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promoting the value of play

PLANNING FOR SAFE OUTDOOR PLAY IN CHILDREN'S SERVICES

The purpose of this document is to provide current information on the importance of play in early childhood environments and the relevant Australian Standards as pertinent to outdoor play.

1. THE IMPORTANCE OF OUTDOOR PLAY

Play has an important role in human development and thus the provision of quality play opportunities is an integral part of a good learning environment.

Through play, children interact socially; learn negotiating skills; engage in dramatic play, role play and fantasy; extend their creativity and imagination; test themselves physically, developing skills and mastery over physical challenges; develop ball handling and other skills; observe the natural environment, and engage in a range of self directed activities which aid each individual to develop towards independent adulthood.

Consequently, play is integral to the programming in all children's services.

Children have a variety of interests and will want to play in different ways at different times. Consequently centres should provide a range of types of play spaces. Children tend to utilize all of the grounds for their play (excluding the areas, which are out of bounds). Centres therefore need to consider the 'package' offered by all of the outdoor spaces when planning play areas.

Play spaces will typically involve combinations of areas of hard surfaces, a grassed area for running, ball games; play equipment for different activities and skill development; small spaces with seating for individuals and small groups; intimate spaces; sand play areas, dirt, water and planting for creative activities; areas suitable for digging, and play with loose materials and surfaces; areas for dramatic /role play which might include decks, cubbies and planting; shade and shelter, drinking water and other utilities; shrubs and trees for hiding, shelter, imaginative games; tables and seats for a range of group activities; gathering spaces for assemblies, performances and community activities, and quiet spaces as well as busy spaces. Areas around buildings such as steps and stairs, doorways, and garden beds are valued play areas and will be appropriated by children for a range of activities. They should be considered when assessing the range of activities available.

The best way to provide safe outdoor play areas is to provide a quality outdoor play program in a quality outdoor play environment.

2. TODAY'S EMPHASIS ON RISK MANAGEMENT

Community awareness of safety has increased dramatically over the past few years, and outdoor play areas and playground equipment are now under greater scrutiny. Therefore the management of risk is a high priority for management committees and staff involved in the operation of children's services in Victoria.

The injury rate in supervised early childhood services is particularly low in Victoria but because the victims of playground accidents are young children who are often unable to detect potential hazards for themselves, and because of the varied and often unpredictable nature of play activities, playground safety demands particular attention to detail.

We are sometimes accused of taking the fun out of playgrounds by making them "too safe". In many cases, dangers which lead to injury have little or, no bearing upon the fun or the challenge and "fun" or "challenge" cannot be used as an excuse for negligence. Even if.... "we used to play on them, and never got hurt" (except the odd broken leg), values and awareness have changed.

Children need play environments that encourage some risk taking and that help children to develop self managed behaviour.

Adults who plan to meet children's needs and interests, who support and challenge their play, providing props, time and space for children to develop that play in their own way, and who actively involve themselves in the progress of that play, will be aware of, and able to act on, any behaviours that are likely to put those children or others at risk.

Staff and management of children's services have a great concern for the safety of children, however it is imperative that overemphasis on risk does not impact negatively on the appropriateness of the outdoor play spaces provided, or on outdoor play programs offered to children.

This information is not intended to provide risk free environments for children, but to provide advice on strategies to develop quality outdoor playspaces in accordance with Australian Playground Standards aimed to protect children from injury. Children need to be able to make informed decisions about their own safety and to develop a positive self image and competence in living skills. They need opportunities to explore and experiment in an environment that provides a degree of managed risk.

Centres must accept the responsibility of providing quality outdoor play spaces and experiences for children, and therefore knowledge and implementation of relevant Australian Standards for play equipment is a requirement. Whilst it is not possible to eradicate all playground accidents, our main concern is the reduction of injuries which can be avoided.

3. PLAYGROUND STANDARDS

There is a hierarchy of rules governing Early Childhood Centres. In Victoria the Department of Human Services is responsible for the implementation and monitoring of the Children's Services Act, the Children's Services Regulations and provides advice to centres in accord with DHS policy. Australian Standards are not law, or mandatory, but they receive their status when supported by DHS, as they have been in Victoria.

