



Falls Prevention

Rob Shaw

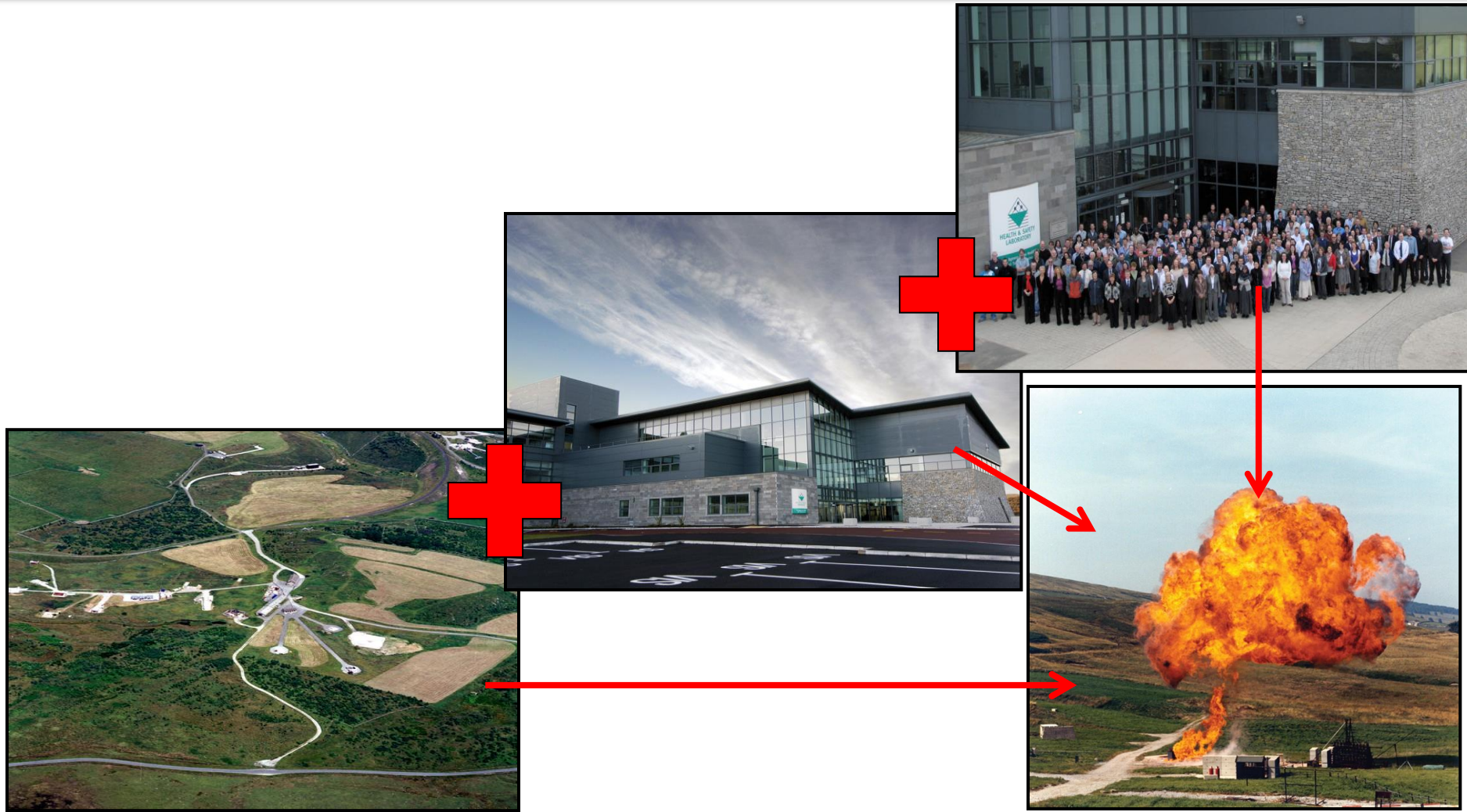
HSL



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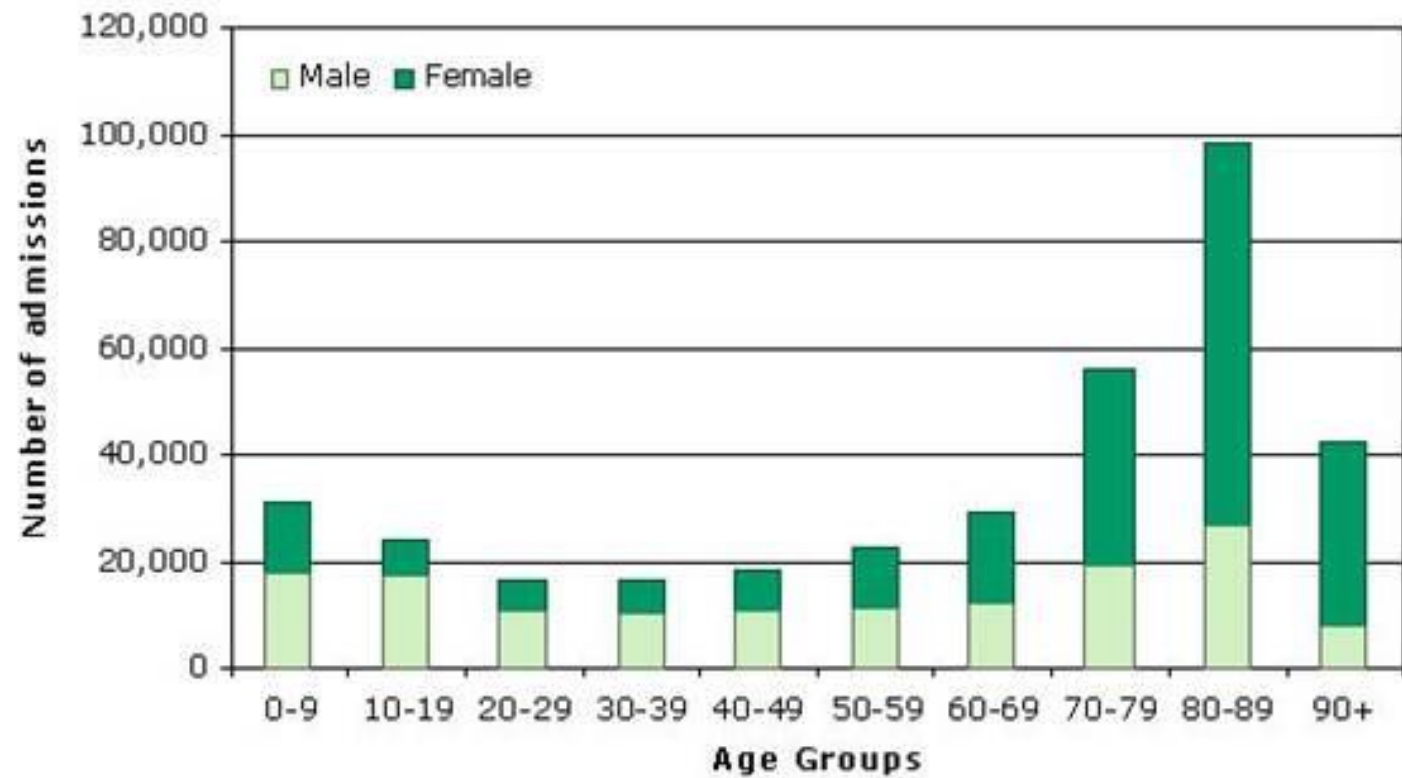
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Hospital Admissions

Graph to show the number of admissions to hospital for falls



What is a near miss?

What's the problem?

A busy public building with over 4 million visitors each year had 15 RIDDORs relating to falls at entrances.

- Cameras monitored entrances for 6 hours
- 12560 journeys, no issues reported
- 466 incidents recorded on video
- 9 people were obviously hurt

