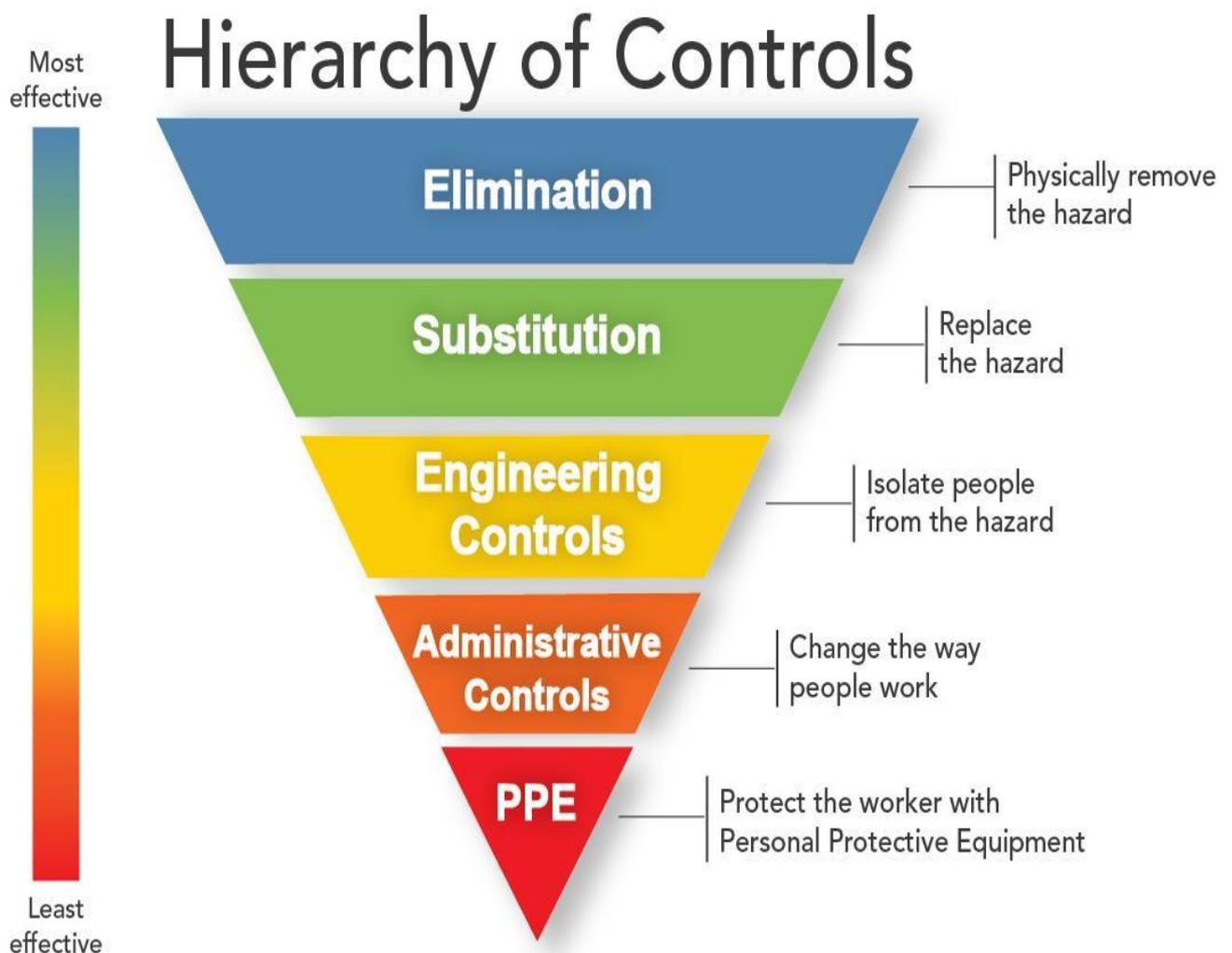


# Remove the Hazard: Prevent the Risk

Hazards Conference July 2016



<http://www.cdc.gov/niosh/topics/hierarchy/>

## The Hierarchy of Control Measures

The principle that some control measures are better than others is well established in health and safety management systems and legal systems across the world. The diagram on the front page of this document, for instance, is from the National Institution for Occupational Safety and Health in the USA. It makes it clear that the best solution to a workplace safety or health problem is to remove the hazard altogether. Where that is not possible replacing the hazard with something which is less risky is preferred. Where that is not possible solutions which are engineered into the system and provide protection automatically to most workers are preferred. Controls which rely on the way workers behave and wearing of personal protective equipment are the least effective because there is much more room for error and abuse.

The hierarchy principle underlies most modern health and safety laws. For example, in work at height regulations the first duty is to eliminate work at height where possible. Similarly for manual handling the first duty is to remove risky manual handling tasks.

The HSE had certainly referred to the hierarchy principle in its guidance in the past. This for example is an extract from a 1997 guidance document:

### **Extract from Managing Health and Safety: An Open Learning Book for Managers and Trainers, HSE, 1997 (Now out of print)**

#### **A hierarchy of risk control**

Assessing risks will give you a clear picture of where you need to make improvements. As you start to plan improvements you need to consider a number of questions, including:

- 1 Can you eliminate it altogether?
- 2 Can you replace it with something less hazardous?
- 3 Can you separate the hazard from the people who may be harmed?
- 4 Can you reorganise the work to reduce the risk?
- 5 Can you use personal protective equipment?

The order is important. It is far preferable to eliminate the hazard altogether (1), or replace it with something less hazardous, than to rely on people working safely or wearing protective clothing (5).

## Legal Duty to Follow the Basic Principles of Prevention

The hierarchy principle is an integral part of the Management at Work Regulations which are based on the European Framework Directive. The Directive and the

regulations impose a duty on employers to follow some basic 'principles of prevention' when applying any control measures to protect against occupational health and safety problems.

Regulation 4 of the Management at Work Regulations states:

