

A close-up photograph of a young boy with light brown hair and a slight smile, giving a thumbs-up gesture with his right hand. He is wearing a green and white striped shirt. The background is a soft, out-of-focus green, suggesting an outdoor setting.

# Maintaining Safe Play Environments

# AASB/APEI Maintenance Employees



# About me...



- Degree in Architectural Drafting  
Degree in Construction Technology
- 21 year Air Force career Construction Management
- Has been with Exerplay since 2007
- Covers all of Alaska
- 15 year CPSI (Certified Playground Safety Inspector)



# THE BENEFITS OF PLAY.

Play allows children to use their creativity while developing their imagination, dexterity, and physical, cognitive, and emotional strength. Play is important to healthy brain development. It is through play that children at a very early age engage and interact in the world around them.

<http://pediatrics.aappublications.org>

Kenneth R. Ginsburg and the Committee on Communications, and  
the Committee on Psychosocial Aspects of Child and Family Health



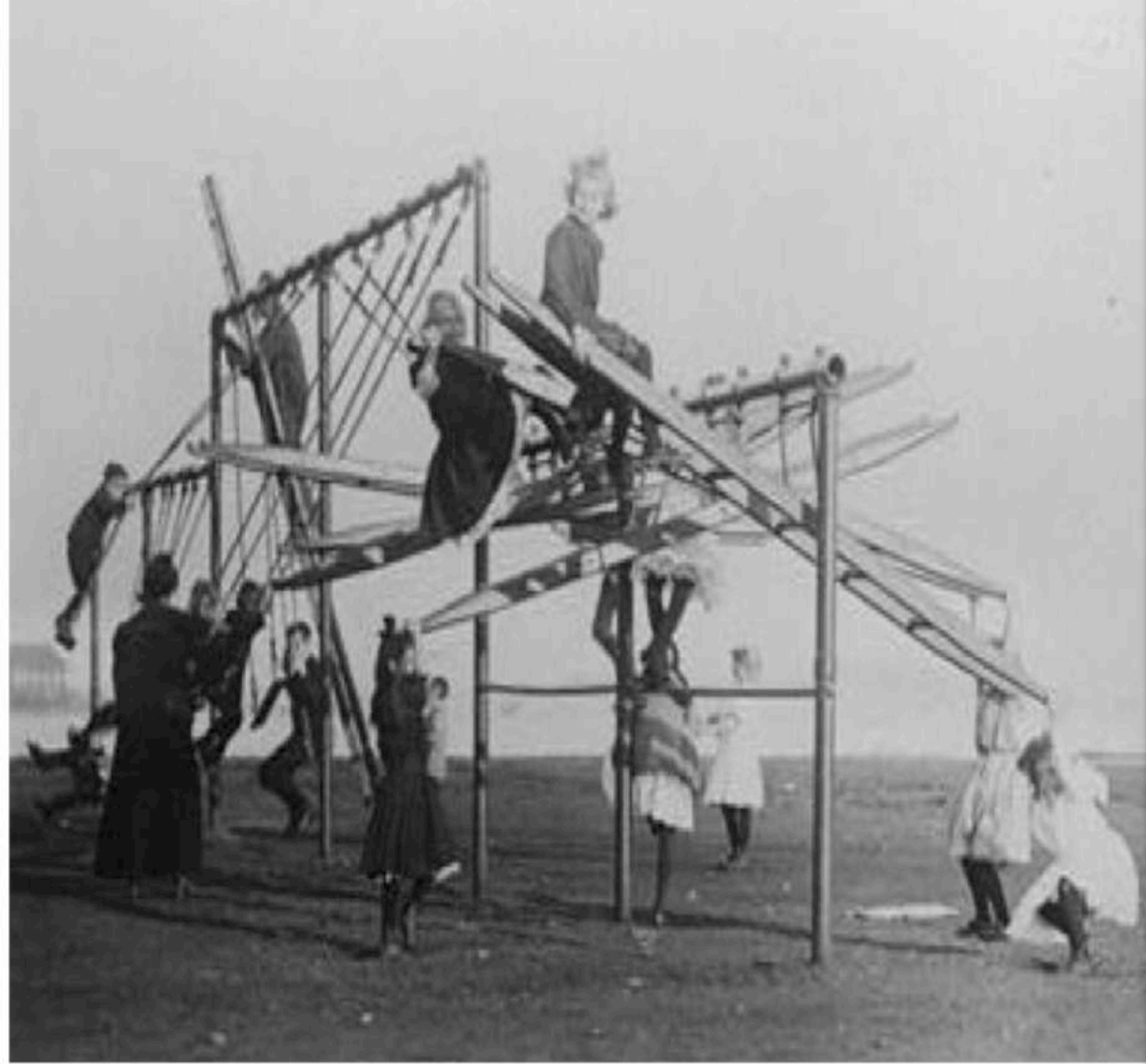






WHAT DID YOUR GRANDPARENTS PLAY ON?