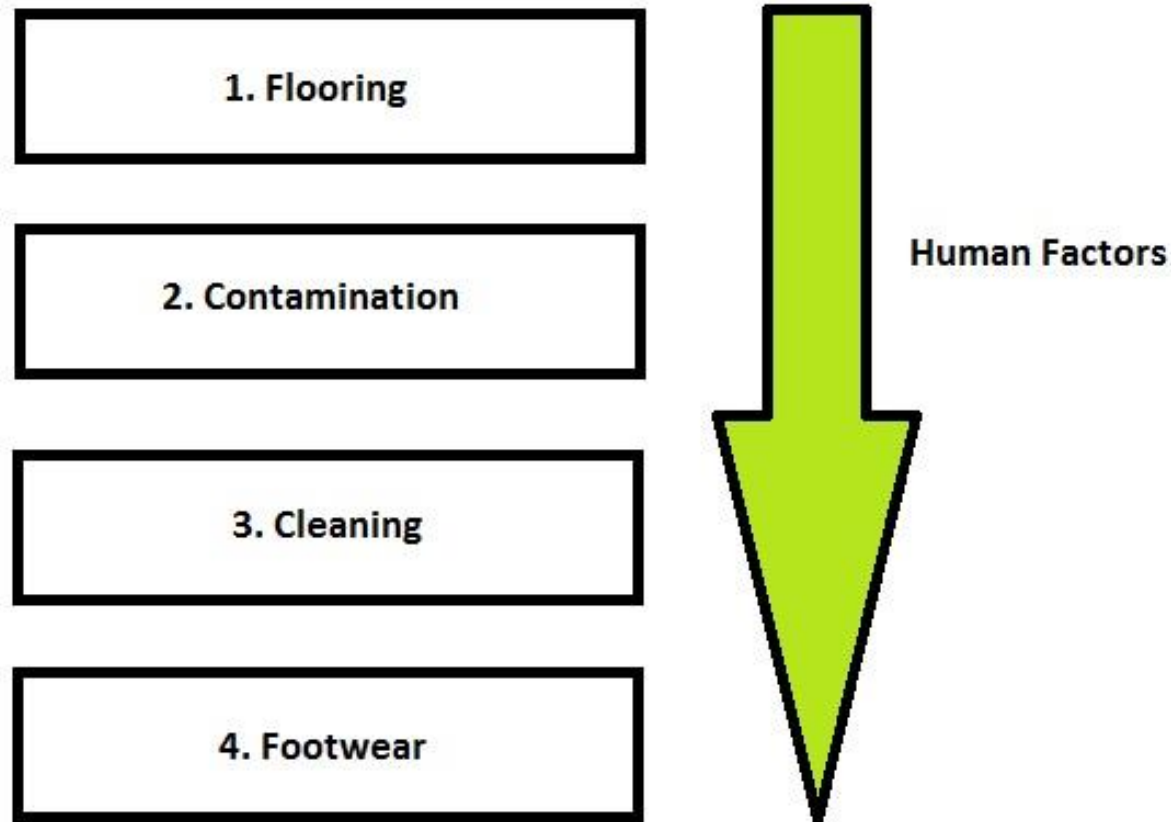
Filming suggests ~ 240,000 incidents per year and ~ 4500 people hurt per year

What happened next?

Modifications to the entrances were made.

- Filmed entrances for another 6 hours
- 34% reduction in incident rate
- ~ 1500 fewer people hurt per year
- ~ 5 fewer RIDDORs per year

Slips hierarchy





Flooring

Friction requirements

Risk 1 in:	CoF	Slip Potential
1,000,000	0.36	Low
100,000	0.34	Moderate
10,000	0.29	Moderate
200	0.27	Moderate
20	0.24	High

For low risk activity – normal level walking



Portable Friction Tests

Invalid tests

- There are many portable friction tests available
- Few are relevant to pedestrian slipping
- Be wary of misinformation when assessing pedestrian slip risk

