

APPENDIX 1: PARKS AND LEISURE AUSTRALIA PRESENTATION

GROUND CONDITIONS AND MANAGING THE RISK OF INJURY



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CRICOS Provider Number 00103D

Introduction

- What is currently going on?
- What do we know about ground conditions and injury risk?
- What should or do we need to do to manage injury risk?



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What is currently going on?

Sports Ground and Surface Study undertaken at UB in 2006



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Phases of the Study

Investigate the policies of Victorian Local Government Authorities (LGA), and the State Sporting Associations (SSA) of Football, Cricket, Hockey and Soccer.

Investigate the extent to which these policies are currently being adopted.

Establish normative data for conditions of ground surfaces for Australian Rules football/Cricket grounds at a representative number of metropolitan, regional and rural environments.

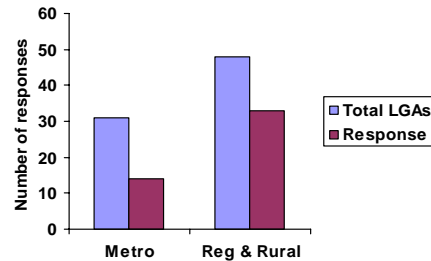
Compare and contrast sports ground surface policies, guidelines and practices with the existing evidence base for determining suitability.

Establish a standard test for rotational grip in relation to player-surface interaction.

Compare subjective sports ground surface checklist data with objective measures of hardness, grip, traction, surface evenness and grass cover content.

Phase 1 – Examining Policies

- 47 out of 79 Victorian LGAs participated (60% response rate)



- Also SSAs for Australian Rules Football, Soccer, Cricket and Hockey. No response from Hockey.

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Key points from examining policies

- 23 of the 47 LGAs who replied had no policies or guidelines related to sports ground safety or suitability for play
- High variation – checklists, policies for maintenance and policies for detailed measures of ground status
- Less regular auditing and lower maintenance specifications were set for lower quality grounds

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Phase 2- Adoption of Policies

SSAs: Interviews of key informants in each of the four sports

LGAs: Interviews of key informants from

- 2 metropolitan
- 2 regional
- 2 rural

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Summary from Interviews

- Compliance issues and insurance liability dominated the reasons for sports grounds assessment
- A hierarchy exists where premier grounds are maintained and monitored at more stringent levels
- They all believed that grounds that were monitored for safety had lower risk for participants
- It appears that ground conditions tend to deteriorate the further one goes from the metropolitan area

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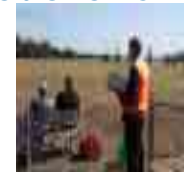
What do we know about ground conditions and injury risk?



Ground Condition as a Risk Factor for Injury

Two ways

- Observational Checklists



- Objective Direct Ground Measures



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Observational Data

AFL Match Day Checklist

Name: _____ Date: _____

Home Team: _____ Away Team: _____

Ground: _____

Use the checklist for an incident:

At the surface: **Is the surface free of debris? (free from glass, rocks, rubbish, etc)**

Have weather conditions or water made the surface unsafe?

At the surface in:

Are spectators in:

At the perimeter: **Is the surface in reasonable condition? (grass length, free of holes)**

Are the stands:

Are there any other factors which may be dangerous to the players?

Are there any other factors which may be dangerous to the spectators?

Change Weather & Tether Status:

Are the match officials?

Comments (particularly for any incidents/injuries): _____

Use the checklist throughout the day, use the underground, have undertaken the above inspection and signed the checklist throughout the day.

Home Team Representative Name: _____ Away Team Representative Name: _____

Signature: _____ Signature: _____

A copy of this form must be filed and kept in accordance with the CRICOS Provider Number 00103D.

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Evidence of link between ground condition and injury

Intuitively harder ground → increased risk of injury

Two main characteristics that relate are - ground hardness and traction

Many studies, particularly in football codes, have indicated a link between harder ground and risk of injury but based on observation. (McMahon et al., 1993; Alsop et al., 2005; Gabbett et al., 2006)

Orchard (2005) with his work looking at penetrometer readings and AFL injuries found only a trend towards a lower injury risk on softer ground compared to firmer grounds.

