



## Dropped Object Awareness

- HSE Management Conference

11.06.2019

# Understanding Dropped Objects

- What is a Dropped Object?



Any object / item that falls from its previous position  
(TOOLS, EQUIPMENT, STRUCTURE, LOOSE ITEMS, STACKED / STORED MATERIALS...).

# Dropped Object Categories

- Static Dropped Object

any object that falls from its previous position under its own weight – where Gravity takes over!

- Dynamic Dropped Object

any object that falls from its previous position due to applied force from equipment/machinery or moving object – like a collision, perhaps during lifting or stacking... think wind, pressure or electrical energy sources too

Now think about objects that can fall due to failure caused by repeated cyclic loading, environmental factors and movement –vibration, temperature, heave and so on...

# Dropped Object Consequences

- Injuries and Fatalities

Dropped Objects account for around 35% of all safety related incidents... but account for over 60% of all serious incidents and HiPo's

- Equipment and Environmental Damage

Dropped Objects cause damage to plant and equipment... even on the seabed.

- Reputational Damage

Not good for business...



# Understanding Dropped Object Causes

- What Causes Dropped Objects?
  - **Poor hazard and Risk Assessment**
  - Inadequate Design (not addressing Dropped Object potential)
  - Poor Behaviours (people walking by unsafe acts/conditions)
  - Inadequate Inspection, Repair and Maintenance
  - Redundant / Neglected / Homemade Tools and Equipment
  - **Failed Fixtures and Fittings** / Corrosion / Vibration
  - Overloading / Incorrect or Improper Use of Equipment and Tools
  - Inappropriate Procedures / Not Following Procedures
  - Inadequately Stored / Secured Tools and Equipment
  - **Poor Housekeeping**
  - Environment (weather, sea motion)
  - Planning and Operational Miscalculations
  - ....any others?

# Seadrill

Have You Identified  
The Potential Dropped Object  
During The Planning  
For Your Next Task



- Not seeing potential for dropped objects?  
Not aware of hazard?  
No hazard identification!