AS4685	2004	Playground Equipment <i>This Standard has the following Parts: Part 1 General safety requirements and test methods Part 2 Particular safety requirements and test methods for swings Part 3 Particular safety requirements and test methods for slides Part 4 Particular safety requirements and test methods for runways Part 5 Particular safety requirements and test methods for carousels Part 6 Particular safety requirements and test methods for rocking equipment</i>
AS/ NZS 4422	1996	Playground Surfacing - Specifications , requirements and test method, including amendment No. 1, 5 th May 1999
AS/NZS 4486	1997	Playgrounds and Playground Equipment <i>Part 1-Development, installation, inspection, maintenance and operation.</i>
AS 2555	1982	Supervised Adventure Playgrounds
AS/NZS 4360	2004	Risk Management

PLEASE NOTE:

Any measurement pertaining to "Early Childhood" in Australian Standards applies only to fully supervised at all times Early Childhood settings. Playgroups which use facilities which are accessible to other children must adhere to the Standards relevant for Public playgrounds.

For the purposes of risk management no Draft Standard has any status with Standards Australia and should not be referred to in Risk Assessment Reporting.

Key Standards related issues to be addressed:

- 1. FREE HEIGHT OF FALL**
- 2. FALL ZONES**
- 3. IMPACT ABSORBING SURFACE**
- 4. ENTRAPMENT**
- 5. HANDRAILS, GUARDRAILS AND BARRIERS**
- 6. SWINGS**

1. FREE HEIGHT OF FALL

AS 4685 (2004) Playground Equipment, describes free height of fall (previously known as safe fall height) as the greatest vertical distance between a part of the equipment, which is a point of intended body support and the ground surface or part of equipment beneath. Alternatively it can be described as the height from which a fall could occur onto a surface that has the capacity to absorb the impact.

AS 4685 measures free height of fall from the standing surface (usually a platform) to the surface underneath the equipment. If the design of the play equipment allows children access to higher parts (not necessarily intended for standing), then this should be considered in determining the free height of fall.

AS 4685 indicates that 1.5m (1500mm) is the maximum free height of fall (safe fall height) for supervised early childhood settings. However it must be noted that the Playground and Recreation Association of Victoria (PRAV) recommends that this height is not applicable for children 0-3 years and recommends that a maximum of 1.0m (1000mm) is more appropriate.

It is recognized that some services have children from 0-6 and it is the responsibility of staff to plan the outdoor play areas to accommodate the needs of all aged children.

Measurements in summary:

- 4-6 years maximum free height of fall 1500mm
- 0-3 years maximum free height of fall 1000mm

2. FALL ZONES

AS 4685 (2004) Playground Equipment, describes the fall zone as the surface that can be hit by a user falling from playground equipment. It is the area under and around a piece of outdoor play equipment, extending in every direction in which it is reasonably foreseeable that a child could fall. It is the minimum distance from any part of the play equipment to any hard surface, such as borders, paths, tree trunks, footings, obstacles or adjacent equipment.

The size of the fall zone is one of the key changes in the new Australian Standards AS 4685 Playground Equipment. Prior to the introduction of this new standard, a fall zone of 1.9m (1900mm) was required in children's services.

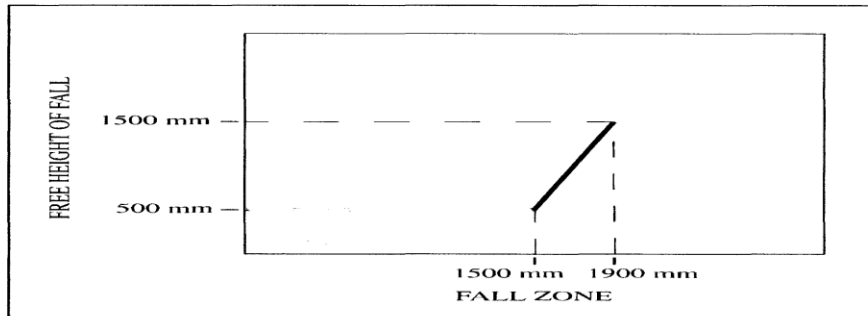
In the new standard, AS 4854, the measurement of a fall zone can be different, depending on the free height of fall of the item of play equipment.

