



## **Archery**

# **Standard Operating Procedure and Risk Management Plans**



## **OVERVIEW**

Archery is an ancient activity that has become a well-loved modern sport. It not only helps to build hand eye coordination and muscle strength but also has added benefits to do with goal setting, self-awareness and the skill of following a set of progressive instructions.

Archery is an interesting and fun activity that is appropriate for most age groups. It takes specific skill to master and can be conducted as a team or individual activity.

## **OUTCOMES**

For participants to be instructed in the skill of Archery and for them to develop and improve those skills in the duration of the session. It is an activity where group encouragement can be fostered and where participants are encouraged to support their friends and group members.

Participants are taught how to correctly hold, load and shoot with a bow and skill development is a key aspect of the session. They learn to assess their shot, adjust their technique accordingly and try to better their attempts with each shot fired.

The activity encourages peer to peer encouragement, self-awareness, responsibility, physical coordination and realistic goal setting.

Campers feel a great sense of achievement when they manage to better their attempts or meet their goals.

## **PRE-REQUISITES FOR INSTRUCTORS**

Preferably instructors should have some form of qualification in Archery instruction or have been trained by camp staff in conducting a safe archery session.

At least one of the supervisors should hold a first aid qualification and in addition to the instructor there should be at least one other supervising adult present.

## **LOCATION**

On the oval below the dining hall. Shooting is to be directed at one of the banks surrounding the area to prevent stray arrows from damaging property or injuring passers-by.

## **PRIOR TO COMMENCING**

All equipment must be checked for damages or wear.

The area must be set up in preparation for the activity.

The main elements required in setting up are the targets, a shooting line and the equipment (bows, arrows ect.)

The shooting line must be highly visible and obvious for participants. This could constitute a rope on the ground, cones laid out in close proximity or a physical barrier (haybales, bench, lengths of timber).

The targets should be evenly spaced at a set distance from the shooting line and should be closest at the start of the session.

If you are using cones as your shooting line they are able to double as holsters for the arrows. If this is not the case you will need some form of vessel in which to place the arrows.

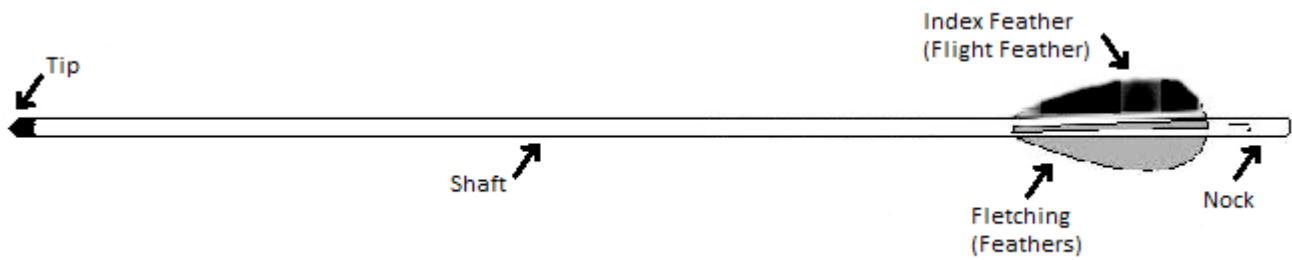
Having arrows placed on the ground is not ideal as they will easily be stepped on and broken.

The bows should be strung and ready to use.

Allocate a set amount of arrows per participant. This may be between 3 and 5 and set them out along the shooting line. By doing this you will prevent inappropriate handling of the arrows and will reduce damage to the equipment.

## EQUIPMENT

### The Arrow



Always store Arrows tip down or in a way that is not going to damage the delicate fletching.

### The Bow

Blue Lagoon uses simple recurve bows. They are one of the least powerful and easiest to use.

