

YOUNG PERSONS AT WORK



**Introduction**

Legislation required to implement the health and safety provisions of the European Directive on the protection of young persons at work was introduced in 1997 as the Health and Safety (Young Persons) Regulations 1997. These Regulations have now been revoked and their requirements incorporated into the Management of Health and Safety at Work Regulations 1999.

In the regulations "Young Person" means any person who has not attained the age of 18. Children under 13 years of age are generally prohibited from any form of employment.

Under the Employment of Women, Young Persons, and Childrens Act 1920 children between 13 and the minimum school leaving age (MSLA) are prohibited from being employed in industrial undertakings such as factories etc, except when on work experience schemes approved by the local education authority.

The Health and Safety (Training for Employment) Regulations 1990 have the effect of designating children on work experience as employees for the purposes of health and safety legislation. Employers offering work experience placements to children must provide them with at least the same health, safety and welfare protection that they give their own employees. There are also some age-related restrictions which prohibit young workers, including children on work experience, from working with particular machinery or undertaking particular tasks. A list of these is given in Appendix 1.

The Working Time Regulations 1998 apply to young persons at work experience placements, for example they should not work for more than five days in any consecutive seven-day period.

**Outline of the Regulations**

The Management of Health and Safety at Work Regulations 1999 require employers to:-

- X assess risks to young persons, under 18 years old, before they start work;
- X ensure that the risk assessment takes into account their psychological or physical immaturity, inexperience, and lack of awareness of existing or potential risks;
- X to introduce control measures to eliminate or minimise the risks, so far as is reasonably practicable.
- X provide information to parents of school-age children about the risk and control measures introduced before the child starts work or work experience;

- X address certain specified factors in the risk assessment;**
- X take account of the risk assessment in determining whether the young person should be prohibited from certain work activities, except where they are over MSLA and it is necessary for their training and;**
- X where risks are reduced so far as is reasonably practicable; and**
- X where proper supervision is provided by a competent person.**

**The regulations do not apply to young persons doing occasional or short-term work in a family undertaking when the work is not harmful, damaging or dangerous.**

### **Action Required**

#### **1 University Level**

**It is the responsibility of the University:-**

- a) to take all reasonable steps to secure the health and safety of all young persons at work in the University**
- b) to give sufficient information, instruction and training as is necessary to ensure the health and safety of all young persons**

#### **2 Departmental Level**

**Heads of Department are responsible for ensuring implementation of the regulations in their Department.**

**They need to:-**

- a) consider having a named person to oversee the placement of young persons.**
- b) inform Personnel Services of the names and period of placement of those young persons whom they intend to take on work experience.**
- c) ensure that a suitable and sufficient assessment of the risks to health and safety of young persons is carried out before they start work. The assessment must take into account their inexperience, lack of awareness of existing or potential risks and immaturity. The following factors must also be taken into account:-**

- X the fitting-out and layout of the workplace and workstation;**
- X the nature, degree and duration of exposure to physical, biological and chemical agents;**
- X the form, range and use of work equipment and the way in which it is handled;**

- X the organisation of processes and activities;
  - X the extent of the health and safety training provided, or to be provided, to the young persons concerned; and
  - X risks from agents, processes and work listed in Appendix 2.
- d) inform the young persons concerned about the risks to their health and safety identified by the assessment and the measures put in place to control them.
  - e) submit to Personnel Services, before the work experience starts, the key findings of the risk assessment to young workers under the MSLA and the control measures to be taken.
  - f) Prohibit young persons from carrying out any work, if after following the advice given in Appendix 2, it is concluded that as a result of the risk assessment, there is a significant risk to young persons from doing that work.

**NB:** *This prohibition does not apply to young persons over MSLA doing work necessary for their training, under proper supervision by a competent person and providing risks are reduced so far as is reasonably practicable, in line with existing health and safety legislation.*

### **3 Personnel Services**

Personnel Services are responsible for ensuring that:-

- a) a copy of this policy is circulated to all Departments providing young persons for work experience in the University.
- b) Parents of young workers under the MSLA are informed of the key findings of the risk assessment and the control measures taken.

