

Hazard Identification, Risk Assessment and Control (HIRAC) for Children in University Locations/Activities

Risk, Health and Safety

University of Ballarat
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Introduction

A. Workplaces, study areas or activities cannot be assumed to be safe for children on the basis that they are safe for adults. The same hazard may present a much greater risk to children than to adults. It should also be considered that children may introduce, by their behaviour or their mere presence, a risk for others.

To manage appropriately the duty of care we owe children and the legitimate access needs of parents, carers and guardians, any University Manager who is considering allowing a child into a location or activity that they control should identify and implement any risk control measure that may be necessary. The process for identifying these measures is outlined in Section 2 of this document – *HIRAC Table for Children in University Locations/Activities*:

- in the first and second columns: identify and assess the risks specifically associated with the presence of a child or children in that location/activity;
- in the third column: identify the risk control measures which will effectively and practicably eliminate or minimise the risks (see B & C below), and implement them in consultation with all stakeholders, including the child's parents/carers/guardians; and
- in the fourth column: verify the risks have been eliminated or reduced to LOW.

B. Note on Assessing Risks

Risks can usually be assessed through a consultative process which makes use of the participants' experience and judgement. Where necessary, risks can be assessed more formally on the basis of two key factors: (a) the severity of any injury/illness resulting from the hazard and (b) the likelihood the injury/illness will actually occur. For more information, refer to the appendix in Section 3 of this document.

C. Note on Controlling Risks

The presence of a child in an area or activity with HIGH or MEDIUM risks is **not acceptable**. Effective risk control measures (see options 1, 2 and 3 below) must be implemented and bring the residual risk down to LOW before a child's presence becomes acceptable. It is inadequate to rely solely on administrative measures (e.g. supervision) to control HIGH risks to children. The risk control options below are ranked in decreasing order of effectiveness. Risk control measures should always aim to be as high in the list as practicable. The effective control of any given risk generally involves a number of measures drawn from the various options.

Risk Control Options:

1. Elimination of hazard: examples include the proper disposal of dangerous items of equipment, the removal of chemicals from the area, etc. The elimination of hazards is 100% effective and is therefore the control measure of choice where death or serious injury may occur (HIGH risk).
2. Substitution of hazard: examples include the use of non-toxic materials in the manufacture of toys, the replacement of outdated cots with safer ones, the selection of non-toxic cleaning products rather than dangerous ones, etc. The effectiveness of substitution is wholly dependent on the choice of replacement.
3. Physical controls: examples include the use of playpens to restrict the movements of babies and toddlers, the use of safety plugs in unused power outlets, the installation of barriers across stairs, the use of a pusher as opposed to carrying children, etc. The effectiveness of physical solutions is around 70 - 90%.
4. Administrative controls: include supervision, instructions, warnings, training, education, etc. The effectiveness of administrative controls ranges from 10 to 50%. They typically require significant resources to be maintained over long periods of time for continuing levels of effectiveness.
5. Personal protective equipment: includes safety glasses and goggles, earmuffs and earplugs, hard hats, toe-capped footwear, gloves, respiratory protection, aprons, etc. Their effectiveness in realistic work situations does not exceed 20% for workers. This option is generally not suitable for children. It usually indicates that either the inherent level of risk is too great, or the risk control measures implemented are deficient.

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2 HIRAC Table for Children in University Locations/Activities

LOCATION/ACTIVITY UNDER REVIEW: _____

DATE REVIEWED: _____

PEOPLE CONDUCTING REVIEW: _____

Identify Risks	Initial Risk (High/Med/Low)	Implement Control Measures	Residual Risk
<p>Is the child at risk due to the <u>physical environment</u> or the <u>design of the workplace</u>? Examples</p> <ul style="list-style-type: none"> <input type="checkbox"/> uneven or slippery work surfaces <input type="checkbox"/> obstacles (e.g. sharp corners at child's head height) <input type="checkbox"/> fragile windows or other breakable glazing (e.g. glass table top, doors) <input type="checkbox"/> high places, work platforms, stairs, ladders, guardrails, etc <input type="checkbox"/> openings or gaps in walkways, handrails, balustrades or platforms <input type="checkbox"/> confined spaces or enclosed spaces where a child may become trapped <input type="checkbox"/> inadequate lighting <input type="checkbox"/> objects liable to cause suffocation (plastic bags, pen caps, small parts, etc) <input type="checkbox"/> harmful noise levels <input type="checkbox"/> confusing or inadequately labelled controls (e.g. poorly labelled or reversed hot/cold taps, latches causing children to become locked into rooms/toilets) <input type="checkbox"/> floor, materials, plant, structures, furniture, etc, liable to fall or collapse <input type="checkbox"/> hot components/items (incl kitchen appliances), hot drinks, campfires <input type="checkbox"/> extremely cold materials, components (e.g. dry ice) or areas (cool rooms) <input type="checkbox"/> radiation (ionising or non-ionising, lasers) 			
<p>Are <u>mechanical risks</u> present? Examples</p> <ul style="list-style-type: none"> <input type="checkbox"/> entanglement of the child's hair, fingers, clothing, etc, in moving components <input type="checkbox"/> entanglement in, or impact against, fixed protrusions <input type="checkbox"/> gaps or openings allowing entrapment of head or other body part <input type="checkbox"/> unexpected movement of machines, work pieces, vehicles or loads <input type="checkbox"/> inability to slow, stop, secure or immobilise machines or vehicles <input type="checkbox"/> moving, sharp, hot, or "live" tools or components <input type="checkbox"/> traffic accident <input type="checkbox"/> risk of being pushed, pulled or thrown off plant, structures, etc <input type="checkbox"/> components or materials liable to disintegrate (e.g. grinding wheels) <input type="checkbox"/> damaged, poorly maintained or unguarded equipment <input type="checkbox"/> components, work pieces, fluids, etc, being ejected 			