- **NO RISK ASSESSMENT  
NO CONTROLS  
NO IMPROVEMENT**

Before You Start Any Task Consider  
The Potential For Dropped Objects

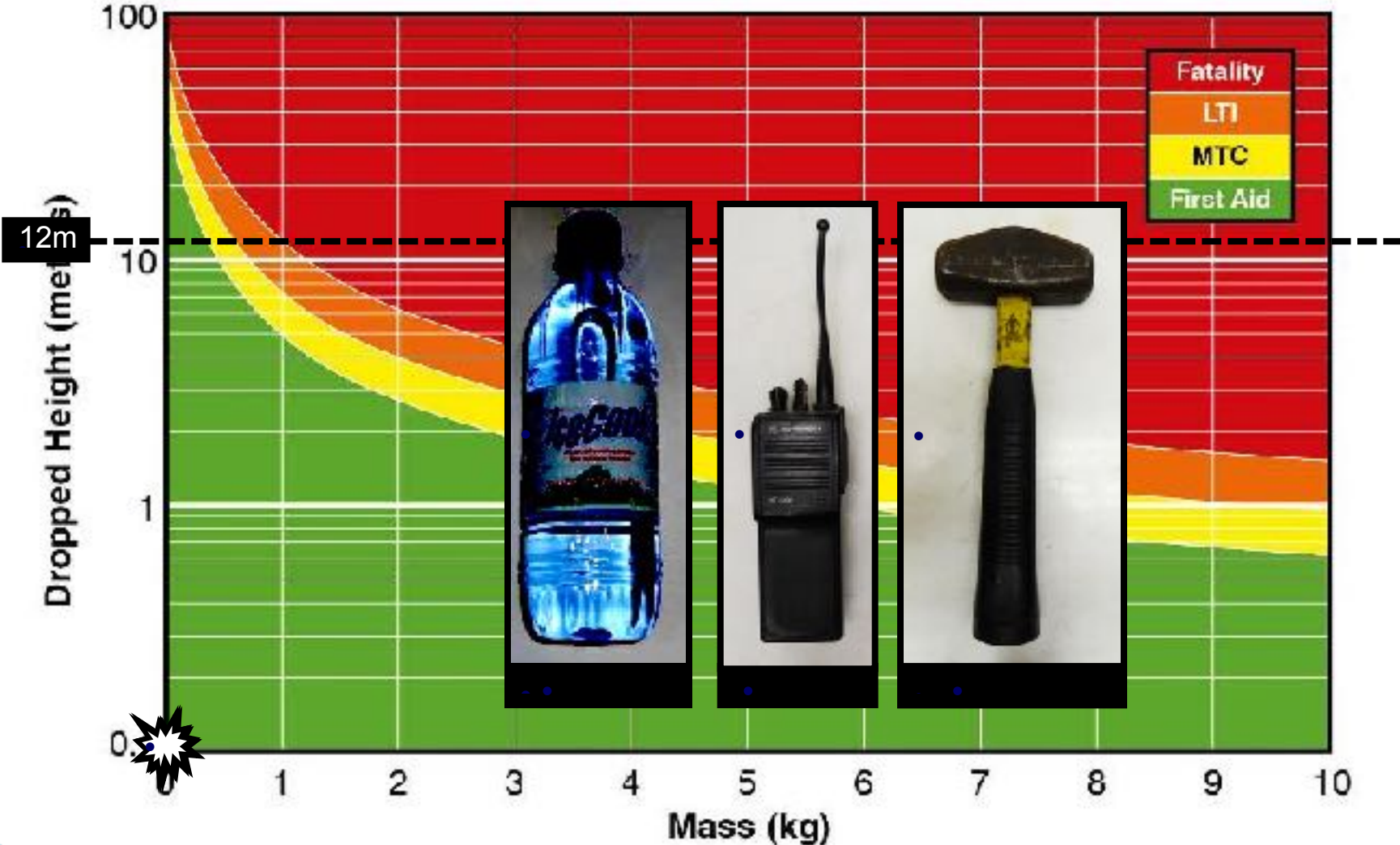


DO NOT CARRY THESE ARTICLES INTO THE AEROPLANE



Helicopter Rules

# Understanding Dropped Object Consequences



# 40 Joules = Consequences

- 40 Joules or more...

Weight/Mass x Height/Distance dropped x  
Gravitational Acceleration = JOULES

- ... can result in recordable or worse...