***4. Where an employer implements any preventive and protective measures he shall do so on the basis of the principles specified in Schedule 1 to these Regulations.***

#### **SCHEDULE 1: GENERAL PRINCIPLES OF PREVENTION**

*(This Schedule specifies the general principles of prevention set out in Article 6(2) of Council Directive [89/391/EEC](#))*

- a) avoiding risks;*
- b) evaluating the risks which cannot be avoided;*
- c) combating the risks at source;*
- d) adapting the work to the individual, especially as regards the design of workplaces, the choice of work equipment and the choice of working and production methods, with a view, in particular, to alleviating monotonous work and work at a predetermined work-rate and to reducing their effect on health;*
- e) adapting to technical progress;*
- f) replacing the dangerous by the non-dangerous or the less dangerous;*
- g) developing a coherent overall prevention policy which covers technology, organisation of work, working conditions, social relationships and the influence of factors relating to the working environment;*
- h) giving collective protective measures priority over individual protective measures; and*
- i) giving appropriate instructions to employees.*

If you compare the general principles of prevention listed in Schedule 1 to the hierarchy approach you can see the similarities. However it is important to note that

the general principles outlined in the Schedule go further than the simple hierarchy itself. They include, for example, specific mention of the need to adapt work to the individual and to alleviate monotonous work.

## Approved Code of Practice to Management Regulations

Until 2013, it was easy to find regulation 4 of the Management Regulations and Schedule 1 in an HSE publication (and on the HSE website).

Legal Document L21 included a copy of the regulations and the associated approved code of practice and guidance. However, the HSE consulted on a proposal to remove the Approved Code of Practice to the Management Regulations as part of the review it was required to carry out following the Lofstedt report. The vast majority of respondents to the consultation, including health and safety professionals and employers organisations as well as unions, opposed the plan, but HSE went ahead with the removal of the ACoP and withdrew L21 from publication. They also removed any reference to it from their website – although you can still download a copy free of charge from the HSE Northern Ireland website as they kept it on

[http://www.hseni.gov.uk/l21\\_management\\_of\\_health\\_and\\_safety\\_at\\_work.pdf](http://www.hseni.gov.uk/l21_management_of_health_and_safety_at_work.pdf).