There is currently a lack of evidence linking hard ground to injury!



Different Measurement Tools

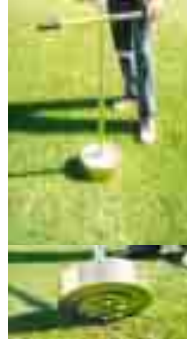
Penetrometer-Hardness



Clegg Hammer-Hardness



Studded Boot Apparatus-Traction



Soil Moisture Meter-Ground moisture



Clegg Shear Tester-Shear strength



UB Study Found

Three ARF Associations within Victoria were selected for analysis representing metropolitan, regional and rural football.

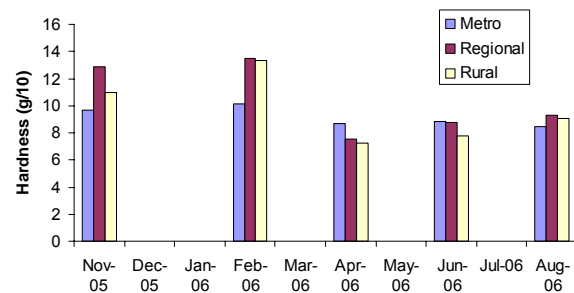
- A difference across the venues for surface hardness; firmer conditions on the centre line when compared to the flanks
- The grass types, and their prevalence, are a significant contributor to surface hardness, grip and shear strength
- The assessment of soil moisture levels could be a proxy for assessment of factors such as hardness, grip and shear strength, if baseline conditions of maximum soil moisture are known

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An example - hardness



Indoor stadium hardness vs grass

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What should or do we need to do to manage injury risk?

- There is no denying that there is a duty of care for the participants on all sports grounds
- Closing sporting grounds has a huge impact on the health and well being of communities therefore it must be for the correct reasons
- There is little evidence based knowledge proving that the risk of injury is greater on harder grounds

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What should we do now?

SSAs/Clubs

- Clarify who is responsible to identify and remediate any hazards. This may be the designated safety officer, referee or umpire, or the coach
- Ensure match day checklists are used to identify hazards to safe participation
- Maintain duty of care to all players
- Support research
- Use evidence based findings in decision making

LGAs

- Make sure you have a policy and an implementation plan for evaluating sports ground suitability
- Establish a set of minimum standards for the maintenance of all sports ground surfaces across LGAs
- Promote co-operation between yourselves and the sporting clubs in establishing and maintaining sports ground inspection
- Use evidence based findings in decision making

Researchers

- Validate the measures currently being used
- Seek funding to undertake the necessary research
- Translate the research into practice

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PAFIX PROJECT

- Preventing Australian Football Injuries through Exercise
- National Health & Medical Research Council funded project (\$1.06m)
- Examining the effectiveness of special training programs on reducing lower limb injuries in community level football players



PAFIX



The University of
Western Australia

PAFIX CONTINUED

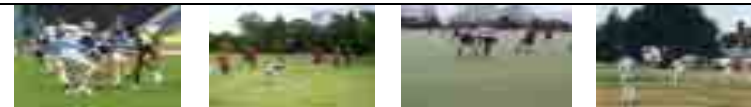
- Concurrent with this is a ground conditions study linking injuries and ground conditions at community level football over 2007 & 2008 in VIC and WA
- This project includes various direct ground measures and epidemiological observations
- Results will be available and published in 2009



PAFIX



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Thank you for your attention!

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APPENDIX 2: EXAMPLES OF MATCH DAY CHECKLISTS

Soccer Checklist



MATCH DAY CHECKLIST

DATE:

YES

NO

Field of Play

Has the ground surface been prepared correctly for a Soccer match?

Is the surface free of debris ie syringes, glass, rocks, rubbish, etc ?

Weather conditions have not made the surface unsafe?

Is the surface in adequate condition ie grass length, no pot holes etc ?

Are sprinkler covers correctly in place?