The new standard requires that the fall zone extend to a minimum of 1.5m (1500mm) out from the outdoor play equipment. This fall zone allows for the height of most young children, plus any outward momentum they could have as they fall.

The Australian Standards stipulate that within supervised early childhood settings an increased fall zone is required where the height of equipment is greater than 500mm up to a maximum height of 1500mm.

Where the free height of fall is 1.5m (1500mm) the fall zone must extend to a minimum of 1.9m (1900mm).

MINIMUM EXTENT OF FALL ZONE - SUPERVISED EARLY CHILDHOOD SETTINGS



Measurements in summary

- Free height of fall - less than or equal to 500mm 1.5m fall zone (1500mm)
- Free height of fall 1.0m (1000mm) 1.7m fall zone (1700mm)
- Free height of fall 1.5m (1500mm) 1.9m fall zone (1900mm)

For moving equipment, the fall zone distance is measured from the extremity of the movement. Children falling, jumping or being pushed off equipment should land within the fall zone onto an impact-absorbing surface. Under certain circumstances fall zones may be reduced (i.e. when equipment will not permit falling).

The standard also provides that where a cluster, that is, a combination of equipment designed for close proximity to provide continuity of play activity is arranged, the fall zone is measured from the outer perimeter of the equipment.

There are also particular requirements re the fall zone applicable for swings. It should be noted that AS 4685 does not require a fall zone at the side of swing structures, only at the front and the back.

These changes to the fall zone measurement recognise that injury rates in supervised early childhood settings are particularly low, and that the fall zones required in the past have been excessive.

It should also be noted that concrete footings should be buried underground. Industry practice is that the top of the concrete be 50-100mm below natural ground level, and then covered with the required depth of impact absorbing material.

It is responsibility of the designer/play equipment supplier to determine the size of the fall zone.

3. IMPACT ABSORBING SURFACE

Falls onto hard surfaces constitute the largest single cause of injury in playgrounds. Concrete, brick, stone, exposed concrete footings, timber, bare earth and grass are not suitable surfaces within the fall zones of equipment.

A significant body of scientific research indicates that the frequency and severity of playground injuries, resulting from falls from playground equipment, are substantially reduced where an adequate impact absorbing surface is provided.

The Australian Standard states that an impact absorbing surface is needed wherever falls from play equipment, fixed or movable, are possible - ie. in the 'fall zone'.

Impact absorbing surfaces are required in outdoor playspaces to reduce potential head injury to children as a result of normal play activity.

Impact absorbing surfaces which have been tested are required in any area under and around playground equipment where falling is possible from a height of 500mm or above.

An impact absorbing surface is not necessary where falls **are prevented** by engineering means. This **does not** mean that fall zones can be reduced arbitrarily.

What does this mean in practice?

What is adequate impact absorbing material?

The required impact absorbing material depth depends on the material used and the height of the equipment from which falls can occur. The height from which a fall could occur onto a surface that has the capacity to absorb the impact, is the "free height of fall". Put briefly, falls from above the "free height of fall" onto a surface with an **inadequate** depth, could result in brain injury.

Any impact absorbing material installation should have a “free height of fall’ greater than the highest point on the playground equipment to which a user has ‘reasonably foreseeable access’.

How effective is undersurfacing?

It is very effective in the prevention of head injury, when installed properly in accord with AS/NZS 4422, however, it does not necessarily prevent injury to other parts of the body.

Are rubber or synthetic surfaces more effective than loose materials in preventing injury?

No.

PRAV believes that there is a need for a wide variety of playing surfaces to be available to children, and that every setting should be assessed according to the needs of the children, the diversity of play experiences available to the children; and, the availability of materials.

What types of impact absorbing material are suitable?

There are many kinds of materials suitable for use in outdoor play areas which include.