### **4 Young Persons**

All young persons working in the University have a duty to:-

- a) comply with all health and safety arrangements that are in force within the University;
- b) take reasonable care for the health and safety of themselves and other persons who may be affected by the way in which they carry out their work;
- c) co-operate with all staff and students to enable them to carry out their own health and safety duties;
- d) report to supervisory staff any situation, working practice or procedure which they may suspect is potentially hazardous;
- e) report accidents to supervisory staff;
- f) use, but not misuse, protective clothing, equipment or materials provided;

**and**

- g) comply with the health and safety instructions, both spoken and written, which are issued to them;**

**References:-**

- 1 Management of the health and safety at work. Management of Health and Safety at Work Regulations 1999 - Approved Code of Practice L21 HSE Books 2000 ISBN 0 7176 2488 9**
- 2 Young People at Work - A Guide for Employers HSE Books 1977 ISBN 0 7176 1285 6**
- 3 Managing Health and Safety on Work Experience - A Guide for Organisers HSG199 HSE Books 2000 ISBN 0 7176 1742 4**
- 4 A Guide to the Working Time Regulations DTI URN 98/894**

## **APPENDIX 1 - EXISTING AGE-RELATED RESTRICTIONS**

### **Background**

**In general, restrictions on young persons at work take the form of prohibitions ie young persons are not allowed to do a particular activity. Often the prohibitions only apply to specific activities in certain sectors of employment. Sometimes they may be allowed to do work if certain conditions (typically relating to training and/or supervision) are met. These restrictions also apply to pupils under the minimum school leaving age (MSLA) on work experience schemes.**

**Listed below are the main health and safety restrictions relating to the work of young people carried out in the University.**

### **Ionising Radiation**

**Regulation 11 and Schedule 4 of the Ionising Radiations Regulations 1999 set out a hierarchy of dose exposure limits, the highest being for an adult employee, followed by that for a trainee under 18 and then for 'any other person' eg member of the public. Regulation 20 requires employers to classify employees likely to receive higher doses from radiation exposure but expressly prohibits a young person (under 18) from being designated as a 'classified person'.**

### **Power Presses**

**The Approved Code of Practice Safe use of power presses: Provision and Use of Work Equipment Regulations 1988 as applied to power presses states that young people (under 18 years) should not be allowed to use a power press unless they have the necessary maturity and competence. This includes having successfully completed appropriate training. However, they may operate a power press during training as long as they are adequately supervised. They should also be supervised after training if considered insufficiently mature.**

### **Woodworking Machines**

**The Approved Code of Practice and Guidance Safe use of woodworking machinery: Provision and Use of Work Equipment Regulations 1998 as applied to woodworking states that young people (under 18 years) should not be allowed to use high-risk woodworking machinery unless they have the necessary maturity and competence which includes having completed appropriate training. High-risk woodworking machinery includes any woodworking machine which is hand-fed as well as the following machines, however they are fed:**

- X any sawing machine fitted with a circular blade or saw band;**
- X a planing machine when used for surfacing; and**
- X a vertical spindle moulding machine.**

**However, young people may operate high-risk woodworking machinery during training providing they are adequately supervised. They should also be supervised after training if**

considered insufficiently mature.

## **Agriculture**

The Prevention of Accidents to Children in Agriculture Regulations 1998 prohibit children under 13 years from riding on vehicles and machines including tractors, trailers etc. The Approved Code of Practice Preventing accidents to children in agriculture gives practical advice on complying with the Regulations and the types of dangerous work which young people of compulsory school age should not do or be involved in.

## **Carriage of Dangerous Goods**

Under the Carriage of Dangerous Goods by Road Regulation 1996 (as amended), the operator and driver of any vehicle carrying dangerous goods must ensure that when the vehicle is parked it is supervised by a competent person over the age of 18 years.

## **Provision and Use of Work Equipment**

The Provision and Use of Work Equipment Regulations 1998 (PUWER) apply to all work equipment which is used by employees. The primary objective of the Regulations is to ensure that no work equipment gives rise to risks to health and safety, regardless of the work equipment's age, condition or origin. All employees must be competent to use work equipment with due regard to health and safety.

The Approved Code of Practice and Guidance on PUWER, Safe use of work equipment: Provision and Use of Work Equipment Regulations 1998 emphasises the importance of training and properly supervising young people because of their relative immaturity and unfamiliarity with the working environment.