Is the perimeter area safe ie condition of signs, fencing etc ?

Are the weather conditions safe for the game to commence ?

Have goal frames been adequately padded ?

There are no other known factors which may be dangerous to the players?

Is a qualified trainer (or equivalent) in attendance for each team?

Does each qualified trainer have an appropriate First Aid Kit?

Is there a stretcher (preferably a Jordan Frame) present at the ground?

Are emergency response personnel appointed and present?

Change Rooms & Toilet Safety

Are the rooms free of debris ie syringes, glass, rubbish, etc

Prior to the commencement of play, we, the undersigned, have undertaken the above inspection and agree that the playing environment is fit for play.

.....
Home Team Captain / Representative
Signature

.....
Away Team Representative / Captain
Signature

.....
Name

.....
Name

A copy of this form must be filed and kept by the HOME Soccer team and be kept for six (6) years. The form must be able to be provided to Soccer Australia on request if required.

Cricket Checklist



Gameday Checklist

Date: _____

Home Team: _____ Away Team: _____

Ground: _____

	YES	NO
Has the ground surface been prepared correctly for cricket matches?	<input type="checkbox"/>	<input type="checkbox"/>
Field of Play		
Is the surface free of debris? (i.e. free from glass, rocks, rubbish, etc)	<input type="checkbox"/>	<input type="checkbox"/>
Have weather conditions or water made the surface unsafe?	<input type="checkbox"/>	<input type="checkbox"/>
Is the surface in acceptable condition? (grass length, free of holes)	<input type="checkbox"/>	<input type="checkbox"/>
Are sprinkler covers correctly in place?	<input type="checkbox"/>	<input type="checkbox"/>
Is the perimeter fencing safe? (i.e. signs, etc)	<input type="checkbox"/>	<input type="checkbox"/>
Are the weather conditions safe for the game to commence? (i.e. lightning, etc)	<input type="checkbox"/>	<input type="checkbox"/>
Are you aware of any other factors which may be dangerous to the players?	<input type="checkbox"/>	<input type="checkbox"/>
Change Rooms & Toilet Safety		
Are the rooms free of debris? (i.e. free from syringes, glass, rubbish, etc)	<input type="checkbox"/>	<input type="checkbox"/>

Prior to the commencement of play, we, the undersigned, have undertaken the above inspection and agree that the playing environment is fit for play.

Home Team Captain / Representative
Signature

Away Team Captain / Representative
Signature

Name (please print)

Name (please print)

Australian Football Checklist



Administered by JLT Sport
(a division of Jardine Lloyd Thompson)

Match Day Checklist

Date: _____

Home Team: _____ Away Team: _____

Ground: _____

	YES	NO
Has the ground surface and markings been prepared correctly for an Australian Football match?	<input type="checkbox"/>	<input type="checkbox"/>
Field of Play		
Is the surface free of debris? (free from glass, rocks, rubbish, etc)	<input type="checkbox"/>	<input type="checkbox"/>
Have weather conditions or water made the surface unsafe?	<input type="checkbox"/>	<input type="checkbox"/>
Is the surface in reasonable condition? (grass length, free of holes)	<input type="checkbox"/>	<input type="checkbox"/>
Are sprinkler covers correctly in place?	<input type="checkbox"/>	<input type="checkbox"/>
Is the perimeter fencing safe? (signs, etc)	<input type="checkbox"/>	<input type="checkbox"/>
Are the weather conditions safe for the game to commence? (lightning etc)	<input type="checkbox"/>	<input type="checkbox"/>
Have goal and behind posts been adequately padded?	<input type="checkbox"/>	<input type="checkbox"/>
Are there any other factors which may be dangerous to the players?	<input type="checkbox"/>	<input type="checkbox"/>
Is there a stretcher available for use in the event of a serious injury?	<input type="checkbox"/>	<input type="checkbox"/>
Change Rooms & Toilet Safety		
Are the rooms free of debris? (free from syringes, glass, rubbish, etc)	<input type="checkbox"/>	<input type="checkbox"/>

Comments (particularly for any ticked shaded box)

Prior to the commencement of play, we, the undersigned, have undertaken the above inspection and agree that the playing environment is fit for play.

