries



Stage 2 Out Bound (FD) : HGV Traffic Management Issues – Oral Care



HGV Activity Yard Operations Before

No Set down area available LGV's



Stage 2 Out Bound (FD) : HGV Traffic Management Issues – Oral Care



HGV Activity Yard Operations Before

HGV's parked on Pedestrian walk way



Stage 2 Out Bound (FD) : HGV Traffic Management Issues – Oral Care



HGV Activity Yard Operations Before

HGV's parked on Pedestrian walk way



Stage 2 : HGV Traffic Management Improvement Plan DC

Stage 2 Inbound : HGV Traffic Management Improvement Plan (DC)

HGV Activity Yard Operations After



HGV's New
Entrance (3 lanes)



Stage 2 Inbound : HGV Traffic Management Improvement Plan (DC)



HGV Activity Yard Operations After

HGV's safe Staging Area – Traffic Light system



20.02.2018

Stage 2 General Yards: HGV Traffic Management Improvement Plan (DC)



HGV Activity Yard Operations After

New Safety Pedestrian Segregation Walkway



Stage 2 General Yards: HGV Traffic Management Improvement Plan (DC)



HGV Activity Yard Operations After

New Safety Pedestrian Segregation Walkway



Stage 2 General Yards: HGV Traffic Management Improvement Plan (DC)



HGV Activity Yard Operations After

New Safety Pedestrian Segregation Walkway



Stage 2 General Yards: HGV Traffic Management Improvement Plan (DC)



HGV Activity Yard Operations After

Visual Site Rules



Stage 2 Inbound : HGV Traffic Management Improvement Plan (DC)



HGV Activity Yard Operations After

New Safety Pedestrian Segregation Walkway



Stage 2 Inbound : HGV Traffic Management Improvement Plan (DC)



HGV Activity Yard Operations After

New Safety Pedestrian Segregation Walkway



Stage 2 Inbound : HGV Traffic Management Improvement Plan (DC)



HGV Activity Yard Operations After

New Safety Pedestrian Segregation Walkway



Stage 2 Inbound : HGV Traffic Management Improvement Plan (DC)



HGV Activity Yard Operations After

New Safety Hazards Jigsaw



23.02.2018

Stage 2 Inbound : HGV Traffic Management Improvement Plan (DC)



HGV Activity Yard Operations After

New HGV Safe Set down area



Stage 2 Inbound : HGV Traffic Management Improvement Plan (DC)



HGV Activity Yard Operations After

Safe Trailer Stop Design (Engineered Controls)



Stage 2 Inbound : HGV Traffic Management Improvement Plan (DC)



HGV Activity Yard Operations After

New Safety HGV Staging Facility



Stage 2 Inbound : HGV Traffic Management Improvement Plan (DC)



HGV Activity Yard Operations After

Safe LGV Set down Parking Bays



Stage 2 Inbound : HGV Traffic Management Improvement Plan (DC)

HGV Activity Yard Operations After



Large HGV Friendly Signage



23.02.2018

Stage 2 Inbound : HGV Traffic Management Improvement Plan (DC)

HGV Activity Yard Operations After



Engineered Control to prevent Vehicle Parking on incline



Stage 2 Inbound : HGV Traffic Management Improvement Plan (DC)

HGV Activity Yard Operations After



Large HGV Friendly Signage



Stage 2 Inbound : HGV Traffic Management Improvement Plan (DC)