### The Bow

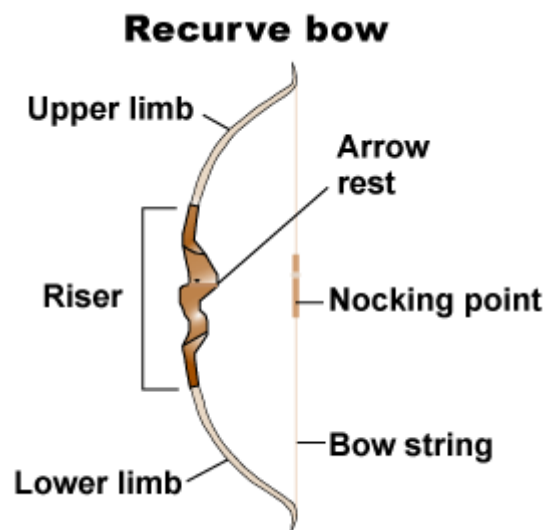
Bows should be stored un-stung to prevent the strings stretching. It is advised that you have a few left handed bows available for participants who are left handed to use.

Do not allow participants to fire the bow without an arrow as it damages the string and reduces the usable life of the equipment.

For instructions on how to correctly string or unstring a recurve bow visit these links

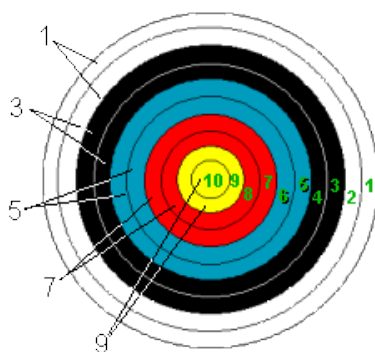
<http://www.wikihow.com/String-a-Recurve-Bow>

<http://www.wikihow.com/Unstring-a-Recurve-Bow>

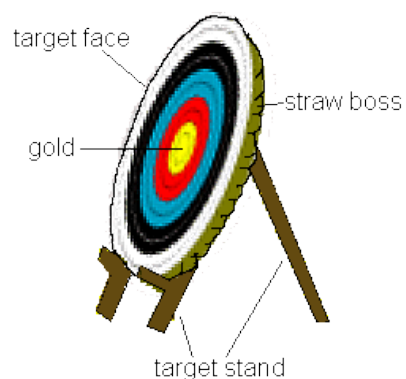


**TARGETS** are anything which the arrows are shot at. In Target Archery, the usual target is a coloured target face with scoring zones marked on it, fixed to a suitable backing to prevent arrows travelling through it. The traditional target boss is made of straw but modern bosses may consist of compressed layers of card, fibreboard, plastics or foam as long as the arrows cannot pass through the target. Scoring is either 9-7-5-3-1 (with 9 for anywhere in the Gold) or the colour zones may be subdivided to give 10 down to 1, with an inner gold scoring 10 and an outer gold scoring 9, and so on. If an arrow breaks the line between colours or zones it scores the higher points - thus an arrow on, or even touching, the line between red and gold scores 9.