Loose natural materials	Synthetic fixed materials
pea gravel	rubber matting
double milled woodchips	tiles
mulch	rubber poured on site, wet pour method.
sand	
pinebark	
pea shells	

What are the impact absorbing surface material requirements?

1. Loose natural material *Below 500mm free height of fall*

The impact absorbing surface material does not need to be tested but it should have some impact absorption.

Above 500 mm free height of fall

- ◆ 200 mm loose material
- ◆ plus 50 mm for deterioration
- ◆ plus 20% for traffic (i.e. under a swing, at the foot of a slide etc.)

i.e. 300mm is recommended to be installed so that the actual depth of the impact absorbing surface once settled on a daily basis is 250 mm.

2. Synthetic fixed materials

As per the playground equipment suppliers test results as detailed in AS/NZS 4422.

There are strengths and weaknesses of all surfaces, and early childhood educators are advised to consider the following issues and/or seek advice from PRAV prior to purchasing undersurfacing materials:

- ◆ *appearance of material;*
- ◆ *vandal proofing;*
- ◆ *fire resistance;*
- ◆ *slip resistance;*
- ◆ *accessibility for all children;*
- ◆ *drainage;*
- ◆ *site topography and vegetation;*
- ◆ *weather conditions;*
- ◆ *material type and range used;*
- ◆ *installation requirements;*
- ◆ *length of time installers have been laying the product;*
- ◆ *installer's contractual arrangements: employees or contractors;*
- ◆ *guarantees/warrantees for both product, civil works and labour, including an assurance certificate, including an ABN, stating that the systems employed are true and equal to the company's approved method and test results as required as per the AS 4422;*
- ◆ *track record of supplier;*
- ◆ *selling company's length of experience in "the" business and time of the company's operation;*
- ◆ *additional issues relevant to the use of synthetic surfaces such as:*
 - ◆ *desirability for references of 3,5 and 8 years duration;*
 - ◆ *evidence of back up service and/or repairs;*
 - ◆ *cleaning and maintenance requirements;*
 - ◆ *costs, initial plus on going;*
 - ◆ *durability; and,*
 - ◆ *replacement costs.*

If tested materials are not available, materials used need to ensure that the material used has impact absorbing qualities, does not have sharp bits, is not poisonous or harmful to the skin, and is able to be regularly topped up, turned over and maintained.

It should be noted that a Standard is not a specification or a contract document, but provides the information which informs the testing process.

What are the responsibilities of playground equipment and undersurfacing suppliers?

The Standards require **playground equipment suppliers** to provide information on their products' performance and on the "free height of fall" required, as detailed above. They must also provide inspection and maintenance procedures necessary to ensure their product continues to perform at the required level throughout its life.

Undersurfacing suppliers should provide a copy of the certified test results, explaining what impact absorbing surface material depth (for loose fill materials) or structure (for fixed or 'unitary' products) is necessary for the required "free height of fall", as detailed above. It is not the responsibility of the undersurfacing supplier to detail the free height of fall.

4. ENTRAPMENT

AS 4685 (2004) Playground Equipment, describes entrapment as a hazard in which a body or part of the body, or clothing can become trapped. The user is not able to break free and injury is caused by the entrapment.

Entrapment may occur via:

- whole body entrapment;
- head and neck entrapment;
- finger entrapment;
- foot and limb entrapment; and
- clothing entrapment

It is important that staff when setting up flexible play structures are always aware of potential entrapments.

Over recent years play equipment has become increasingly complex and entrapment has become a key issue in the incidence of injury to children in outdoor play spaces. Angles on the play equipment in areas where children move, such as down a slide, can provide opportunities to wedge clothing and body parts. Protrusions and sliding surfaces on equipment can ensnare clothing cords and toggles, including hat toggles. Entrapment of clothing can cause injury if it brings the child to an unexpected or abrupt stop.

The Australian Standards require that equipment be constructed in such a manner as to minimise the risk of entrapment. There is also a need to understand potential entrapment, when setting up flexible play structures.