## **Mechanical Lifting Operations**

The Lifting Operations and Lifting Equipment Regulations 1998 apply to lifting equipment in all premises and work situations subject to the Health and Safety at Work etc Act 1974. The Approved Code of Practice and Guidance Safe use of lifting equipment: The Lifting Operations and Lifting Equipment Regulations 1998 states that young people under 18 years should not be allowed to use high-risk lifting machinery unless they have the necessary maturity and competence which includes having successfully completed appropriate training, Examples of high-risk lifting equipment which normally should not be operated by young people include:

- X cranes;
- X construction site hoists; and
- X fork-lift trucks

There may be substantial risks associated with the use of lifting accessories, for example during slinging and employers need to assess whether such work is appropriate for young people. However, young people may use high-risk lifting machinery during training as long as they are adequately supervised. They should also be supervised after training if considered not sufficiently mature

## **Lift Trucks**

The Approved Code of Practice and Guidance Rider-operated lift trucks: Operator

**training states that young people under 18 years should not be allowed to operate lift trucks without adequate supervision unless they have the necessary competence and maturity, as well as having successfully completed appropriate training. Children under the MSLA should never operate lift trucks.**

## **APPENDIX 2 - HAZARDS, RISKS AND WAYS OF AVOIDING THEM**

The following tables provides information on the nature of the risks to which young workers may be exposed whilst undertaking work in the University and the action that must be taken to avoid *them*. It includes a list of agents, processes and work, taken from the Annex to the Directive on the Protection of Young People at Work, which are considered by the European Commission as likely to give rise to dangers to young people.

If, despite following the advice in the tables, it is concluded that as a result of the risk assessment, there is a significant risk to young persons doing this type of work, they must be prohibited from doing it.

The risk assessment must be carried out before the young person is employed. The risk assessment should take into account the characteristics of young workers and also the following factors.

- ! the fitting-out and layout of the workplace and the workstation;**
  - ! the nature, degree and duration of exposure to physical, biological and chemical agents;**
  - ! the form, range and use of work equipment and the way in which it is handled;**
  - ! the organisation of processes and activities;**
- and**
- ! the extent of the health and safety training provided, or to be provided, to the young people concerned.**

**Table 1 WORK INVOLVING PSYCHOLOGICAL OR PHYSICAL CAPACITY**

<b>Agents, processes and work</b>	<b>What is the risk ?</b>	<b>How to avoid the risk</b>	<b>Other legislation</b>
Physical capacity	<p>Accidents, injuries and/or musculoskeletal disorders which can occur in jobs that require repetitive or forceful movements, particularly in association with awkward posture or insufficient recovery time.</p> <p>Young people may not be physically capable of driving or operating machinery designed for adults and they may not have the strength to operate the controls with ease.</p>	<p>The risk assessment should take account of physique and general health, age and experience.</p> <p>Training and effective supervision should be provided.</p>	Manual Handling Operations Regulations 1992
Psychological capacity	<p>Although there will be large individual differences in the psychological capacity of young people, based on differences in training, experience, skills, personality and attitudes, in the vast majority of jobs there is no difference in the kind of mental and social skills used by young people and adults.</p> <p>However, there are some areas of work that could be beyond a young person's mental and emotional coping ability, such as dealing with violent and aggressive behaviour and decision-making in stressful situations.</p>	<p>The risk assessment should focus on critical tasks which rely on skill, experience and an understanding of the task requirements. Training and effective supervision should be provided, particularly where the young person might be:</p> <p>X using machinery with exposed dangerous parts, eg food slicing machinery.</p> <p>X potentially exposed to violent or aggressive behaviour.</p>	