Home Team Representative Name _____

Away Team Representative Name _____

Signature _____

Signature _____

A copy of this form must be filed and kept by the HOME TEAM for each match conducted and be kept for

APPENDIX 3: DERIVED SCORE METHOD USED BY THE CITY OF GREATER GEELONG

Ground: _____ Date _____
 Inspected by: _____ (Club Rep)
 Mid-Week Name: _____
 Pre-Game Umpire: _____

Officials in consultation with designated umpires must visually inspect the playing field at least 30 minutes before the playing time and complete the following. Does any one observation render the playing surface in an unsafe condition? If YES please describe: _____
 If YES the ground must be declared "unsafe" for play. If the answer is No, please continue.

	Observations	Actual Observations				Weighted	Actual	Comments	
		0-25%	26-50%	51-75%	76-100%				
Playing Arena	Grassed Areas	Cover	What's the grass cover of the playing surface?	0-1	2-3	4-5	6-8		
		Vigor	What is the condition of the surface cover?	Dead	Stressed	In Decline	Healthy		
		Height	Surface cover of sufficient height (mm)	<20mm	20-40mm	>40mm			
	Grassed Areas	Evenness	Is the surface area level with little/no undulations, holes, tussocks, weeds, etc.	Yes		No			
				0	1	4-7	0-3		
	Wicket Areas	Synthetic Surface & Grassed Pitch	Is the Surface area level between the actual pitch and the surrounds	Yes		No			
			Is the Surface area suitable/safe for play?	Yes		No			
	Worn/Bare Areas	Evenness	On overviewing the total surface area, is it level with little/no undulations, holes.	Yes		No			
				0	1	4-7	0-3		
	Worn/Bare Areas	Firmness	In travelling from grassed to un-grassed areas is it likely to cause stability problems for players.	Yes		No			
				Little	Lots	5			
	Other	Hardness	Scale ground hardness?	Extremely hard to hard		Firm to Pliable			
				0-4	5-9				
		Cracks	Are there cracks greater than 20mm in width exist?	Yes		No			
Little				Lots	5				
Holes		Inspect the playing surface for holes, sufficient to cause players to trip, etc.	Yes		No				
			Little	Lots	5				
Damaged		Has surface been damaged by animals or machinery?	Yes		No				
	Little		Lots	5					
Sprinklers	Are ALL sprinklers level with the playing surface?	Yes		No					
Non Playing Areas	Signage & Fences	Positions so as not to interfere with players or cause an injury to players	Yes		No				
	Light Towers /Flag Poles	Positions so as not to interfere with players or cause an injury to players, sound footings	Yes		No				
	Others	Are there any other hazards that should be noted?	Yes		No				
Ground Rating:						54		If the score is equal to or greater than 54, ground condition is acceptable to play	

APPENDIX 4: LGA RESPONSE TO A SURVEY OF THEIR GROUND CONDITION MANAGEMENT PRACTICES

MUNICIPALITY	RESPONDING LGAs		
	POLICY	NO POLICY	NO REPLY
Alpine Shire Council			
Ararat Rural City Council			
Ballarat City Council			
Banyule City Council			
Bass Coast Shire Council			
Baw Baw Shire Council			
Bayside City Council			
Benalla Rural City Council			
Boroondara City Council			
Brimbank City Council			
Buloke Shire Council			
Campaspe Shire Council			
Cardinia Shire Council			
Casey City Council			
Central Goldfields Shire Council			
Colac-Otway Shire Council			
Corangamite Shire Council			
Darebin City Council			
East Gippsland Shire Council			
Frankston City Council			
Gannawarra Shire Council			
Glen Eira City Council			
Glenelg Shire Council			
Golden Plains Shire Council			
Greater Bendigo City Council			
Greater Dandenong City Council			
Greater Geelong City Council			
Greater Shepparton City Council			
Hepburn Shire Council			
Hindmarsh Shire Council			
Hobsons Bay City Council			
Horsham Rural City Council			
Hume City Council			
Indigo Shire Council			
Kingston City Council			
Knox City Council			
Latrobe City Council			
Loddon Shire Council			
Macedon Ranges Shire Council			
Manningham City Council			
Mansfield Shire Council			
Maribyrnong City Council			
Maroondah City Council			
Melbourne City Council			
Melton Shire Council			
Mildura Rural City Council			
Mitchell Shire Council			