Entrapment measurements are as follows:

- finger 8mm-25mm
- limb 35mm-70mm
- foot not greater than 30mm (note finger and limb)
- head 100mm-230mm
- neck 45mm-230mm (slotted openings)
- torso 89mm-230mm

This means that spaces of the above measurements should not exist within the play structures where children can be subject to forced movement. The key factor in considering if there is a potential entrapment is whether there is forced movement or not.

Whilst gaps and holes may not be desirable, they are not an entrapment unless there is possible forced movement.

Entrapment of a child's clothing could cause injury if it brings the child to an unexpected and abrupt stop. Clothing, cords and toggles can lodge in small gaps in sliding and other surfaces or wrap around protrusions. With the priority given to the wearing of children's hats, it is recommended that hats with elasticised bands are preferable to any hat with a toggle or cord.

5. HANDRAILS, GUARDRAILS AND BARRIERS

As a minimum protection against falling, the Australian Standard 4685 (2004) Playground Equipment, identifies handrails, guardrails and barriers. A handrail is a rail intended to assist a user to balance, a guardrail is a rail (not filled in) intended to prevent a user from falling, whereas a barrier is a guardrail (filled in) intended to prevent a user passing beneath.

For equipment in supervised early childhood settings, all access ramps, stairways, stepladders and bridges shall be provided with a continuous handrail on each side to cater for the use of all age groups (this does not apply to rung ladders). Handrails above steps should be between 450mm and 700mm above the step. Handrails on platforms should be no greater than 800mm off the ground or lower landing.

Where a platform is 500mm or more, but less than 1200mm above the playing surface, a guardrail **or** barrier shall be provided. The height of the top of the guardrail measured from the surface of the platform shall not be less than 650mm and not more than 750mm. The height of the top of the barrier measured from the surface of the platform shall not be less than 700mm.

Where the platform is 1200mm or more, but not more than 1500mm above the playing surface, a barrier shall be provided. The height of the top of the barrier measured from the surface of the platform shall be not less than 900mm.

6. SWINGS

Swings can create a serious hazard to children crossing their path and to children swinging, and additionally if the swing is located too close to hard surfaces or fences. The most important safety issue with swings is where they are located in the outdoor play area. Swings need to be in a space within the play area that will not have the traffic flow of children moving around them.

AS 4685.2 (2004) *Playground Equipment, Particular safety requirements and test methods for swings*, describes a number of safety requirements for swings.

Characteristics

The characteristics of swings that are in compliance with AS 4685.2 include the following:

Swings per bay

The new standard supports no more than two swings per bay, increasing the safety of children entering and exiting the swing area.

Swing seat

- Seats on swings are designed for the use of one child only.
- Seats are to be light in weight.
- Seats are to be constructed of impact-attenuating materials or provided with impact-attenuating surfaces on all possible contact areas (materials that lessen impact).
- The width of flat seats in supervised early childhood settings is to be a minimum of 300mm.
- AS4685.2 describes cradle seats and toddler seats as follows:
- a cradle seat is a seat manufactured with a rigid frame, and constructed in such a way that a child is prevented from slipping through the cradle frame; and;

- a toddler seat is a seat manufactured of flexible material and has a strap or chain across the access opening.

Ground clearance

The minimum ground clearance for swings seats is 350mm at rest position, except for tyre seats where the minimum is 300mm. Ground clearance is the distance between the lowest part of the seat and the playing surface, at rest. It is recognized that some children will require greater clearance.

Stability of swing seat

Swing seat stability is increased where the distance between the two suspension members is greater than the width of the swing seat. If a swing has a swing seat width of 350mm and the length of the suspension member is 2200mm (2.2m), the minimum distance between suspension members should be 460mm

AS4685.2 provides that the distance between the suspension members be greater than or equal to the width of the seat plus a measurement of one twentieth the length of the suspension member itself. (The suspension member is the material holding the seat from the pivot).

Clearance between swing seat and supporting frame

AS4685.2 stipulates the minimum horizontal distance between the side of the swing seat and the supporting frame, when in the rest position. This distance should be greater or equal to one-fifth the length of the suspension member, plus 200mm.