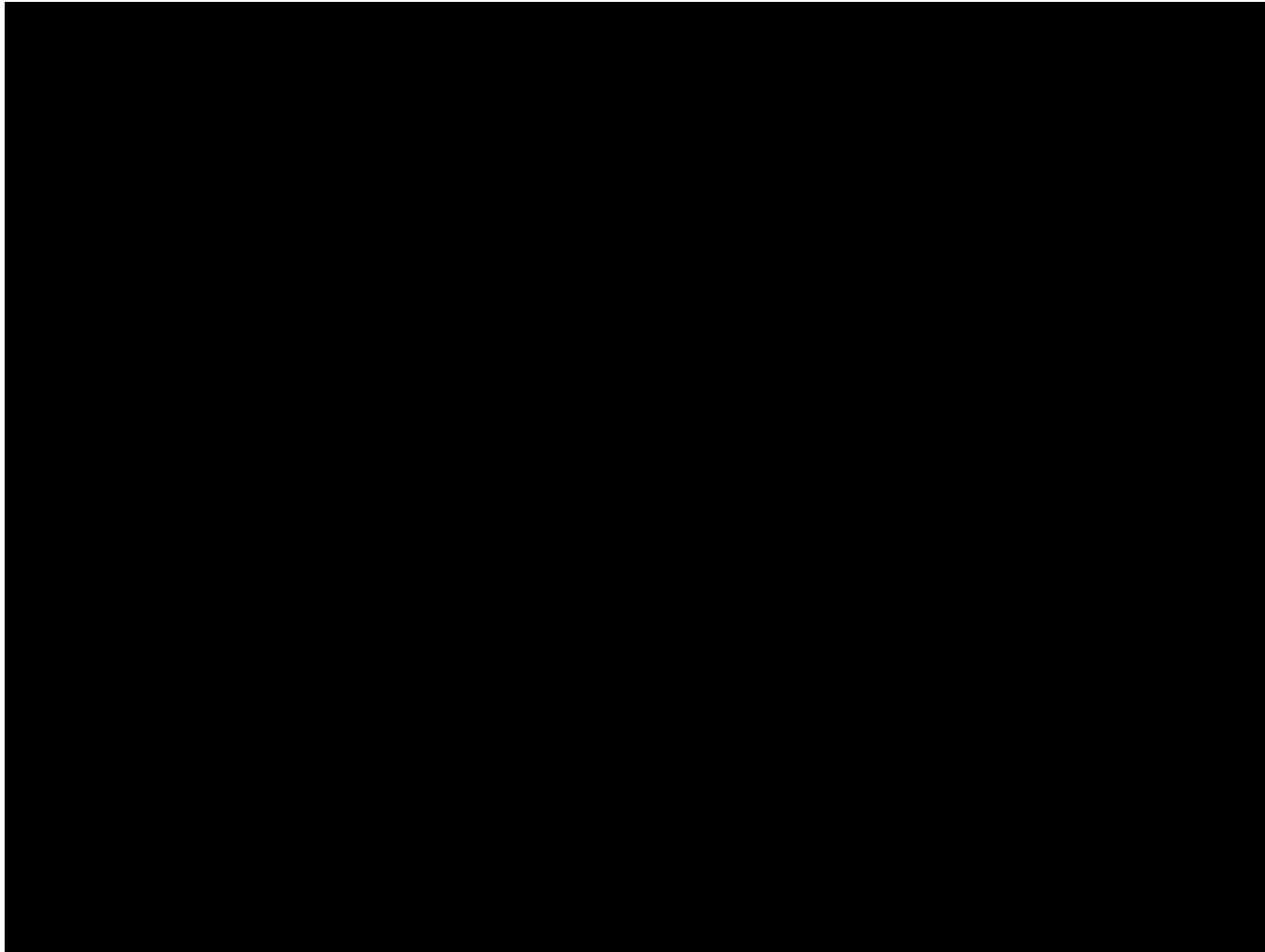


The pendulum test

- Developed to simulate pedestrian gait
- Gives relevant information
- Method of operation is important



The pendulum test



The ramp test

- DIN 51130
 - Shod test on motor oil
 - Reported as R9, R10, R11, R12, R13
- DIN 51097
 - Barefoot test on soapy water
 - Reported as A, B, C







Cleaning

Why cleaning is important

Cleaning should remove contamination

Cleaning may introduce other slip and trip hazards

Floors can be compromised by grease, leading to accidents when the floor becomes wet

Alison Hockaday

Two slip accidents due to cleaning

Thirty five operations

£600,000 compensation



Use of detergent

Essential for removing oil or grease

Concentration very important

Appropriate contact time required

Solution must be removed

Make up fresh as required



Train station

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Train station

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Footwear






Footwear

- Low down on the hierarchy of controls but often the easiest and cheapest control to implement
- May be the only control available:
 - Contract cleaners
 - Peripatetic workers
- May already issue PPE footwear so could be a zero cost solution
- Getting good information can be difficult

The EN Standard Test

- Test method defined in EN 13287
 - Does not replicate pedestrian gait
 - Not relevant to pedestrian slips
- Results interpreted by safety footwear standards
 - Low pass thresholds
 - Do not challenge the footwear
 - Many pairs achieve a pass rating but offer poor slip resistance in use

GRIP rating scheme

Rating	CoF - Water	CoF - 75% Glycerol
	≥ 0.19	n/a
	≥ 0.27	n/a
	≥ 0.36	n/a
	≥ 0.36	≥ 0.19
	≥ 0.36	≥ 0.27

For more information visit: www.hsl.gov.uk/products/grip

The ramp test



Ankle support



Energy company

- Large peripatetic sales workforce
- HSL helped identify footwear for trial
- Trialled with 600 staff:
- In the year before the trial:
 - 74 lost time incidents, stood workforce down during the worst weather
- In the year of the trial:
 - 1 lost time incidents, did not stand down at all

Oil company

- Changed their footwear specification to a lace up ankle boot - slips increased
- Contracted HSL to investigate the slipperiness of their footwear
- HSL undertook bespoke testing on the ramp leading to an improved procurement list
- BP added requirement for all of their suppliers to demonstrate compliance with HSL test

Falls in other areas

- Steps and stairs
- Escalators

Summary

- Falls can be prevented
- The solutions are often simple
- Beware of test data

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