MUNICIPALITY	RESPONDING LGAs		
	POLICY	NO POLICY	NO REPLY
Moira Shire Council			
Monash City Council			
Moonee Valley City Council			
Moorabool Shire Council			
Moreland City Council			
Mornington Peninsula Shire Council			
Mount Alexander Shire Council			
Moyne Shire Council			
Murrindindi Shire Council			
Nillumbik Shire Council			
Northern Grampians Shire Council			
Port Phillip City Council			
Pyrenees Shire Council			
Queenscliffe Borough Council			
South Gippsland Shire Council			
Southern Grampians Shire Council			
Stonnington City Council			
Strathbogie Shire Council			
Surf Coast Shire Council			
Swan Hill Rural City Council			
Towong Shire Council			
Wangaratta Rural City Council			
Warrnambool City Council			
Wellington Shire Council			
West Wimmera Shire Council			
Whitehorse City Council			
Whittlesea City Council			
Wodonga City Council			
Wyndham City Council			
Yarra City Council			
Yarra Ranges Shire Council			
Yarriambiack Shire Council			
TOTAL NUMBERS	24	23	32

APPENDIX 5: GOOD PRACTICE MATCH DAY AND TRAINING SESSION CHECKLIST

MATCH DAY AND TRAINING SESSION CHECKLIST*		
Date-----		
Home Team----- Away Team-----		
	YES	NO
The ground is free from debris (glass, stones, faeces, windrows, etc) If NO , what action was taken?-----	<input type="checkbox"/>	<input type="checkbox"/>
Sprinkler heads and taps are covered and level with the surrounds If NO what action was taken?-----	<input type="checkbox"/>	<input type="checkbox"/>
The ground is free from holes or uneven sections that could cause tripping and falls If NO , what action was taken?-----	<input type="checkbox"/>	<input type="checkbox"/>
The padding of goal (and point) structures is adequate If NO , what action was taken?-----	<input type="checkbox"/>	<input type="checkbox"/>
The weather conditions are safe for play to commence If NO , what action was taken?-----	<input type="checkbox"/>	<input type="checkbox"/>
The perimeter fencing and signage is safe and secured If NO , what action was taken?-----	<input type="checkbox"/>	<input type="checkbox"/>
There ground and surrounds are free from other hazards that create danger for players If NO , what action was taken?-----	<input type="checkbox"/>	<input type="checkbox"/>
There are appropriate first aid personnel, equipment and phone contact with emergency services should it be required. If NO what action was taken-----	<input type="checkbox"/>	<input type="checkbox"/>
Any other comments regarding ground safety? ----- -----		
Prior to the commencement of play /training, I /we have undertaken the above inspection and agree that the playing surface is unsafe /safe for play to commence		
----- Home team representative name	----- Away team representative name	
----- Signature	----- Signature	
*This checklist includes guidance notes (see over) for those conducting the inspection.		

Inspection Notes

Debris

This is an obvious hazard but requires careful visual inspection. Glass, aluminium cans that have been mown over, rocks and general rubbish are often littering sports grounds. Other debris includes syringes, faeces and windrows of mown grass that can cause tripping injuries.

Sprinklers

Recessed sprinkler heads on sports grounds are normally made safe by a cover. Erosion of the surrounds of the sprinkler caused by water pressure should be made level with the surrounding ground. A player should be able to run across this area and directly place a foot on the top of the sprinkler area with no disruption to the stride pattern or gait.