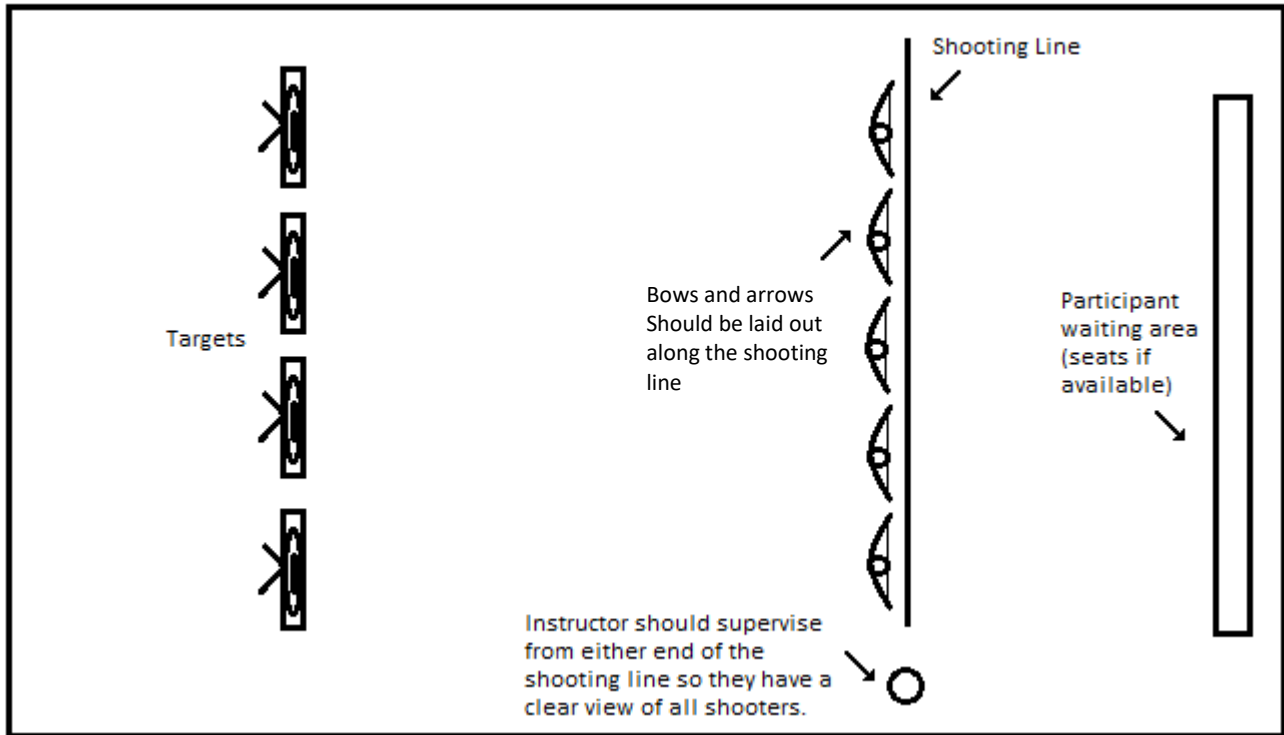
Target Scoring Zones



Standard Archery Target



## Archery Range Layout



The range should be a defined area where passers by cannot mistakenly wander into the area. If required, signs should be put up to warn of the danger and visual or physical barriers erected.

### **INITIAL INTRODUCTION AND PARTICIPANT BRIEFING**

Archery can be a very dangerous activity when not conducted properly. Participants need to be made aware of the risks of inappropriate behaviour and failing to listen to instructions.

Depending on the group's size you may want to have the group pair off and have the participants shoot in two rounds.

**No Participant is permitted to cross the shooting line without permission from the instructor!!**

It is advisable to have seating for participants so that they can sit down when they finish shooting . This will enable the instructor to be able to see what is going on far easier.

Participants should be briefed on the specific skills required for a successful shot as well as safe practices for arrow retrieval and movement out on the range.

### **SPECIFIC ACTIVITY SAFETY AND INSTRUCTIONS**

Due to the potentially dangerous nature of the activity, instructors must be vigilant and group control maintained. It is best to keep the equipment on the shooting line and have the participants wait a few paces behind the shooting line. When it is time for the participants to take their turn they can then step up to the shooting line on the instructors prompting and take their shots at the target.

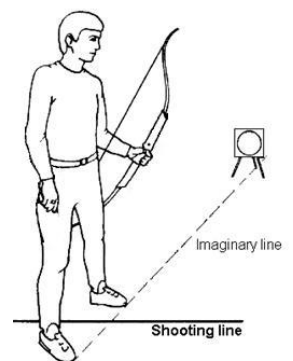
In order to place a successful shot there are specific instructions that participants should follow.