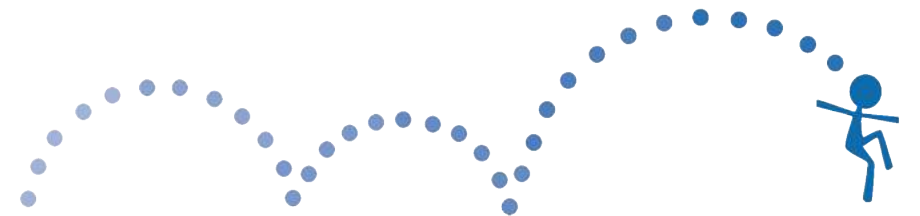








WHAT DID YOU PLAY ON AS A KID?















TODAY'S PLAYGROUNDS ARE SAFER THAN EVER...THEN WHY  
PLAYGROUND SAFETY?



Each year it is estimated that 200,000 playground related injuries are serious enough to require emergency room treatment.



**Fifteen of these injuries  
will result in death.**





# INJURIES ON A PLAYGROUND

THE LEADING CAUSE OF INJURY ARE FALLS TO THE SURFACE.



THE LEADING CAUSE OF DEATH IS STRANGULATION.

## Dangers of "hoodies"

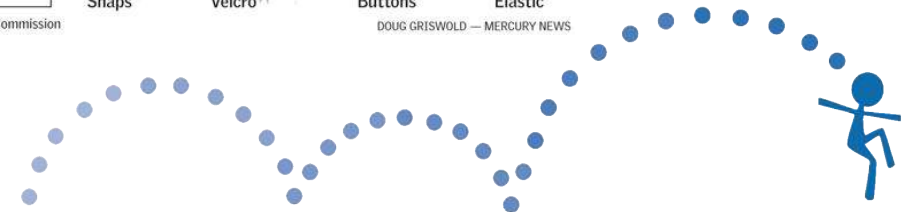
Strings and cords in hooded sweatshirts and jackets, popularly known as "hoodies," should be removed when worn by young children because of the risk of getting caught on playground equipment, bus doors or cribs, according to the U.S. Consumer Product Safety Commission, which prohibits the sale of such children's clothing.