### What HSE guidance says now

In the current guidance on management of health and safety which replaced the L21 ACoP there is no mention of the duty under Regulation 4 of the Management Regulations or the Schedule

### Health and Safety Made Simple INDG449 -

*The law does not expect you to remove all risks, but to protect people by putting in place measures to control those risks, so far as reasonably practicable. Your risk assessment need only include what you could reasonably be expected to know – **you are not expected to anticipate unforeseeable risks.***

So there is no attempt to explain the duty to follow the principles of prevention. On the contrary the guidance seems to be more concerned with telling employers what they don't have to do.

### **From the Health and Safety Toolbox**

<http://www.hse.gov.uk/toolbox/managing/managingtherisks.htm>

*Look at what you're already doing and the control measures you already have in place. Ask yourself:*

- *Can I get rid of the hazard altogether?*
- *If not, how can I control the risks so that harm is unlikely?*

*Some practical steps you could take include:*

- *trying a less risky option:*
- *preventing access to the hazards*
- *organising your work to reduce exposure to the hazard*
- *issuing protective equipment*
- *providing welfare facilities such as first-aid and washing facilities*
- *involving and consulting with workers*

Although some of this is quite close to the steps listed in the general principles of prevention in the Schedule to the regulations, it still fails to mention that there is a hierarchy and the options are not all equal.

## From HSG65 Managing for Health and Safety

In the most detailed guidance to health and safety management (HSG65) in the section on Risk Profiling 'What the law says on assessing risk'

<http://www.hse.gov.uk/managing/delivering/do/profiling/the-law.htm>

*The law states that a risk assessment must be 'suitable and sufficient', i.e. it should show that:*

- *a proper check was made*
- *you asked who might be affected*
- *you dealt with all the obvious significant risks, taking into account the number of people who could be involved*
- *the precautions are reasonable, and the remaining risk is low*
- *you involved your workers or their representatives in the process.*

*The level of detail in a risk assessment should be proportionate to the risk and appropriate to the nature of the work. Insignificant risks can usually be ignored, as can risks arising from routine activities associated with life in general, unless the work activity compounds or significantly alters those risks.*

*Your risk assessment should only include what you could reasonably be expected to know - you are not expected to anticipate unforeseeable risks.*

Again there is no mention of the hierarchy of controls or of the principles of prevention. This means there is no mention anywhere in the suite of guidance on the management of health and safety of the need to combat risks at source or to alleviate monotonous work or work at a pre-determined work-rate.

## Where DOES the hierarchy of control get a mention?

There is a question and answer in the FAQ section of the 'Risk Management' pages of the HSE website <http://www.hse.gov.uk/risk/faq.htm#hierarchy>:

The question asks

**What is a hierarchy of control?**

And the answer states:

*Risks should be reduced to the lowest reasonably practicable level by taking preventative measures, in order of priority. This is what is meant by a hierarchy of control. The list below sets out the order to follow when planning to reduce risks you have identified in your workplace. Consider the headings in the order shown, do not simply jump to the easiest control measure to implement.*

1. *Elimination - Redesign the job or substitute a substance so that the hazard is removed or eliminated.*
2. *Substitution - Replace the material or process with a less hazardous one.*
3. *Engineering controls - for example use work equipment or other measures to prevent falls where you cannot avoid working at height, install or use additional machinery to control risks from dust or fume or separate the hazard from operators by methods such as enclosing or guarding dangerous items of machinery/equipment. Give priority to measures which protect collectively over individual measures.*
4. *Administrative Controls - These are all about identifying and implementing the procedures you need to work safely. For example: reducing the time workers are exposed to hazards (eg by job rotation); prohibiting use of mobile phones in hazardous areas; increasing safety signage, and performing risk assessments.*
5. *Personal protective clothes and equipment - Only after all the previous measures have been tried and found ineffective in controlling risks to a reasonably practicable level, must personal protective equipment (PPE) be used. For example, where you cannot eliminate the risk of a fall, use work equipment or other measures to minimise the distance and consequences of a fall (should one occur). If chosen, PPE should be selected and fitted by the person who uses it. Workers must be trained in the function and limitation of each item of PPE.*

This is a reasonably good description of the hierarchy, but there is no context to explain its significance and the Risk Management web pages don't make any mention of the legal duty to follow the principles of prevention.