HGV Activity Yard Operations After



HGV's Salvo Unit air Break lock

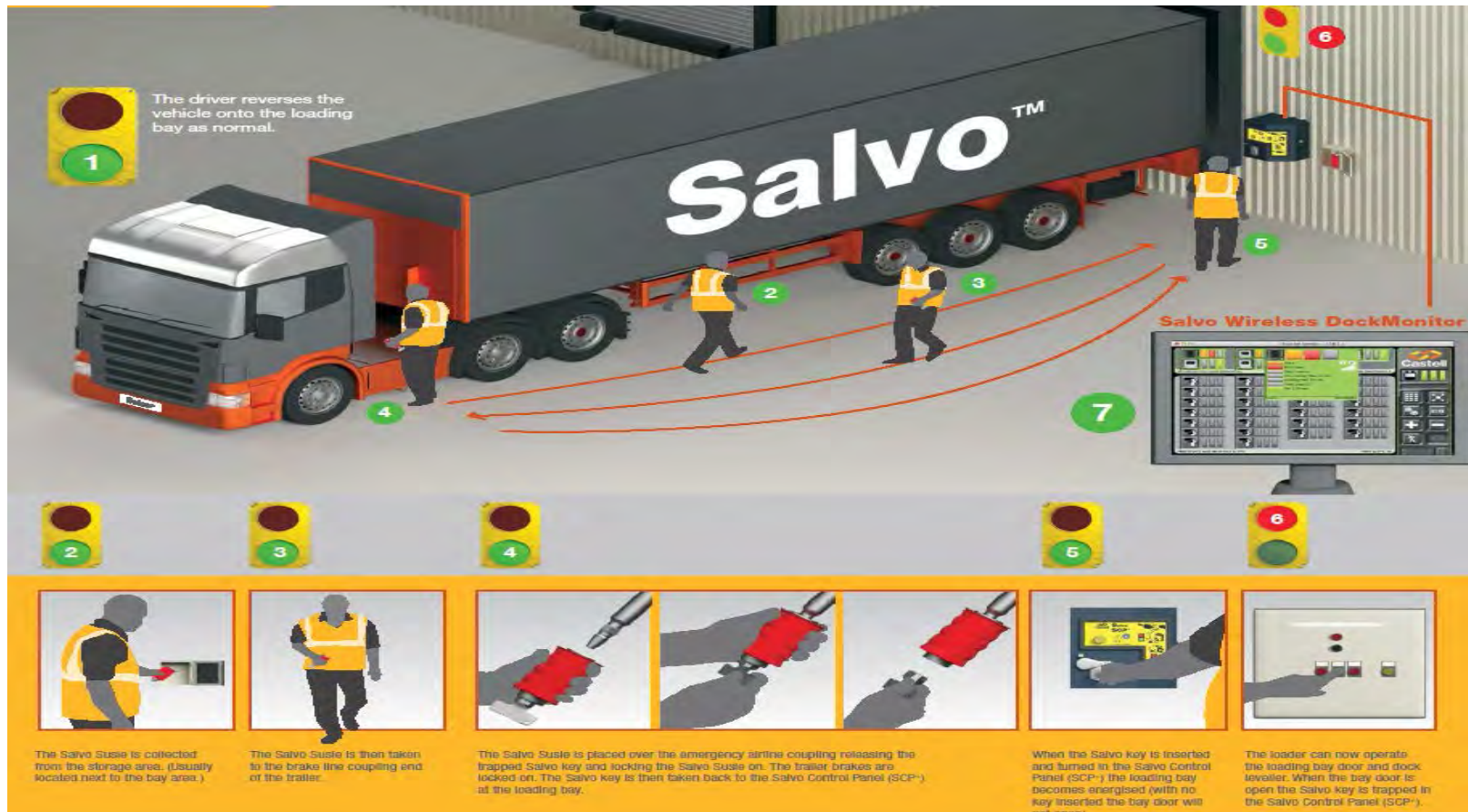


Stage 2 Inbound : HGV Traffic Management Improvement Plan (DC)



HGV Activity Yard Operations After

Full Engineered controls: Salvo interlock Deployment Q2 2018

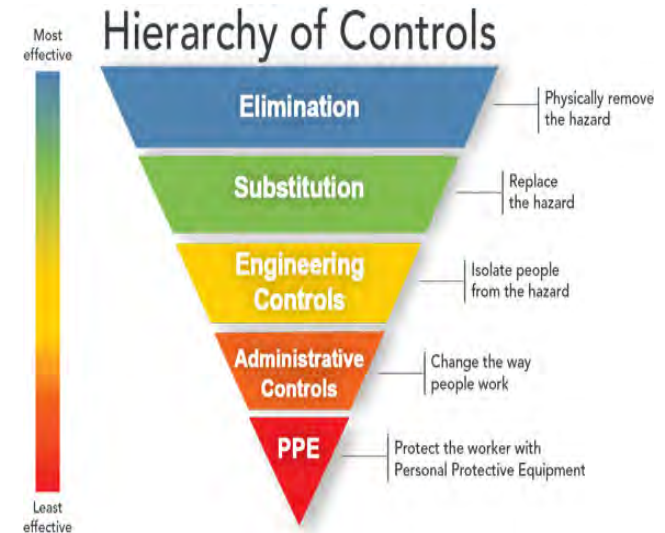


Stage 2 Inbound : HGV Traffic Management Improvement Plan (DC)



Summery Slide

- Where there were hazards we have introduced simple Engineered Controls
- Segregation of pedestrian walkways and traffic routes
- New dedicated HGV staging facility takes risk from IDA road
- New dedicated HGV staging facility allows GSK to dictate number of vehicles operating in the yard
- Elimination of risk of vans packing on incline of LGV, Packing on incline
- Full Implementation of Salvo interlock roll out with eliminate WPT risk



Thank you

Questions and Answers

YOU have the power..... to change the Transport harm and cost profile



Vehicles at Work



Work Related Vehicle Safety



- Work Related Vehicles Safety Program Plan and Priorities for 2016-2018
- Legal Requirements
- Vehicle Related Accident Trends
- Vehicle Risks
- How to Manage Work Related Road Risks
- Online Vehicle Risk Management Resource (EU Commission)

Driving for Work



- HSA and UCD Joint webinar on Work Related Road Fatalities
- Driving for Work - TV Campaign 2017 (Video)
- Employer Responsibilities
- Managing Driving for Work Seminars 2017
- Driving for Work YouTube Channel
- Online Course
- Winter Driving Tips
- Driver Management
- Driving for Work Employers Guidelines
- Vehicle Safety Pre-Checks
- Driving for Work Business Case Studies

Workplace Transport Safety



- New Guidance - Safe and Efficient Goods Reception for Road Freight
- Managing Workplace Priority Risks
- Workplace Transport E-Learning Courses
- Managing Pedestrians at Work
- Forklift Trucks
- Safety Signs
- Vehicle Maintenance
- Warehousing Safety

Load Securing



- Overview
- Guidance and Publications
- Legislation
- Load Securing Videos

Working On or Near a Road



- Working on Roads Guidelines
- Safety in Road Work Zones - PRAISE Report 2011

Transport and Storage



- Guidance and Information
- Overview
- Managing Workplace Priority Risks
- Vehicle Maintenance
- Transport & Storage Sector Incident Trends
- Seminars

Dedicated
page
on the HSA
website

Thank you
www.vehiclesatwork.ie
www.loadsafe.ie
Safe Journey Home