### The possible hazards of long drawstrings

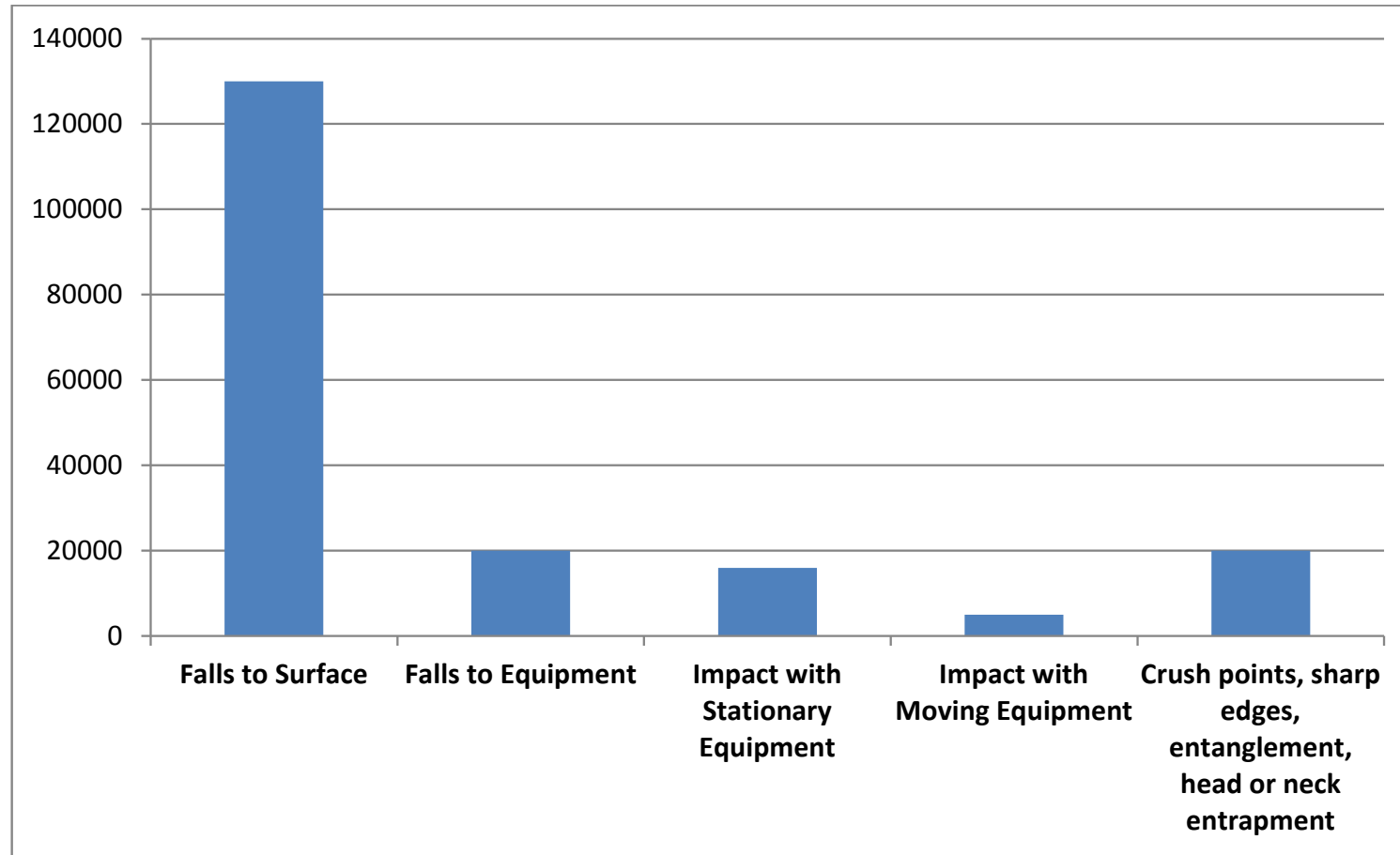


Source: U.S. Consumer Product Safety Commission

DOUG GRISWOLD — MERCURY NEWS



## Injuries on Playground Equipment by percentage:

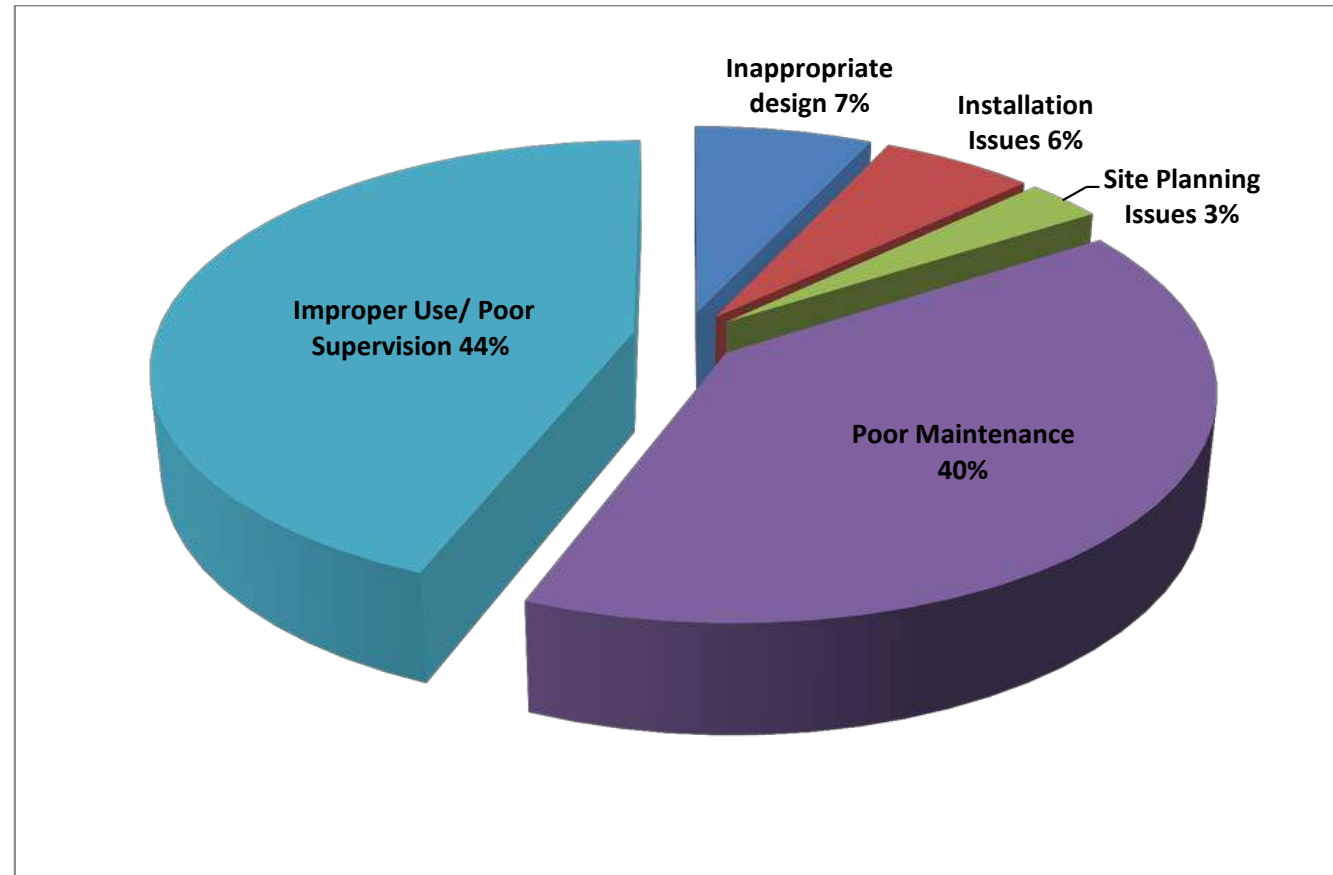


Source: Playground Inspection Professionals, CPSI Inspectors  
Playgroundinspectionpros.com





## How Kids Get Hurt:



Source: Playground Inspection Professionals, CPSI Inspectors  
[Playgroundinspectionpros.com](http://Playgroundinspectionpros.com)



# Current Regulatory Environment

## AMERICAN STANDARD FOR TESTING AND MATERIALS (ASTM)

**ASTM F1487:** Standard Consumer Safety Performance Specification for Playground Equipment for Public Use.

**ASTM F2373:** Standard Consumer Safety Performance Specification for public use play equipment for children 6 months through 23 months.

**ASTM F 1292:** Specification for Impact Attenuation of Surface Systems Under and Around Playground Equipment

**ASTM F 1951:** Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment



# Current Regulatory Environment



## CONSUMER PRODUCT SAFETY COMMISSION (CPSC)

The U.S. Consumer Product Safety Commission's ("CPSC" or "Commission") Public Playground Safety Handbook was first published in 1981 under the name A Handbook for Public Playground Safety. The recommendations in the Handbook are focused on playground-related injuries and mechanical mechanisms of injury.