One other place where the hierarchy does make a brief appearance is in the Leadership and Worker Involvement Toolkit on the Construction web pages. Buried in the Further Tools section of Part 3 of the Toolkit is a page entitled Management of

Risk When Planning Work: The Right Priorities which gives a similar description of the hierarchy - <http://www.hse.gov.uk/construction/lwit/assets/downloads/hierarchy-risk-controls.pdf>

And, of course, there is a specific set of principles of good practice attached to the Control of Substances Hazardous to Health Regulations (COSHH) because there is a specific duty in Regulation 7 to comply with the principles as laid out in Schedule 2A of those regulations. See L5 Control of Substances Hazardous to Health Regulations, Approved Code of Practice and Guidance <http://www.hse.gov.uk/pubns/priced/l5.pdf>

## Schedule 2A Principles of good practice for the control of exposure to substances hazardous to health

<b>Schedule</b>	<b>2A</b>
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### Regulation 7(7)

- (a) *Design and operate processes and activities to minimise emission, release and spread of substances hazardous to health.*
- (b) *Take into account all relevant routes of exposure – inhalation, skin absorption and ingestion – when developing control measures.*
- (c) *Control exposure by measures that are proportionate to the health risk.*
- (d) *Choose the most effective and reliable control options which minimise the escape and spread of substances hazardous to health.*
- (e) *Where adequate control of exposure cannot be achieved by other means, provide, in combination with other control measures, suitable personal protective equipment.*
- (f) *Check and review regularly all elements of control measures for their continuing effectiveness.*
- (g) *Inform and train all employees on the hazards and risks from the substances with which they work and the use of control measures developed to minimise the risks.*
- (h) *Ensure that the introduction of control measures does not increase the overall risk to health and safety.*

### Guidance Schedule 2A

309 Further information on the principles of good practice for the control of hazardous substances can be found in paragraphs 99–119, and also on HSE's COSHH webpages at [www.hse.gov.uk/coshh/](http://www.hse.gov.uk/coshh/).

Since the Management Regulations ACoP was removed and L21 was withdrawn from publication in 2013, there is no clear statement anywhere on the HSE website or in their current suite of guidance on management of risk of the duty in regulation 4 of the Management Regulations to follow the particular principles of prevention outlined in Schedule 1 to those regulations.

In all sorts of workplaces, all too often employers rely on inferior control measures from the hierarchy of prevention – because they seem like the easier option.

In workplaces where pedestrians are at risk of being run over – hi-viz jackets are issued instead of planning proper segregation of vehicles and pedestrians.

In workplaces where dust or fumes are an issue – respiratory protection, usually low-grade masks, is relied on instead of substitution, enclosure or ventilation.

In workplaces where manual handling causes risk of injury – there is an over-reliance on MH training rather than removal of the need to handle or developing safer systems and providing suitable manual handling equipment.

If more attention was paid to the duty under regulation 4 and the principles of prevention outlined in Schedule 1, more hazards would be removed, risks would be controlled at source and work would be inherently safer and healthier.

## **Further Reading:**

[https://www.tuc.org.uk/workplace-issues/personal\\_protective\\_equipment.cfm](https://www.tuc.org.uk/workplace-issues/personal_protective_equipment.cfm)

<http://www.hazards.org/bs/hazardsbriefing.htm>

<http://www.hazards.org/bs/hazardsstupid.pdf#search=hierarchy>