Holes and uneven surfaces

Pot holes, divots and depressions are hazards that arise for many reasons on sports grounds. They are easily repaired by adding sand or soil and should be tamped to provide a stable surface. Uneven surfaces typically arise through differential wear patterns (eg, goal square) and around cricket pitch areas where loose soil has a different drainage pattern to the adjacent areas and uneven, rippled surfaces can arise. Bare patches of earth with clumped grass or weeds can also lead to uneven surfaces. An inspection of a suspect uneven surface by walking across it with eyes shut such that it makes the person feel very unsure about their footing indicates that this area requires repair.

Padding

Padding should be on all upright goal posts to a minimum height of 2.5 m. It should be a minimum of 35 mm thickness, be in good condition and securely fixed to the upright (goal, behind structures).

Weather conditions

The major and serious risks arising from hazardous weather conditions relate to the prospect of localised lightning and the combination of wind, rain and cold leading to hypothermic conditions and conditions of extreme heat. Where appropriate, the weather situation as it relates to player safety should be considered in an ongoing manner throughout match day.

Perimeter fencing

Perimeter fencing should be checked for protruding wire, pipes, bolts and loose and damaged signage. The siting of signage should also be considered and placed as far from the boundary line as possible. At all times the appropriate safety distance from boundary line to the fence (Australian Rules football=5m, cricket and soccer=9m back and sides 6m) should be.

Other hazards

From time to time abnormal situations are created that cause hazardous conditions for players. This could be man-made (eg, vandalism by drivers doing wheelies on ground), structural (eg, burst water main) or natural (eg, flooding, snow etc). Common sense should be used and player safety considered first and foremost. When particular hazards cannot be eliminated consideration should be given (as in golf) to creating an Out of Bounds area where no play is possible.

APPENDIX 6: GOOD PRACTICE SPORTS GROUND INSPECTION FORM

Ground-----

Notes for each category of observation are on the reverse sides of this sheet

Any one observation may render the ground unsafe

Surface Evenness

OBSERVATIONS	Are bare areas at such different levels to the grass surrounds to cause stability or tripping hazards?	Yes / No
	Are there holes, undulations, worn areas and sprinkler areas that might cause players to trip, or fall?	Yes / No
	Are there variations between the cricket wicket area and the surrounds?	Yes / No
ANALYSIS	Any YES response to the above observations means problems exist. Review your responses and indicate how significant this aspect of the ground safety is. Remember that aspects of ground safety can be less than ideal, but still safe for play.	Not significant Very significant
DECISION	In terms of overall ground surface safety the evenness of the field is such that conditions for players and officials is	Safe Unsafe

Grass Cover

OBSERVATIONS	The percentage of grass cover is estimated at	<25% <50% <75% >75%
	Does the percentage of grass cover under 50% present a hazard to players and officials?	Yes/ No
	Are there weeds, tussocks or bare patches that could cause stability problems for players?	Yes / No
	Is the grass length (or variations) likely to cause a player to trip?	Yes / No
ANALYSIS	Any YES response to the above observations means problems exist. Review your responses and indicate how significant this aspect of the ground is. Remember that aspects of ground safety can be less than ideal, but still safe for play.	Not significant Very significant
DECISION	In terms of ground surfaces safety the grass cover of the field is such that conditions for players and officials is	Safe Unsafe

Shock Absorbency

OBSERVATIONS	Are the ground conditions in terms of softness, firmness and hardness an issue for player safety?	Yes/ No
	Is this condition uniform over all the ground?	Yes / No
	Are there cracks in the sports ground surface?	Yes / No
ANALYSIS	Any YES response to the above observations means problems exist. Review your responses and indicate how significant this aspect of the ground condition is. Remember that aspects of ground safety can be less than ideal, but still safe for play.	Not significant Very significant
DECISION	In terms of ground surfaces safety the shock absorbency of the field is such that conditions for players and officials is	Safe Unsafe