# Current Regulatory Environment

## INTERNATIONAL PLAY EQUIPMENT MANUFACTURERS ASSOCIATION

To establish procedures for a third party certification program in which a designated independent laboratory validates a manufacturer's certification of conformance to the CSA Z614, ASTM F1487(Play Equipment) or F1292 (Surfacing) Standard.

These procedures require the inspection and validation of a manufacturer's personnel, facilities, methods and documentation as well as the testing of specific products.





# Current Regulatory Environment

## NATIONAL PLAYGROUND SAFETY INSTITUTE (NPSI)

To train and educate those involved in the design, management, installation or maintenance about the safety hazards associated with public playgrounds.

To be a CPSI, an individual must be able to test and identify, as well as prioritize remedial efforts of potential safety hazards as identified in the CPSC Guidelines and the ASTM Standards.



# The Dirty Dozen: 12 Playground Hazards

1. Improper Surfacing
2. Inadequate Use Zones
3. Entrapment in Openings
4. Protrusions and Entanglement Hazards
5. Platforms with no Guardrails or Barriers
6. Crush and Shear Points
7. Insufficient Equipment Spacing
8. Trip Hazards
9. Age-Inappropriate Activities
10. Lack of Maintenance
11. Lack of Supervision
12. Equipment not recommended for playground use