$$0.5\text{kg} \times 8.5\text{m} \times 9.8 \\ = 41.65 \text{ JOULES}$$



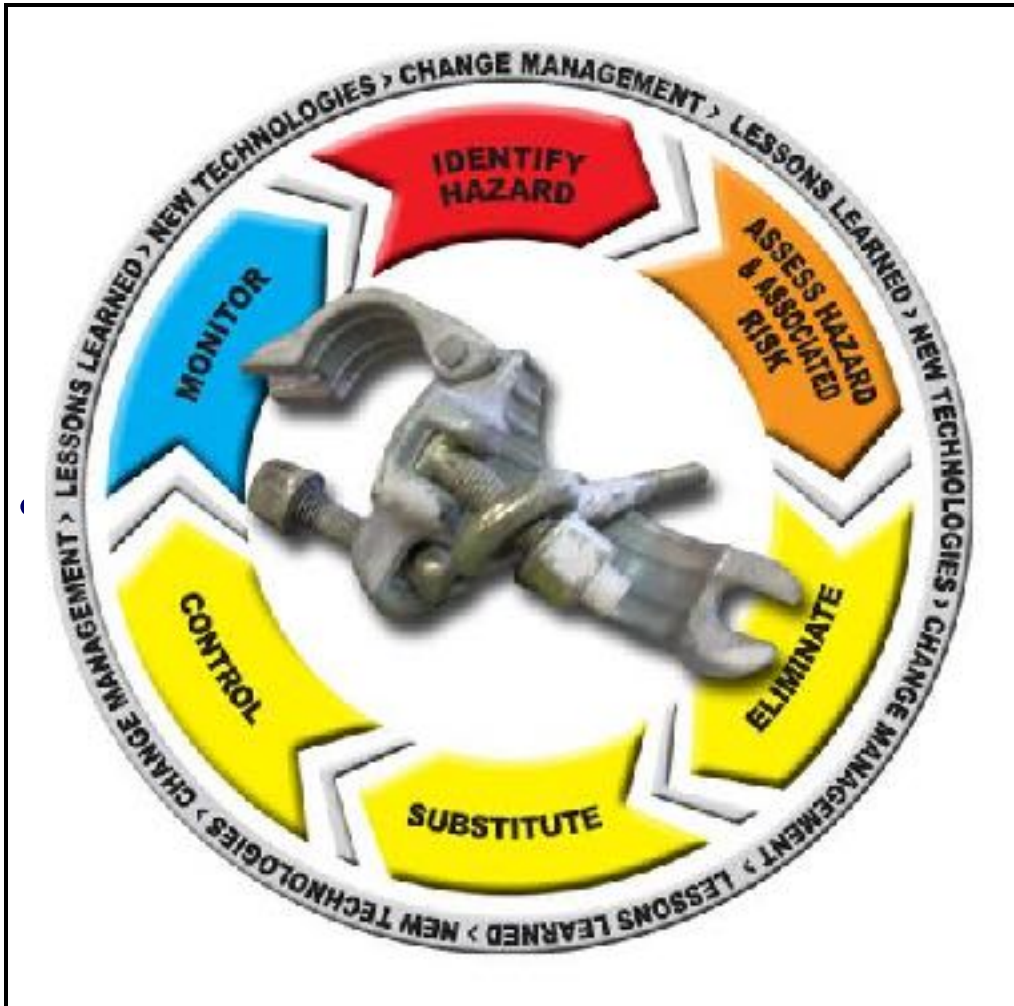


# Dropped Object Consequence Calculations

- We can prove it with test cases...
- If this machine bolt was to fall from the finger board level – say 27m - and strike someone's head (wearing a hardhat) on the drill floor below, what could happen to them?
- 58 Joules of Fall Energy...



# Eliminate, Control, Prevent



- Engineered Controls
- Procedures
- Training / Awareness
- Safety Signs & Signals
- PPE