Table 2 WORK IN WHICH THERE IS A RISK FROM EXTREME COLD OR HEAT OR FROM NOISE OR VIBRATION

List of Agents, processes and work	What is the risk?	How to avoid the risk	Other legislation
<p>Extreme cold or heat</p>	<p>Extreme cold or heat carries risks for workers of all ages. These include collapse due to heat exhaustion or potentially fatal heat stroke. Protective clothing may prevent the body losing heat normally.</p> <p>Young workers control body temperatures in the same way as older workers. Their response to work in hot conditions will depend on physical fitness, physique and past experience of hot conditions, which will be variable.</p> <p>Exposure to extreme cold also carries risks for people of all ages and they have varying abilities to tolerate cold conditions. The risks are principally hypothermia and local cold injury (frostnip and frostbite).</p>	<p>Any intended exposure to extreme heat must be carefully assessed and the risks minimised by:</p> <p>X introducing suitable work patterns;</p> <p>X reducing workrate;</p> <p>X controlling work periods;</p> <p>X getting a medical assessment of the young person before they start work; and</p> <p>X proper supervision of the work.</p>	<p>Personal Protective Equipment at Work Regulations 1992</p> <p>Workplace (Health, Safety and Welfare ) Regulations 1992</p> <p>Construction, Health, Safety and Welfare Regulations 1996</p> <p>Provision and Use of Work Equipment Regulations 1998</p> <p>Manual Handling Operations Regulations 1992</p>

Table 2 (continued)

List of Agents, processes and work	What is the risk?	How to avoid the risk	Other legislation
Noise	There is no evidence that young workers face greater risk of damaged hearing from exposure to noise than other employees.	Compliance with the Noise at Work Regulations should protect the hearing of young people. However, suitable hearing protection should be provided where the daily personal noise exposure of young workers exceeds 85 dB(A). A competent person should supervise the wearing of ear protection to ensure that it is worn properly during exposure to loud noise levels.	The Noise at Work Regulations 1989 apply to all workers exposed to loud noise where there is a risk to hearing.
Whole body vibration	Regular exposure to shocks, low frequency whole body vibration, eg driving in off-road vehicles on uneven surfaces, or excessive movement may be associated with back pain, and other spinal disorders. Younger workers may be at greater risk of damage to the spine as the strength of the muscles is still developing and the bones do not fully mature until around the age of 25.	<p>A programme to control the significant risks identified in the risk assessment should be considered including:</p> <ul style="list-style-type: none"> <li>X identification of hazardous equipment/tasks</li> <li>X limiting exposure by reducing either time and/or level</li> <li>X provision of information and training on how to minimise the risks</li> <li>X health surveillance</li> </ul> <p>HSE has published guidance on</p>	

		whole-body vibration	
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Table 2 (continued)

List of Agents, processes and work	What is the risk?	How to avoid the risk	Other legislation
Hand-arm vibration (HAV)	<p>There is no evidence that young people face greater risk of developing hand-arm vibration syndrome from exposure to hand-arm vibration than other employees.</p> <p>Hand-arm vibration syndrome includes vibration white finger and damage to sensory nerves, muscles and joints.</p> <p>However, during adolescence there is an increased risk of non-occupational Raynaud=s Disease, which can give similar symptoms to vibration white finger. Young people with Raynaud=s Disease should not be exposed to HAV</p>	<p>HSE=s guidance recommends that action should be taken to protect employees when exposure to vibration exceeds an acceleration of 2.8 metres per second (<math>m/s^2</math>) However HSE recognises that there may be some risks to health even below this level.</p> <p>To avoid risks to young people a risk control programme should be considered which includes:</p> <ul style="list-style-type: none"> <li>X identification of hazardous equipment/tasks</li> <li>X limiting exposure to about 1 <math>m/s</math> normalised over 8 hours, by reducing either the time of exposure and/or the vibration level</li> <li>X provision of competent supervision</li> <li>X health surveillance</li> </ul>	

Table 3 WORK INVOLVING HARMFUL EXPOSURE TO RADIATION

List of Agents, processes and work	What is the risk?	How to avoid the risk	Other legislation
<p>Ionising radiation</p>	<p>The risk of developing cancer and hereditary defects from exposure to ionising radiation, which increases slightly for young people, is controlled by setting statutory annual dose limits. The main dose limits which relate to the whole body dose are the most important elements in relation to cancer risk. The limits for young people per calendar year are:</p> <p>X     6 millisieverts for young trainees under 18 years(30% of adult limit)</p> <p>X     1 millisievert for employees below 18 years who are not trainees. (the same as for the general public)</p> <p>* Trainees (including students) are defined as being aged 16 years or above receiving instruction or training involving work with ionising radiation.</p>	<p>Work procedures should be designed to keep exposure to ionising radiation as low as reasonably practicable. Young people are not permitted to be designated as 'classified persons' and should only enter a 'controlled area' under the terms of a written system of work.</p>	<p>Ionising Radiations Regulations 1999_and supporting ACOP</p>