## #1. Improper Surfacing







## #1. Improper Surfacing







POURED-IN-PLACE







ARTIFICIAL TURF







PLAYGROUND TILE







RUBBER MULCH







ENGINEERED WOOD FIBER







PLAYGROUND SAND







# IMPACT ATTENUATION – SURFACING TESTING METHODS





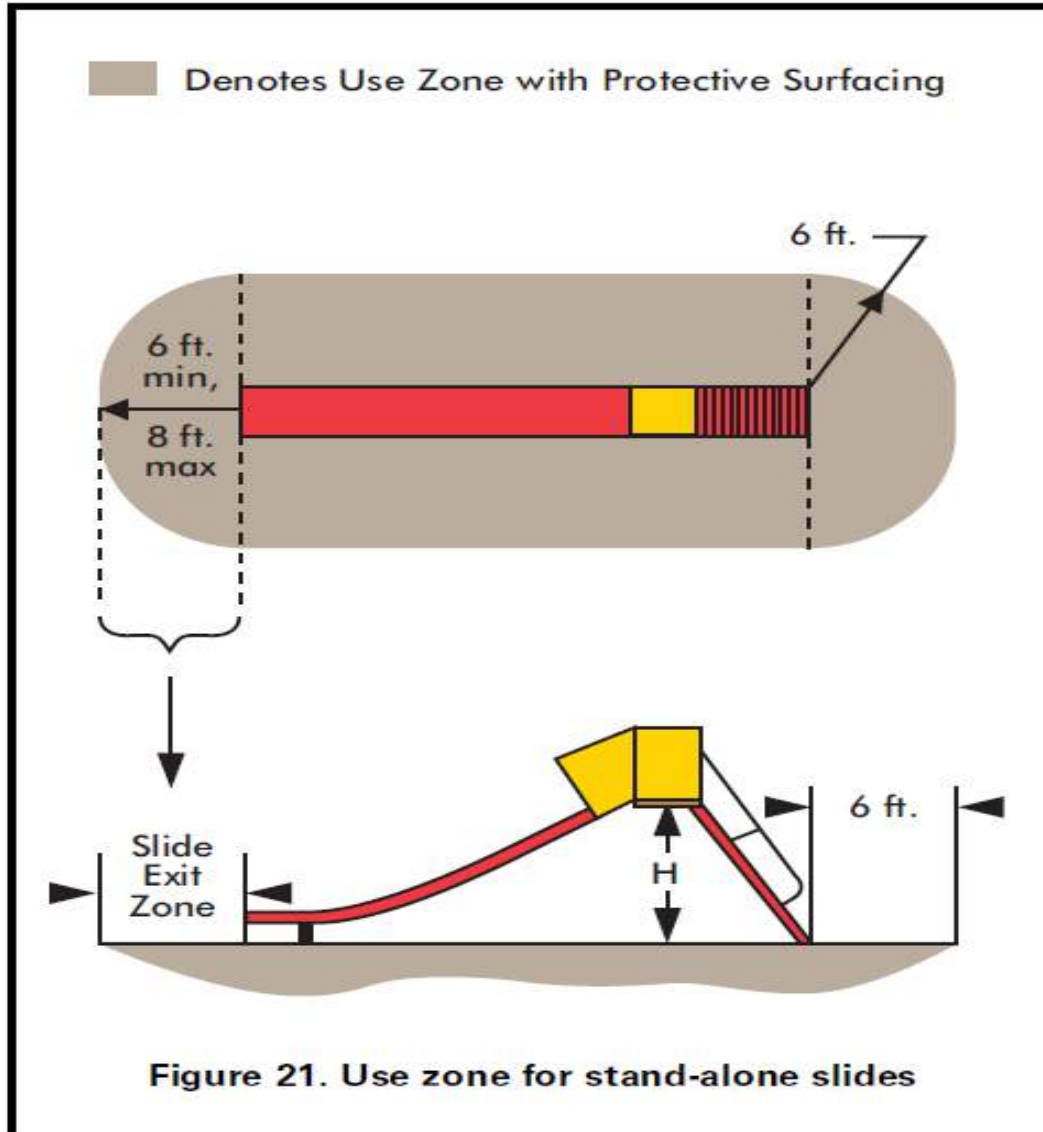


## #2. INADEQUATE USE ZONES

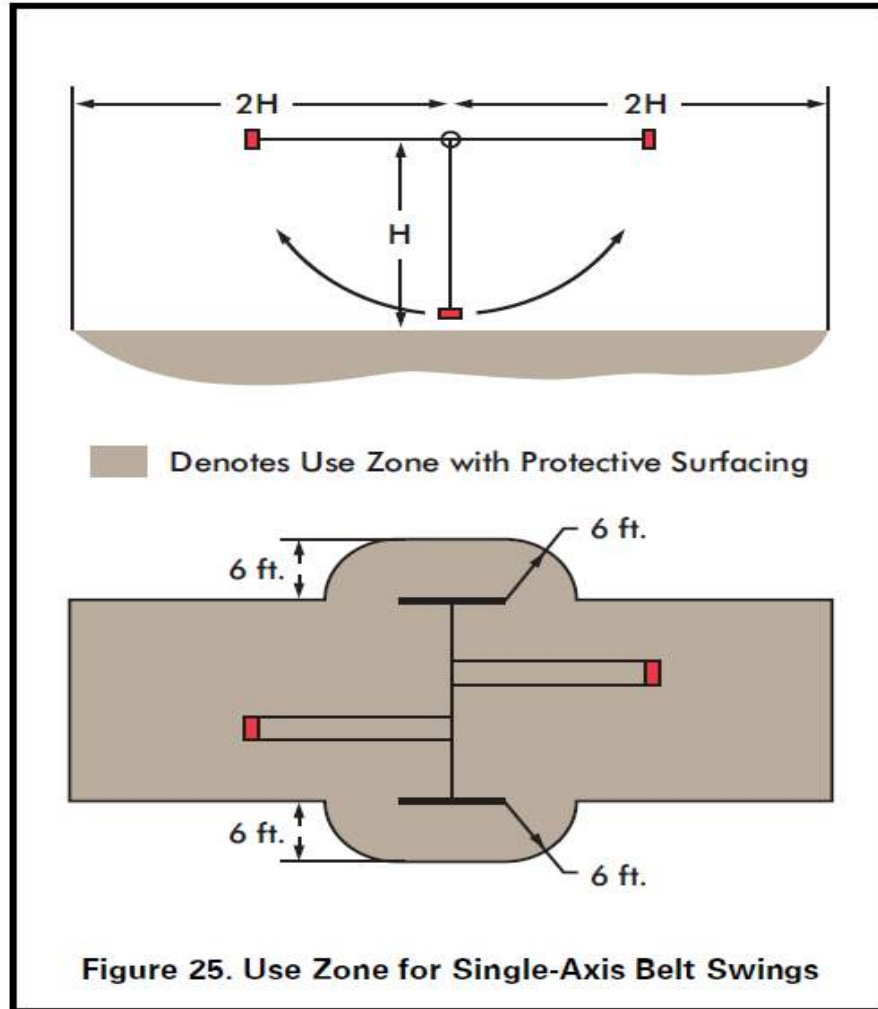




# Stand Alone Slides



# Single Axis Swings

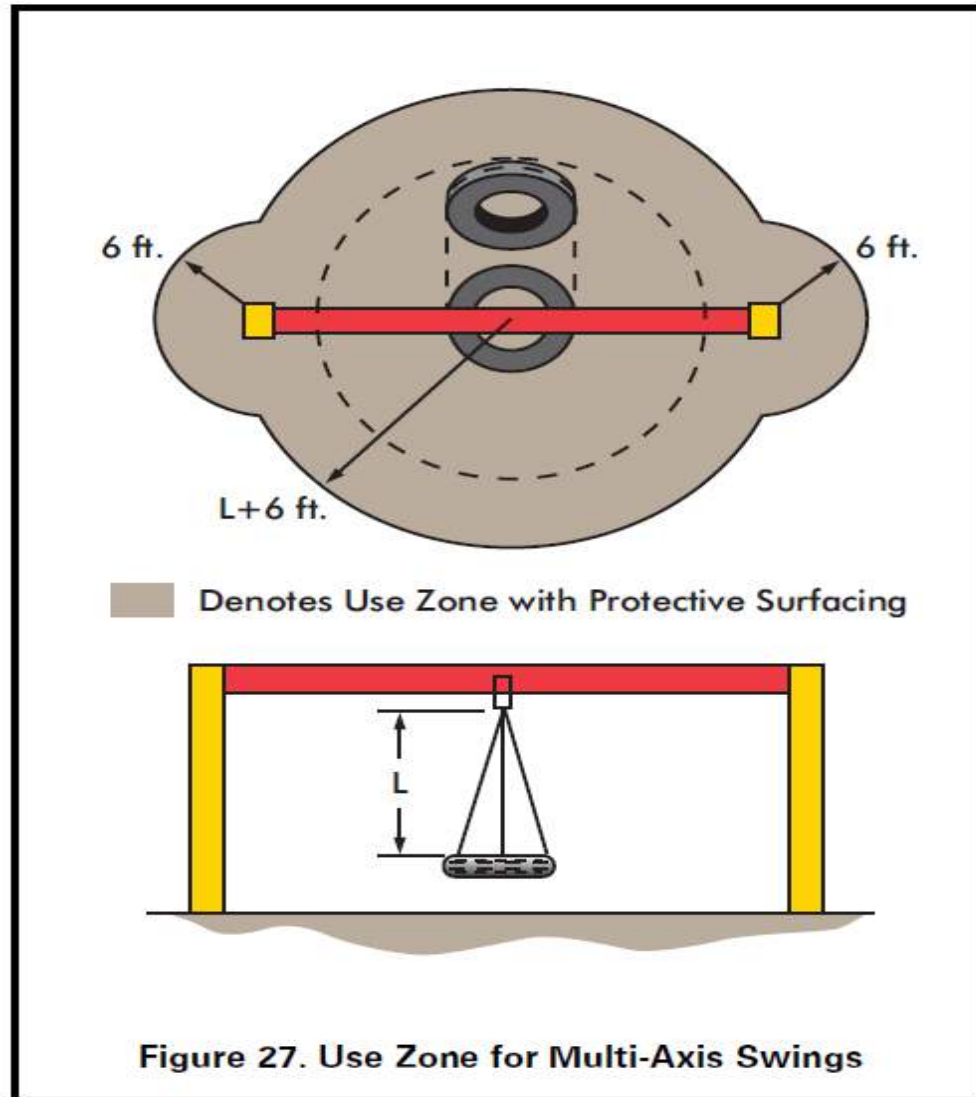


NOTE: H for tot swings measured to bottom of seat.