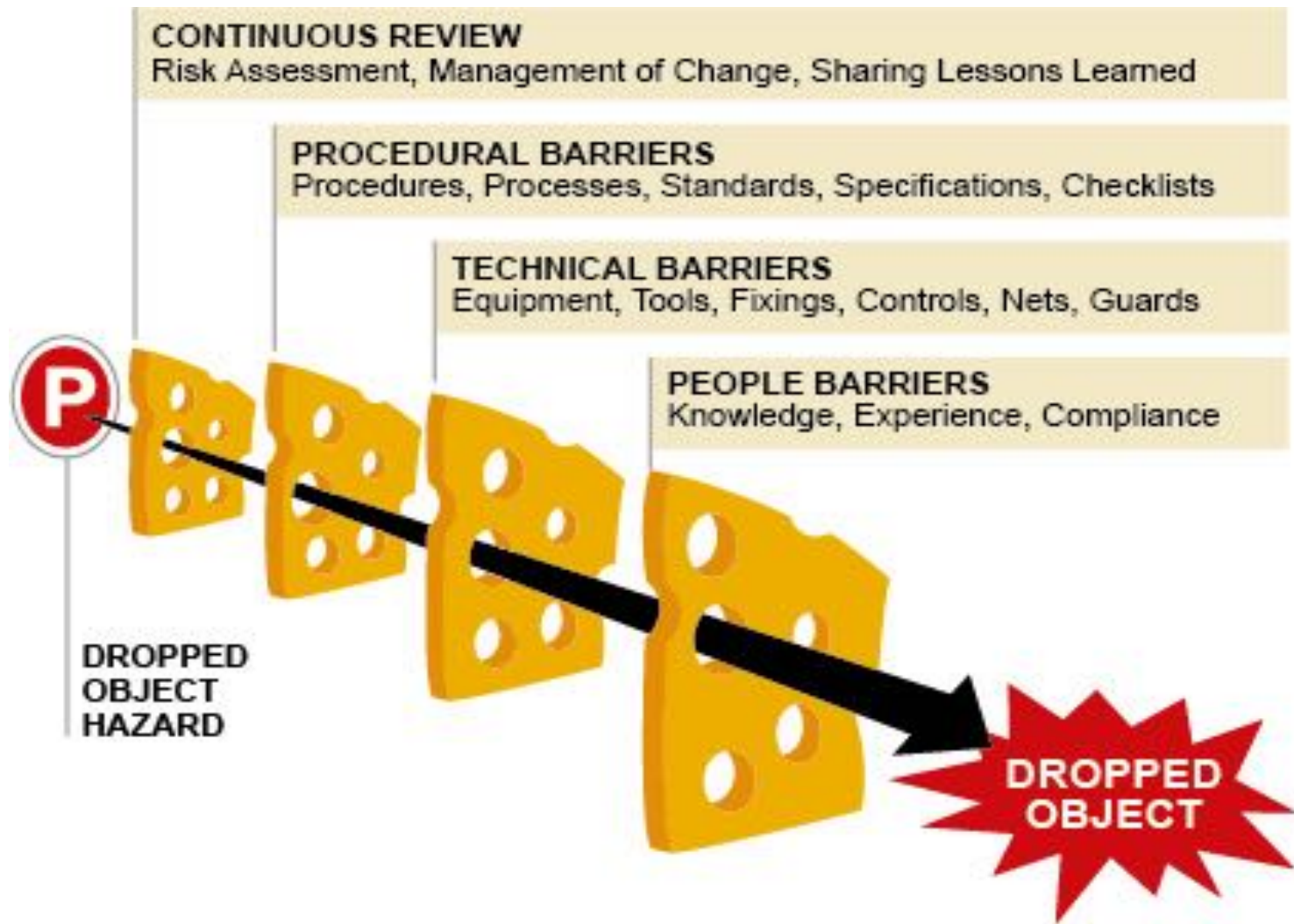
Preventive Controls may already exist!

- New Controls must be assessed and monitored.  
(Change Management)



Do we always take time to understand the Hazard  
What can you Eliminate? What Controls are available and appropriate?

# Preventing Dropped Objects



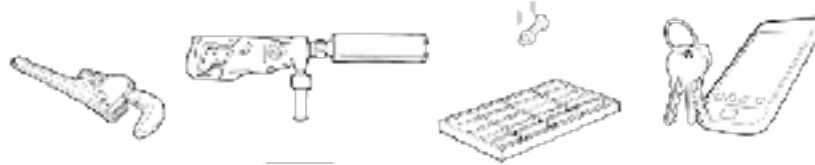


www.irata.org

# PREVENT DROPPED OBJECTS SOMEONE'S LIFE MAY DEPEND ON IT

**⚠ IDENTIFY THE TOOLS OR OBJECTS THAT CAN BE DROPPED OR CAN FALL**

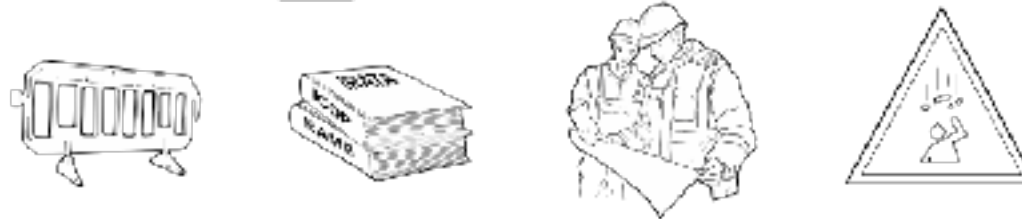
**01. IDENTIFY & ELIMINATE (WHERE POSSIBLE)**