AS4685.2 also stipulates the minimum horizontal distance between adjacent swing seats when in the rest position. This distance should be greater than or equal to one-fifth the length of the suspension member, plus 300mm.

Circulation Space

The circulation space at the side of swings extends to the supporting frame or the outer edge of the fall zone, whichever is further from the swing seat. (Circulation space is the area immediately around the equipment). In the direction of travel, the circulation space extends to the end of the fall zone. There should be no hard edging within the circulation space.

Extent of fall zone

A previous section on fall zones provides detail relating to fall zones from play equipment. The new standard provides for a separate calculation for fall zones for swings.

AS4685.2 provides details for fall zones at both the side of swings and in the direction of travel. Specific calculations can be made for the differing swing configurations, eg pivot height, distance from the swing seat to the swing pivot (as per table below).

To calculate the fall zone for swings, a measurement of 1750mm (1.75m) is taken from the point of extension of the swing seat from the front and the back of the swing. The circulation space at the side of swings extends to the supporting frame.

There is no additional fall zone at the side of swing posts.

Length - Direction of travel

A simple rule of thumb for the calculation of fall zone for swings in the direction of travel, is a measurement of 1750mm (1.75m), taken from the point of extension of the swing seat from the front and from the back of the swing.

Width

Where the swing seat width is not greater than 500mm, the fall zone shall also have a total minimum width of 1.75m. If the seat width is greater than 500mm, the width of the total fall zone shall be increased by the difference between 500mm and the actual width of the seat.

Again, a simple rule of thumb for the calculation of the minimum width of the fall zone, measure 1.75m from the centre of the swing seat. Where there are 2 seats next to each other the fall zone can overlap.

Measuring free height of fall distance

As the maximum free height of fall for supervised early childhood settings is 1500mm, the height for the arc of a swing should then only enable a maximum height of 1500mm. As there are a number of variables that comprise this measurement such as the height of the swing pivot, the height of the swing seat and the distance from the swing seat to the swing pivot, the Australian Standard provide a table of calculated free heights of fall that also show the extent of the corresponding fall zones.

Swing pivot height h_1	Seat height h_2	Length of suspension member $h_1 - h_3$ L	Free height of fall $\frac{h_1 - h_3}{2} + h_3$ D	Minimum side clearance $(L/5)+200$	Minimum seat separation $(L/5)+300$	Min distance between suspension members (4 seat widths provided)				Horizontal swing displacement at 60° $0.866 \times L$ A	Fall zone for front and back $B = 1750$ $E = A + B$
						300	350	400	450		
1800	350	1450	1075	490	590	375	425	475	525	1260	3010
1900	400	1500	1150	500	600	375	425	475	525	1300	3050
2000	400	1600	1200	520	620	380	430	480	530	1390	3140
2100	400	1700	1250	540	640	385	435	485	535	1470	3220
2200	400	1800	1300	560	660	390	440	490	540	1560	3310
2300	400	1900	1350	580	680	395	445	495	545	1650	3400
2400	400	2000	1400	600	700	400	450	500	550	1730	3480
2500	400	2100	1450	620	720	405	455	505	555	1820	3570
2600	400	2200	1500	640	740	410	460	510	560	1910	3660

This table shows that where the typical seat height of 400mm is used, the swing pivot height of 2600mm is the maximum that can be used, so that the free height of fall is not greater than 1500mm.

The table provides measurements for specific dimensions. The measurements comply with those for supervised early childhood settings as described in AS4685.2.

For example

Free height of fall

If a swing has the swing pivot height of 2400mm (2.4m), the free height of fall that can be obtained is 1400mm (within the Australian Standard of 1500mm).

Stability of swing seat

If a swing has a swing seat width of 350mm and the length of the suspension member is 2200mm (2.2m), the minimum distance between suspension members should be 460mm.

Fall zone – length

A swing has a pivot height of 2000mm (2m), the table shows that with a suspension length of 1600mm the 60 degree swing displacement measure equals 1390, therefore the length of fall zone to be applied both front and back in the direction of travel is 3140mm (3.14m).