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Identify Risks	Initial Risk (High/Med/Low)	Implement Control Measures	Residual Risk
<p>Are there <u>electrical</u> risks? Examples</p> <ul style="list-style-type: none"> <input type="checkbox"/> access to electrical services, switchboards, controls, power points, etc <input type="checkbox"/> accidental contact with power cables (overhead, underground, other) 			
<p>Are there <u>chemical</u> risks? Examples</p> <ul style="list-style-type: none"> <input type="checkbox"/> compressed gases, chemical storage containers, etc <input type="checkbox"/> flammable or explosive gases, vapours, liquids, dusts, etc <input type="checkbox"/> matches or lighters <input type="checkbox"/> industrial, scientific, pharmaceutical or domestic chemicals <input type="checkbox"/> oxygen-depleted atmospheres (fermentation vessel, septic tank, etc) 			
<p>Are there <u>biological</u> or <u>human</u> risks? Examples</p> <ul style="list-style-type: none"> <input type="checkbox"/> contaminated or spoilt food <input type="checkbox"/> venomous or dangerous animals <input type="checkbox"/> toxic natural substances (plant, mushrooms, gases, etc) <input type="checkbox"/> (potentially) infectious substances <input type="checkbox"/> accidental collision with another person <input type="checkbox"/> being assaulted or assaulting another person 			
<p>Are there <u>manual handling</u> risks? Examples</p> <ul style="list-style-type: none"> <input type="checkbox"/> having to carry the child over obstacles, up stairs, etc, having to push a pram/pusher/wheelchair up steep slopes... <input type="checkbox"/> the child himself/herself being at risk of strain/sprain 			
<p>Are risks arising from <u>organisational</u> or <u>procedural</u> deficiencies? Examples</p> <ul style="list-style-type: none"> <input type="checkbox"/> special first-aid equipment or trained personnel required for child <input type="checkbox"/> special evacuation, emergency or rescue planning and facilities for child <input type="checkbox"/> uncertainty or ambiguity about responsibilities for the safety and supervision of the child in any circumstance 			

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Identify Risks	Initial Risk (High/Med/Low)	Implement Control Measures	Residual Risk
<p>Are risks arising from the <u>natural environment</u>?</p> <p>Examples</p> <ul style="list-style-type: none"> <input type="checkbox"/> drowning (small children can quickly and silently drown in shallow water) <input type="checkbox"/> bushfires or lightning <input type="checkbox"/> becoming lost or ill in remote locations <input type="checkbox"/> fall of tree limbs, rock falls, cliff collapse, etc <input type="checkbox"/> being engulfed in loose or crumbling ground, soil, sand, etc <input type="checkbox"/> exposure to sun <input type="checkbox"/> extreme environmental conditions (hot, cold, dry, wet, etc) 			

3 Appendix: Risk Assessment Table

Risk assessments are based on 2 key factors:

- the severity of any injury/illness resulting from the hazard and
- the likelihood that the injury/illness will actually occur.

		Likelihood			
		Very likely Could happen any time	Likely Could happen sometime	Unlikely Could happen, but very rarely	Very Unlikely Could happen, but probably never will
Severity	Death or permanent disability	HIGH	HIGH	HIGH	MEDIUM
	Long-term illness or serious injury	HIGH	HIGH	MEDIUM	MEDIUM
	Medical attention and short-term incapacity	HIGH	MEDIUM	MEDIUM	LOW
	First aid needed	MEDIUM	MEDIUM	LOW	LOW

Table 1: Assessment of risk based on likely severity and probability of harm

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