# Multi Axis Swings







## #3. ENTRAPMENT IN OPENINGS





# Head Entrapment Test Probes

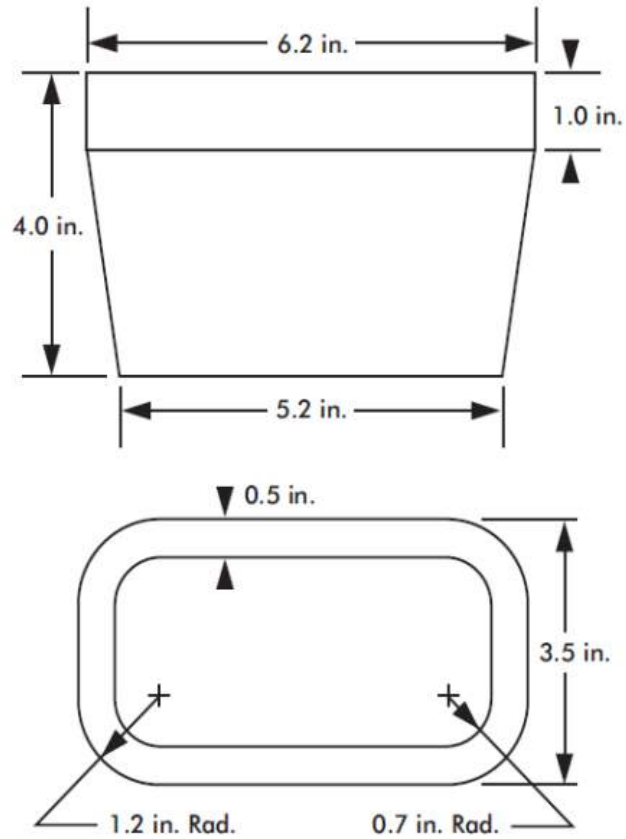


Figure B7. Preschool- and school-age small torso probe

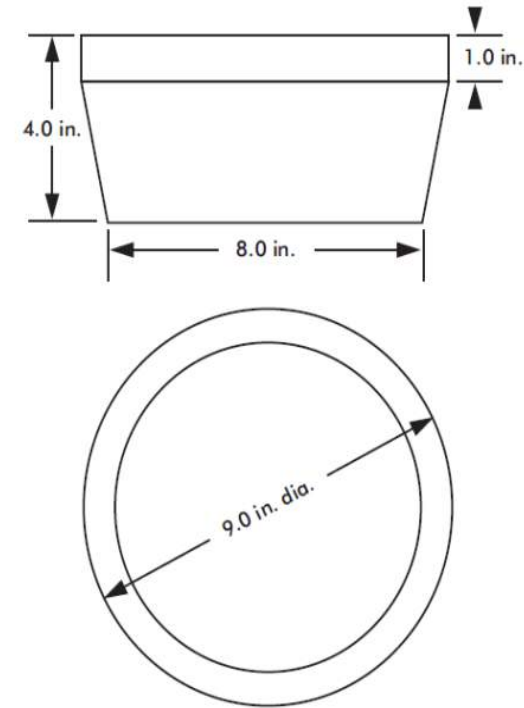


Figure B8. Large head probe





## #4. PROTRUSIONS AND ENTANGLEMENT HAZARDS





## Examples of protrusion and entanglement hazards include:

- Bolt ends that extend more than two threads beyond the face of the nut
- Hardware configurations that form a hook or leave a gap or space between components
- Open "S" type hooks
- Rungs or handholds that protrude outward from a support structure capable of penetrating the eye socket

### Pay Special Attention to:

The area at the top of slides and sliding devices.

Protruding hardware and gaps that may hook and catch clothing.

Ropes should be anchored securely at both ends, and incapable of forming a loop or a noose.

# PROTRUSIONS AND ENTANGLEMENT HAZARDS





#5. PLATFORMS WITH NO GUARDRAILS OR.....  
BARRIERS







## #6. CRUSH AND SHEAR POINTS















Kayenta Community School  
Relocation and New Swings  
Kayenta, AZ

Exer]  
Dan

# #7. INSUFFICIENT EQUIPMENT SPACING



















## #8. TRIP HAZARDS















## #9. AGE-INAPPROPRIATE ACTIVITIES







#10. LACK OF MAINTENANCE







LACK OF MAINTENANCE







LACK OF MAINTENANCE







## #11. LACK OF SUPERVISION







#12. EQUIPMENT NOT RECOMMENDED FOR...  
PUBLIC PLAYGROUNDS













International Playground Equipment Manufacturers Association (IPEMA)

The Dirty Dozen is presented in partnership with IPEMA

[www.ipema.org](http://www.ipema.org)

American Society for Testing and Materials International (ASTM)

[www.astm.org](http://www.astm.org)

U.S. Consumer Product Safety Commission (CPSC)

For a free copy of the Consumer Product Safety Commission's Handbook for Public Playground Safety (No. 325), contact: 800.638.2772

[www.cpsc.gov](http://www.cpsc.gov)

## TOOLS AND RESOURCES







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Center \_\_\_\_\_ Date \_\_\_\_\_ Completed By \_\_\_\_\_