**Table 3 (continued)**

<b>List of Agents, processes and work</b>	<b>What is the risk?</b>	<b>How to avoid the risk</b>	<b>Other legislation</b>
<p><b>Non-ionising electromagnetic radiation</b></p>	<p><i>Optical radiation:</i> There is no evidence that young workers face greater risk of skin and eye damage than other workers.</p> <p><i>Electromagnetic fields and waves:</i> Exposure within current recommendations is not known to cause ill health to workers of any age. Extreme overexposure to radio-frequency radiation could cause harm by raising body temperature.</p>	<p>Outdoor workers are advised to reduce their exposure to the sun in the summer months as much as is reasonably practicable and follow HSE guidance. .</p> <p>Exposure to electric and magnetic fields should not exceed the restrictions on human exposure published by the National Radiological Protection Board.</p>	

**Table 4 WORK INVOLVING HARMFUL PHYSICAL AGENTS**

<b>List of Agents, processes and work</b>	<b>What is the risk?</b>	<b>How to avoid the risk</b>	<b>Other legislation</b>
<p><b>Work in high pressure atmospheres</b></p>	<p><i>Diving</i> The risks from pressure and decompression.</p> <p>Pregnant workers are advised not to dive at all during pregnancy due to the possible effects of exposure to a hyperbaric environment on the foetus</p>	<p>Divers must have an approved qualification, be fit and must have a valid certificate of medical fitness to dive,</p> <p>There is no minimum age limit for divers. However, it is unusual for anyone below school-leaving age to undergo diver training and no one under 18 is accepted for work by employers offshore.</p>	<p>Diving at Work Regulations 1997</p>

**Table 5 WORK INVOLVING BIOLOGICAL AGENTS**

<b>List of Agents, processes and work</b>	<b>What is the risk?</b>	<b>How to avoid the risk</b>	<b>Other legislation</b>
<p><b>Biological agents</b></p>	<p>In spite of their physical and psychological immaturity, young people are no more likely to contract infections from biological agents (microorganisms) than adults. Like any other person, they may be at greater risk if they suffer from any other disease or from the effects of medication or pregnancy</p> <p>However guidance produced by the Advisory Committee on Dangerous Pathogens advises that people aged 18 years and under should not handle animals infected with Hazard Group 4 biological agents.</p>	<p>Precautions against risk of infection at work and of acquiring an allergy to certain microbes are applicable to all employees regardless of their age or state of health.</p> <p>Control measures, which are often as simple as maintaining high standards of hygiene like hand-washing or use of gloves, are derived from the risk assessment that employers are required to make under the COSHH Regulations.</p> <p>Vaccination should be offered as a supplement to procedural or physical controls.</p>	<p>Control of Substances Hazardous to Health Regulations 1999</p> <p>Genetically Modified Organisms (Contained Use) Regulations_ 2000</p> <p>Personal Protective Equipment at Work Regulations 1992</p>

**Table 6 WORK INVOLVING CHEMICAL AGENTS**

<b>List of Agents, processes and work</b>	<b>What is the risk?</b>	<b>How to avoid the risk</b>	<b>Other legislation</b>
<p><b>Very toxic, toxic, corrosive and irritant substances</b></p>	<p>Young people are not physiologically at any greater risk from exposure to such substances than anyone else. The actual risk can only be determined following a risk assessment of the particular substance at the place of work. However, young people may not appreciate the dangers to their health or they may not understand or follow instructions properly because of their immaturity.</p>	<p>These substances fall within the scope of COSHH. Employers should assess the health risks to young people, arising from work with any of the substances, and where appropriate prevent or control the risks.</p> <p>Particular attention should be paid to COSHH requirements on the provision of:</p> <p>X information, instruction and training</p> <p>X adequate supervision within a safe system of work</p>	<p>Control of Substances Hazardous to Health Regulations 1999</p> <p>Personal Protective Equipment at Work Regulations 1992</p>
	<p>Some substances (<b>carcinogens</b>) may cause cancer. They need special consideration because of</p>	<p>There are special precautions for these kinds of substances as set out in the COSHH Carcinogens ACOP</p>	

	that property - they have no special effect on young people	Many of these substances can be identified from the label or safety data sheet for the substance which will say >May cause cancer=.Other carcinogenic substances and processes are listed in Schedule <i>I</i> of the COSHH Regulations (see the general COSHH Approved Code of Practice	
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**Table 6 (continued)**