#### **1.Stance & posture**

Right handed archers hold the bow with the left hand, so with your left side toward the target, stand at a right angle to the target, with the tips of your toes against an imaginary line pointing at the centre of the target. Your feet should be shoulder's width apart, standing at the barrier or straddling the shooting line.

Stand straight & tall, balanced, with ribs down, shoulders down and relaxed. Shoulders square to the target

Try and relax.



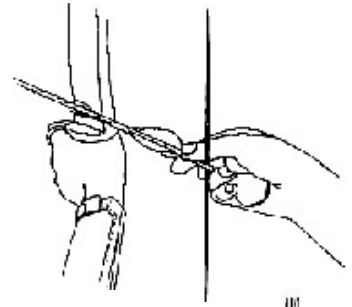
## 2.Nock

Reach over the bow and pick up your first arrow. The arrow should be placed on the same side of the bow as your arm that is holding the bow.

Sit the arrow on the hook on the bow and bring the knock (clip on the end of the arrow) back towards the string.

Nock the arrow UNDER the nocking point on the string. Listen for the sound of a "snap" as arrow connects to the string. The arrow should make a 90° angle with the string.

The flight feather (odd colour fletching) needs to point AWAY from the bow



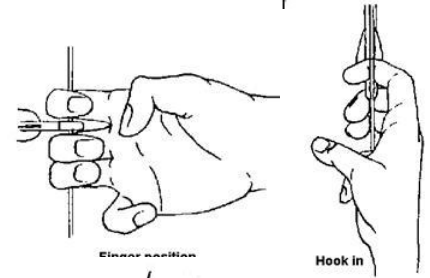
## 3.Set -hook string & place bowhand

Place your fingers in such a way, that you "hook" the string with your index finger above the nock, and middle and ring finger under the nock

Do not use little finger.

Hook the string at the first groove. Make sure to maintain a deep hook

The grip on the bow should sit in the 'V' between your thumb and your hand. Your grip should be relaxed and your thumb pointing toward target. Relax your fingers

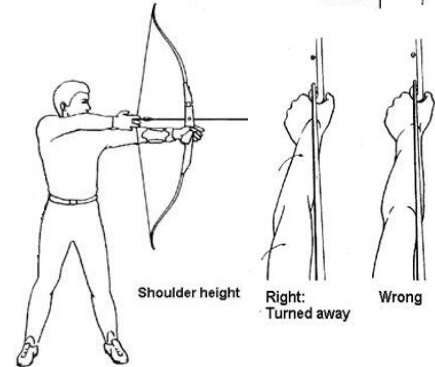


## 4.Set-up

Lift the Bow then bring your bow arm back down to shoulder height -keep shoulders DOWN and relaxed

Lift your elbow on your draw arm until it is in line with the arrow.

Turn your elbow on your bow arm away from the bow so that the string will not hit your forearm when you release. You can also achieve this by opening your fingers on the bow hand instead of clenching your fist around the grip.



## 5.Draw/load

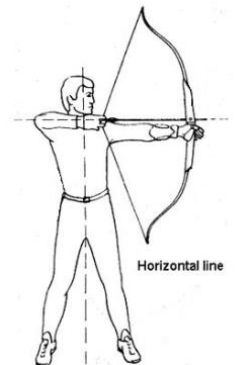
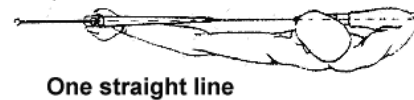
Draw the string along the bow arm in a straight horizontal line just below your face. Draw with your back muscles, moving the shoulder blades towards each other.

Stand straight up and relaxed

Keep both shoulders as low as possible.

Bow hand, draw hand and Elbow should form a straight line.

Keep both shoulders as low as possible

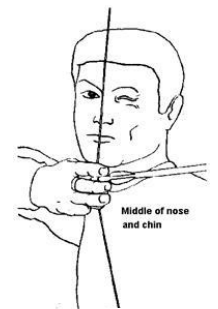


## 6.Anchor

To help you achieve a steady release you will need to use an anchor. The best place for this is either below the chin or in the hollow of your cheek.