**PLAYGROUND MAINTENANCE CHECKLIST**

<b>Instructions:</b> Check the entire playground at least once each month. Train all staff to be alert to playground hazards and report them promptly. Avoid the use of the hazardous equipment until repaired.	<b>Item OK</b>	<b>Identify Repair Needed</b>	<b>Date Repaired</b>
1. Is there 6 inches of resilient ground cover* under all swings, slides and climbing equipment. Is it compacted or out of place? (* pea gravel, shredded wood)			
2. Are there foreign objects or obstructions in the fall zone under or around fixed equipment?			
3. Are there obstructions to interfere with normal play activity?			
4. Are there climbing areas that would allow children to fall more than their reaching height when they stand erect?			
5. Are concrete supports sticking above the ground? Are they secure?			
6. Are there sharp edges, broken parts, pinching actions or loose bolts?			
7. Are there openings that could trap a child's head?			
8. Are there frayed cables, worn ropes, open hooks or chains that could pinch?			
9. Are timbers rotting, splitting, termite infested, or excessively worn?			
10. Are portable toys such as tricycles and wagons in good repair?			
11. Are there protrusions that could catch clothing?			
12. Are there crush points or shearing actions such as hinges of seesaws and undercarriages of revolving equipment?			
13. Are swinging seats loose, worn or excessively heavy?			
14. Is the fence in good repair and at least 4 feet high in all places? Can gates be secured so that children can not open them?			
15. Are there electrical hazards on the playground that children can gain access to? (air conditioners, switch boxes, power lines)			
16. Is there anywhere that water stands or collects?			
17. Are there toxic materials on the playground?			
18. Do the grass, trees or shrubs need care?			
19. Is there any other hazard that needs to be corrected? Please describe:			

# TOOLS AND RESOURCES





**Karl Croft**

Territory Manager

*State of Alaska*

**karl@exerplay.com Direct 907.748.3736**

**Toll Free 800.457.5444**





# THANK YOU!