<b>List of Agents, processes and work</b>	<b>What is the risk?</b>	<b>How to avoid the risk</b>	<b>Other legislation</b>
	Some substances can cause <i>allergic reactions</i> in people. This may give them dermatitis or asthma. These substances do not affect young people any differently from adults.	HSE guidance on preventing asthma at work, and on dermatitis, gives practical advice on preventing risk to all workers.	
	Some substances may impair a woman=s ability to have children or may damage the unborn child. These substances do not affect young people any differently from adults	In carrying out the risk assessment regard should be given for woman who are pregnant, or who have recently given birth. Practical advice on protecting the health and safety of new and expectant mothers is given in HSE guidance,	Management of Health and Safety at Work Regulations 1999
<b>Asbestos</b>	Young people are not physiologically at any greater risk from exposure to asbestos than anyone else, but asbestos is a very hazardous material.	The requirements of the Control of Asbestos at Work Regulations 1987 (CAW) should be followed. In particular, exposure to asbestos should be avoided wherever possible. If exposure cannot be	Control of Asbestos at Work Regulations 1987 (CAW)

	<p>Exposure to asbestos fibres causes three serious diseases: mesothelioma (a cancer of the lung lining); lung cancer (indistinguishable from cancers caused by other agents); and asbestosis (scarring of lung tissue). These diseases can take many years to appear after the period of exposure. There are no cures for asbestos-related diseases.</p>	<p>avoided, for example by using other products or processes, it should be reduced to as low as a level as is reasonably practicable.</p> <p>Special attention should be paid to CAW requirements on the provision of information, instruction and training, and to the provision of adequate supervision within a safe system of work.</p>	
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**Table 6 (continued)**

<b>List of Agents, processes and work</b>	<b>What is the risk?</b>	<b>How to avoid the risk</b>	<b>Other legislation</b>
<b>Asbestos (continued)</b>	<p>The actual risk can only be determined following a risk assessment of the particular circumstances under which there is exposure to asbestos at the place of work. However, young people may not appreciate the dangers to their health or they may not understand or follow instructions properly because of their immaturity.</p>	<p>The marketing and use of certain asbestos materials and products is forbidden except for use in a very few critical situations</p>	<p>Asbestos (Prohibitions) Regulations 1992 and Asbestos (Prohibitions) (Amendment) Regulations 1999</p>

**Table 7 WORK INVOLVING THE RISK OF ACCIDENTS WHICH IT MAY BE ASSUMED CANNOT BE AVOIDED BY YOUNG PEOPLE OWING TO THEIR INSUFFICIENT ATTENTION TO SAFETY OR LACK OF EXPERIENCE OR TRAINING**

<b>List of Agents, processes and work</b>	<b>What is the risk?</b>	<b>How to avoid the risk</b>	<b>Other legislation</b>
<b>Flammable liquids</b>	Accidental spills can cause fires or explosions. Flammable liquids should be used only for their intended purposes; using them for other purposes may lead to fires or explosions.	<p>If employees are working with or near flammable liquids, they need to have explained to them:</p> <ul style="list-style-type: none"> <li>X the basics of flammability</li> <li>X what to do if liquid is spilt</li> <li>X the dangers of using liquids, such as petrol for cleaning machinery or starting bonfires</li> </ul>	
<b>Flammable gases</b>	Leaking gas from pipes, appliances or cylinders can cause fires or explosions.	If employees are working with or near pipes, cylinders or appliances containing flammable gases, they	

		<p>need to have explained to them:</p> <p>X the basics of flammability</p> <p>X how to detect leaking gas</p> <p>X what to do in the event of a gas leak</p>	
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**Table 7 (continued)**