7. STRUCTURAL DESIGN

AS 4685 encourages more cost effective layout and design of play equipment. This is largely due to the reduced fall zone requirements.

There are proximity restrictions on the placement of forced movement equipment with no overlap of forced movement equipment zones allowed with other fall zones.

Play equipment can be clustered together in much closer proximity with reduced undersurfacing costs due to the smaller fall zones required.

Most traditional design issues will remain.

The principles of layout design as in AS/NZS 4486 will remain.

- Importance of undersurfacing as per AS/NZS 4422;
- Need to ensure suitability of topography of site and overall size for play equipment;
- Ensure ground conditions will accommodate footings;
- Ensure non intrusion into the fall zones of fencing, gates, trees, seats, shade structures, landscaping, taps and other services, as well as the softfall edging itself.

8. GENERAL

Play equipment suppliers have the responsibility to ensure that all equipment satisfies the requirements of all relevant standards. In the event of an injury, death or equipment failure they can be held liable for negligence. It is their responsibility to have a clearly documented paper trail and the ISO 9001 certification is a key element in the design and documentation process.

The play equipment supplier is also responsible for the provision of installation instructions to ensure that the completed installation satisfies all requirements of the standards, particularly with regard to structural integrity and entrapment, that has the capacity to cause serious injury or death.

Playground installers have the responsibility to ensure that the installation is applied strictly in accordance with the instructions of the play equipment supplier. Failure to comply with suppliers instructions can result in the installer being held negligent.

FURTHER KEY SAFETY ISSUES

9. SUPERVISION

The degree of supervision required depends upon the age and ability of the children and the requirements determined by DHS. Young children constantly challenge their own abilities, but are often unable to recognize potential hazards. In supervising play staff should make sure that the child uses equipment which is appropriate for his or her age/size. The outdoor play areas needs to be integral to the daily program so that adults are with children outside on a daily basis.

Injuries in centres are by no means restricted to playground equipment. Tripping and falling, collisions with hard objects and with other children, are common causes of injury to both children and staff. Buildings, verandah poles, changes in levels, paths, drainage pits, vents and other surfaces need to be designed and located with extreme care, avoiding blind corners and taking into account that large numbers of children (often running) use the space.

10. LAYOUT AND DIVERSITY OF EXPERIENCE

The overall design of an outdoor play area is critical for injury prevention. How children move from one activity to another is a key safety issue.

11. MAINTENANCE

Equipment varies in its maintenance requirements. Some items may need daily inspection in areas of heavy use and all equipment should be inspected regularly.

Equipment should be designed and installed to avoid shear, pinch or crush points; protrusions – splinters, jagged edges and protruding bolts, which can tear skin or snag clothes.

Equipment should be checked regularly to make sure that there are no sharp edges. Moving components such as suspension bridges and track glides, should be regularly checked to make sure that there are no moving parts or mechanisms that might crush or pinch a small finger. Protruding bolts and other pieces of hardware or components of equipment can cause bruises and cuts if a child bumps into them. These protrusions can also act as hooks, which can catch a child's clothing and potentially cause strangulation if a child is caught by a hooded top. Ropes should be anchored securely at both ends so that they cannot form a loop or noose.

Loose impact absorbing soft surface materials needs more regular attention.

Repairs should occur as soon as possible after reporting. If a hazard cannot be repaired quickly it should be secured against use until repair.

Prompt repairs not only improve safety and restore play value and amenity but they may prevent further vandalism, which often occurs after initial damage “downgrades” equipment. Quick minor repairs can often prevent more costly major repairs later and therefore minimize any potential litigating circumstances.

HAVE YOU CHECKED THESE RECENTLY?

The major cause of playground injury is falling from play equipment onto hard surfaces. The potential for injury from a fall is greater if there is no impact absorbing material under and around the equipment. Impact absorbing material is required for all fall heights and tested impact absorbing material is required for fall heights above 500mm.

1. Inadequate Safe Fall Zone

Impact absorbing material should not only be provided underneath play equipment but must extend beyond the outside edges of the equipment as detailed in the requirements for fall zones. There are special fall zone requirements for swings.