**02. PRIMARY CONTROLS (ENGINEERED)**



**03. ADDITIONAL CONTROLS (ADMINISTRATIVE)**



**04. PERSONAL PROTECTIVE EQUIPMENT (PPE)**



- CHECK IF THE LEVEL OF PROTECTION IS APPROPRIATE AND ROBUST IF NOT, DO NOT PROCEED  
- FOR DETAILED INFORMATION SEE DEP:

- 1.4.2.6 AND 2.11.3, EXCLUSION ZONES
- 2.2.3, PRE-WORK ANALYSIS
- 2.2.4 AND ANNEX A, RISK ASSESSMENT

- 2.2.5 AND ANNEX D, SAFETY METHOD STATEMENTS
- ANNEX M, USE OF TOOLS AND OTHER WORK EQUIPMENT

100% ASSESSMENT OF WHERE TOOLS AND EQUIPMENT ARE CARRIED BY THE WORK ACCESS TECHNIQUE APPROPRIATE STEPS SHOULD BE TAKEN TO PREVENT THEM BEING DROPPED OR FALLING ON TO PEOPLE BELOW

UNSAFE - DULL WORK PRACTICES

CONTROLLED - SUBSTANTIAL RISK

BY DESIGN - MINOR RISK



HIERARCHY

# Dropped Object Awareness

- Introduction to DROPS
- DROPS is an industry-wide initiative focused on preventing dropped objects, with the ultimate goal of delivering a second nature dropped objects prevention strategy across our industry.
- DROPS is essentially a Global Work Group, represented by 200 operators, contractors, service companies and industry bodies, all sharing commitment and enthusiasm for the common goal of dropped object prevention.
- AlpAccess is DROPS member since 2010



# Reduce Likelihood, Reduce Consequences

- Eliminate, Substitute, Control (preventive / mitigating):
  - Induction, Training, Competence
  - Continuous Hazard Awareness, Observations, Stop Work Authority
  - Planning, TRA / TRIC, Toolbox Talks, JSA, PTW, Procedures
  - Management of Distractions, Management of Change
  - Equipment Manufacturer Recommendations / Codes / Standards
  - Reliable Securing - Primary fixings and Secondary retention
  - Control of Tools and Equipment at Height
  - Survey and Inspection, Maintenance, Certification (Colour Coding)
  - Collision Checks / Checklists
  - Cargo Handling / Securing for Adverse Weather Conditions
  - Red Zones and Restricted Access Areas / No Go Zones
  - Safety Securing Systems, Barriers, Guards and Nets
  - PPE and Communications