<b>List of Agents, processes and work</b>	<b>What is the risk?</b>	<b>How to avoid the risk</b>	<b>Other legislation</b>
<b>Gas cylinders</b>	Leaking gas from cylinders may cause fire or explosions	<p>If gas cylinders are used in the workplace, employees will need to have explained to them:</p> <p>X the basics of flammability</p> <p>X how to detect leaking gas</p> <p>X what to do in the event of a gas leak</p>	
	Physical damage to cylinders may cause leaks which may lead to fires or explosions. Heavy cylinders may cause physical injury if not properly handled.	<p>Gas cylinders need to be properly handled to avoid:</p> <p>X the danger of fire and explosion</p>	

		X the risk of physical injury to the worker, eg crushed toes	
	Application of heat to gas cylinders may cause them to burst, possibly resulting in a 'shrapnel' type explosion. Alternatively, the contents may be vented through a pressure release valve resulting in fire or explosion.	Gas cylinders need to be safely stored and used, away from direct heat.	

Table 7 (continued)

List of Agents, processes and work	What is the risk?	How to avoid the risk	Other legislation
<b>Work with vats, tanks, reservoirs or carboys containing chemical agents</b>	Such work involves handling or working near to substantial quantities of substances hazardous to health . There is a risk of fire or explosion where there is an explosive atmosphere, or where spills or leaks of flammable substances are readily foreseeable. There is also a risk of ignition of a flammable liquid which has splashed or soaked into clothing..  There is also a risk of falls from	The risk assessment should cover issues such as:  X how to ensure that young people will follow emergency procedures properly if containment is lost  X how to prevent young people from falling into tanks of hazardous chemicals	Control of Substances Hazardous to Health Regulations <u>1999</u>  Workplace (Health, Safety and Welfare) Regulations 1992

	heights into dangerous substances	X how to ensure that young people behave responsibly when working near quantities of chemicals that have the potential to cause serious harm, eg making young workers aware of the dangers of introducing ignition sources in these situations.	
<b>Work involving a risk of structural collapse</b>	There are a number of activities which may give rise to a risk of structural collapse, including new construction, refurbishment and alterations when structures may be either deliberately or accidentally weakened. Demolition or dismantling is also a high-risk activity.	Employers should plan for all such work and ensure that it is carried out under the control of a competent person. Young people should only do this work if properly trained or if they are supervised by a trained person.	Construction (Design and Management) Regulations 1994  Construction (Health, Safety and Welfare) Regulations 1996

**Table 7 (continued)**

<b>List of Agents, processes and work</b>	<b>What is the risk?</b>	<b>How to avoid the risk</b>	<b>Other legislation</b>
<b>Work involving high-voltage electrical hazards</b>	The risk is one electric shock, burns or electrocution. There is no evidence that young workers face greater physical risks from electricity than other workers.	As with adults, young people should not undertake any work involving electricity unless:  X they have the necessary technical knowledge and/or experience to prevent danger of injury  X they are under an appropriate level of supervision for the nature	Electricity at Work Regulations 1989

		of the work	
<b>Work with fierce or poisonous animals</b>	<p>Some animals kept in zoos are fierce or poisonous. Farm animals may occasionally show aggression, eg bulls or animals with young both in open fields and enclosed pens</p> <p>Young people may be more at risk than older workers because of their inexperience and lack of appreciation of the risks</p> <p>There may be additional risks from zoonoses (diseases carried by animals which can also affect humans) These include orf, which causes skin lesions and E coli O157, which may cause serious diarrhoea or death</p>	<p>All employees working with zoo animals must be supervised. Because of their lack of experience young workers may be particularly at risk and zoo operators should ensure that they are adequately trained and strictly supervised.</p> <p>Safety management systems should also be put into place to segregate employees from potentially fierce animals. If it is known that a farm animal has the potential to be aggressive consideration should be given as to whether or not young people should be allowed to work with it. Otherwise reduce risks by:</p> <p>X preventing access to</p>	

**Table 7 (continued)**

<b>List of Agents, processes and work</b>	<b>What is the risk?</b>	<b>How to avoid the risk</b>	<b>Other legislation</b>
<b>Work with fierce or poisonous animals (continued)</b>		<p>potentially aggressive farm animals</p> <p>X provide proper training for young workers before they have to work among male animals or those with young;</p> <p>X make sure adequate handling facilities are available and used; and</p>	Non specific

		<p>X provide supervision until you are satisfied the young worker is competent.</p> <p>Following the principles of good occupational hygiene should protect against the risk of contacting a zoonose.</p>	
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