2. Lack of Maintenance

Playgrounds should not be installed and forgotten. It is essential that all playgrounds are regularly maintained. There should be no missing, broken or worn components. All parts should be stable with no apparent sign of loosening. Impact absorbing materials should be regularly checked for depth and any signs of vandalism. A systematic inspection and maintenance plan should be in place to ensure that the playground is safe.

3. Lack of Supervision

Supervision by an adult carer is a key factor in playground safety. To make supervision easier and more comfortable, a play area should be designed to provide shade, seating and a clear view of the play area. Young children constantly challenge their own abilities, but are often unable to recognize potential hazards. In supervising play the carer should make sure that the child uses equipment which is appropriate for his or her age/size.

4. Platforms without Guardrails

Raised surfaces such as platforms, ramps and bridges should have guardrails and barriers (infill) to prevent falls. It is important that rails and barriers are vertical so that they cannot be used as footholds for climbing.

5. Trip Hazards

Trip hazards are created by parts of playground equipment or items on the ground. Exposed concrete footings, abrupt changes in surface elevations, playground edging, tree roots, tree stumps and rocks are all common trip hazards that are often found in the play environment. Exposed concrete footings pose a serious risk for injury if a child falls on them. They should be buried at least 200mm below ground level.

6. Age Inappropriate Activities

The developmental needs of children vary greatly. To provide a challenging but safe play environment for all ages it is important that the equipment in the playground is appropriate for the age of the intended user. Close supervision is important of younger children in particular. Whilst it is common to provide separate areas for younger and older children, there are significant supervision difficulties in doing this. The best designed playground is one which has a diversity of age related activity within a reasonably confined area.

7. Overcrowded Play Areas

Serious injuries can result from collisions if the play area is overcrowded. There should be an appropriate distance, as determined by AS4685 between each piece of play equipment and all paths, fences, trees, buildings, structures and other equipment. Active play areas should be separated from quiet, creative areas. For example, a slide should not direct children into a sandpit used for creative play.

8. Potential Entrapment

Equipment should be built and installed in a way so that a child's head, neck, limbs, fingers feet and clothing cannot become trapped. AS4685 details the tests available to ensure that entrapment is not possible within any play structure, secured or flexible.

9. Pinch Points and Sharp Edges

Equipment should be checked regularly to make sure that there are no sharp edges. Moving components such as suspension bridges, track rides, see saws and swings should be regularly checked to make sure that there are no moving parts or mechanisms that might crush or pinch a small finger.

10. Things that Protrude or Tangle

Protruding bolts and other pieces of hardware or components of equipment can cause bruises and cuts if a child bumps into them. These protrusions can also act as hooks which can catch a child's clothing and potentially cause strangulation if a child is caught by a hooded top. Ropes should be anchored securely at both ends so that they cannot form a loop or noose.

FURTHER IMPORTANT ISSUES

- Ensure ***consistency*** between inspections.
- ***Think strategically about safety***; it should not be an end in itself.
- Think about the ***importance of outdoor play*** and of ***skill development***, and the provision of an adequate range of outdoor play ***settings*** for the numbers and age groups of children.
- Consider the importance of trained management providing ***solutions to safety issues*** (Boredom can be one of the most important safety issue facing centres).
- The approach to ***managing children's behaviour***.
- The need for ***adequate space***. Inadequate space (i.e. the 7 M² in the regulations.) can be a problem; it is known to be inadequate and for certain sized centres is demonstrably impossible to provide adequate outdoor play interest and safety.
- Consider the ***variety and complexity of play activities*** provided in outdoor play environments.
- Consider the inclusion of ***natural elements*** such as sand, water, digging and plant materials, which are considered fundamental elements, and
- Consider the ***quality of the program*** which should encourage outdoor play for as much of the day as possible, weather permitting. Shade and shelter needs to be provided to facilitate outdoor play for much of the year.

We need to apply the same rigor to the quality of the play setting, the program and the management that we do to compliance with safety Standards.