Grip

OBSERVATIONS	Are there sections of the ground with different surface characteristics (bare patches, sandy sections)?	Yes / No
	Is travelling from grassed to ungrassed sections likely to cause either slipping or grip problems?	Yes / No
ANALYSIS	Any YES response to the above observations means problems exist. Review your responses and indicate how significant this aspect of the ground is. Remember that aspects of ground safety can be less than ideal, but still safe for play.	Not significant Very significant
DECISION	In terms of ground surfaces safety the grip of the field is such that conditions for players and officials is	Safe Unsafe

Other Hazards

OBSERVATIONS	The ground is free from debris (glass, stones, faeces, windrows, etc)?	Yes / No
	Sprinkler heads and taps are covered and level with the surrounds?	Yes / No
	The perimeter fencing and signage is safe and secured?	Yes / No
ANALYSIS	Any NO response to the above observations means problems exist. Review your responses and indicate how significant this aspect of the ground is. Remember that aspects of ground safety can be less than ideal, but still safe for play.	Not significant Very significant
DECISION	In terms of ground surfaces safety the hazards on the field are such that conditions for players and officials is	Safe Unsafe

Ground Profile

OBSERVATION FOCUS	SAFE OR UNSAFE	Remedial action required to enable play
Surface evenness		
Grass cover		
Shock absorbency		
Grip		
Other hazards		

The ground surfaces at----- has been reviewed by LGA representative----- and Club representative-----.

We believe that that the ground is currently safe / unsafe for play.

We recommend the following maintenance action on the ground

Signed

Date-----

----- LGA rep

----- Club rep

Observation notes

Surface evenness

The sports ground surface should be level, flat and even. This should be considered at two levels: whole of ground and parts of ground. Uneven and denuded areas created by sport dimension markings can be hazardous. Uneven ground surfaces are evident in the form of are patches of bare ground and tufted grass, holes and undulations, a raised cricket table with unstable filling of different composition to the surrounds are all examples of potential hazards in terms of unevenness . For whole of ground evaluation the person(s) inspecting the ground seeks to conclude that the overall sports ground surface is even and there are not undulations, holes, tussocks or other raised surfaces that present a tripping or falling hazard to players and officials. As stated in the match day and training checklist observation notes this hazard is evaluated through a visual scan and this can be assisted by an inspection of a suspect uneven surface by walking across it with eyes shut such that if it makes the person feel very unsure about their footing indicates that this area requires repair.

Grass cover

Ideally sports grounds have a consistent 100% grass cover, as the percentage of bare areas increase the risks associated with this increase. The safety issues relate to bare patches being at a different level to the grassed surface causing an uneven surface and the different traction characteristics as players move from one area to another. Weeds, tussocks and tufts of different grasses can also lead to an undulating and uneven surfaces. Tripping and jarring injuries are the likely consequences.

Shock Absorbency

Shock absorbency is the extent to which a surface absorbs the impact of a player running on the surface. Sportsgrounds can feel soft, firm or hard. Shock absorbency is influenced by soil moisture, soil type and grass cover. Extremely hard surfaces may lead to soft tissue injuries caused by falling and to joint injuries caused by compressive forces.

Grip

Both slip resistance and traction are important characteristics of sports ground surfaces and the interaction with players through their footwear. A player must have enough grip on the surface to accelerate and decelerate at will. If there is insufficient grip a player may slip which can result in loss of stability and balance and result in ligament and muscle damage. Conversely too much grip can entrap a body part such as a foot whilst other parts move differentially leading to ankle, knee and hip injuries. The player surface must also allow players sufficient traction to change direction at will.

Other Hazards

Aspects of the Good Practice Match Day and Training Checklist are used here to highlight particular hazards known to increase the likelihood of player injury.

Ground Profile

A ground Profile is produced when the person(s) inspecting the sports ground have to make a judgement whether, overall and on balance, the ground is safe for play. The decisions made for individual ground components are aggregated. For a ground to be considered unsafe for play there must be clear evidence and a strong belief that the likelihood and consequences of the surface conditions creating unreasonable risk for players and officials is evident. We must be able to say that a ground is closed for safety reasons, not aesthetics or horticultural standards. The concept of asset protection may indeed lead to ground closure but this matter should not be clothed in safety discourses.