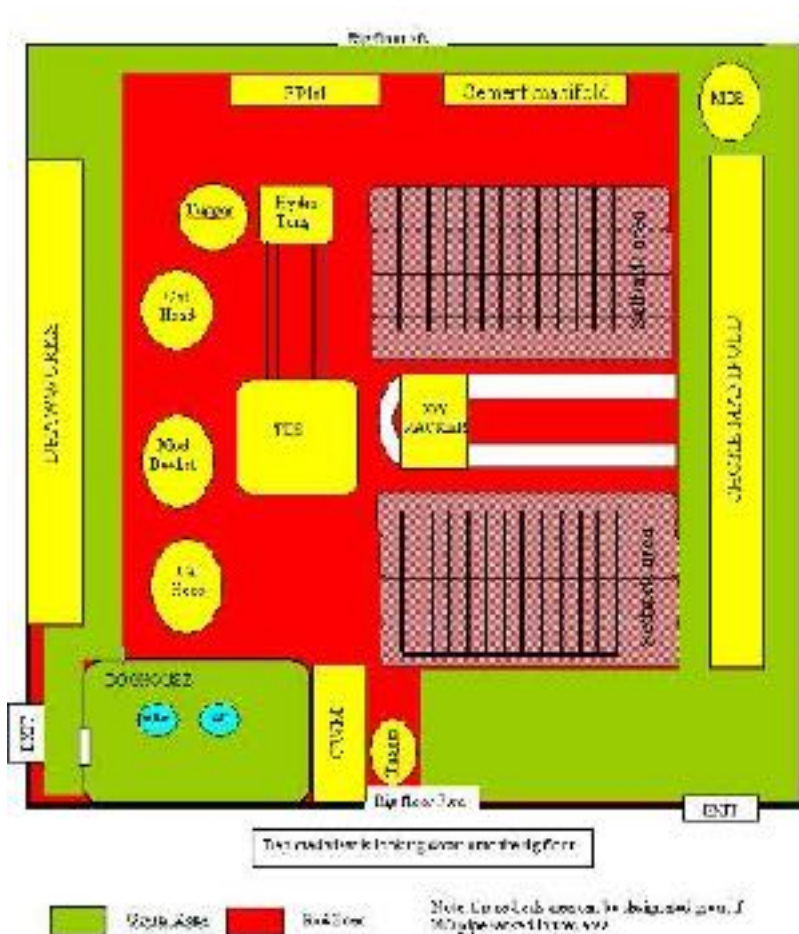
# Surveys & Inspections (Preventive)





# Red Zones / Restricted Access Areas (Mitigating)

- Permission required to enter
- Access diagrams posted
- Red / Yellow / Green Zones
- Step Back Areas



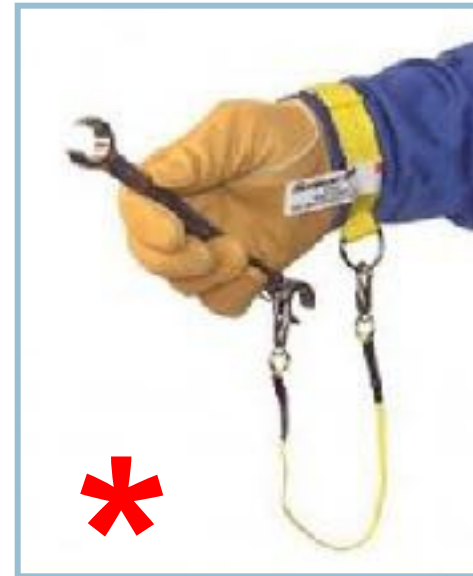
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# Tools at Height Tool Kits (Preventive or Mitigating?)



- Only use Company Approved kits
- Maintain, regularly inspect
- Use Log Books, Record Tools on PTW
- SECURE TOOLS / EQUIPMENT AT ALL TIMES





# Summary

- What are you going to do about preventing Dropped Objects in the workplace?
  - Communicate, raise awareness, intervene (Observation Card)
  - Reliable Securing – recognise its role
  - Use Task Risk Assessment effectively
  - List inherent hazards so others may learn
  - Guide others on dropped object prevention
  - REPORT ALL DROPPED OBJECTS
  - Dropped Objects occur everywhere, so be vigilant
  - STOP WORK if dropped objects present an immediate hazard
- Any Questions?
  - Speak to your Supervisor – or visit [dropsonline.org](http://dropsonline.org)
  - Always remember dropped objects occur EVERYWHERE!

DROPPED OBJECTS OCCUR  
EVERYWHERE...





**The fact remains:**

**DROPPED OBJECTS**  
**STILL HARMING**  
**STILL KILLING**

What are you going to do about it?

Get Involved. Share Best Practice. Make a Difference