When you draw back to your face, use your index finger to anchor just under your chin or your thumb to anchor in the hollow of your cheek. This will help to stop you from 'following' the string when you release and will give you a more stable shot.

Keep your teeth together. (no gum, remove hats as well)



## 7. Aim & expand

Aim at full draw, by looking down the arrow to the target. Maintain the connection of drawing hand to the face. Pull your shoulder blades together to stabilise your draw.



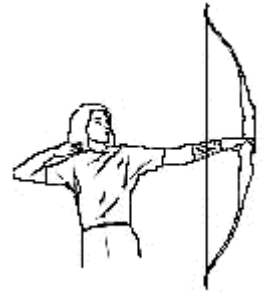
## 9. Release

Keep pulling the shoulder blades towards each other, while relaxing the fingers of the draw hand. As you relax your fingers open your draw hand and allow the string to release. Do not follow the string with your hand!

Hold your position until you hear the arrow hit the target.

A very common mistake is that people look for their arrow as soon as they release which causes them to lower the bow which effectively throws off their aim.

As you release you can draw your arm slightly back from your face to help you achieve a cleaner release.



## 10. Relax and Recovery

After the arrow has hit the target, lower the bow arm and the drawing hand to your sides. Assess your shot and allow your muscles to rest from the shot before shooting again.

## Retrieving Arrows

It is really important that you check to ensure all participants have finished shooting and the bows are stowed before allowing anyone to go out on the range. Arrows will be strewn all over the place so it is important that participants only walk when retrieving arrows and that they are careful not to step on any arrows that are on the ground.

If an arrow is lodged in the ground draw the arrow out of the ground on the angle it entered. If you just pull it out it may snap or damage the arrow.

When retrieving arrows from the target, approach the target from the side not the front. Place your hand flat on the target with the arrow protruding between your thumb and index finger then grasp the arrow by the shaft as close to the target as you can. Pull it straight out. Wiggling the arrow to loosen it may cause the arrow tip to snap so if you need to loosen it twist it rather than wiggling it.

Remind participants to avoid handling the feathers and have them return to the shooting line with the same amount of arrows that were fired. Check the arrows for damage and once the range is clear commence the next round of shooting.

As Participants improve the targets can be moved further away from the shooting line to increase difficulty.

You may also like to add in extra targets within the target such as balloons or coloured disks and award prizes or extra points (if scoring) for hitting these items)

## DEBRIEF

### **Themes: Setting goals, focus**

Sometimes things are harder than they appear

Comparing ourselves to others is not a good measure of our success

We are unique and have different abilities to those around us

You are far more successful if you strive to beat your own scores

You can only measure your success by comparing your efforts to your own past efforts.

Aim to beat PBs (Personal Best) rather than comparing yourself to others.

*Don't copy the behaviour and customs of this world, but let God transform you into a new person by changing the way you think. Then you will learn to know God's will for you, which is good and pleasing and perfect.*

Romans 12:2 NLT

## PACK UP

It is always good to have participants share with each other at the end of an activity and discuss the aspects they found easy or hard about the skill and to share encouragement with each other.

Once the participants have left the range the equipment will need to be stowed. If there are other groups coming later in the day you can leave the range set up but put away the Arrows unless you are staying at the range.

At the end of the day the whole range will need to be packed down. Targets will need to be put away, Bows unstrung and hung up, Arrows checked for damage and put away and all other equipment such as the shooting line and participant seating will need to be put away in it's respective storage.

### **INSTRUCTOR RESPONSIBILITIES**

The instructor is responsible for keeping participants safe at all times as well as effectively teaching the participants the skills they need to undertake the activity.

They are responsible for managing participant movement on and off the range and for ensuring the range is clear and it is safe to shoot.

They are also responsible for ensuring the equipment is in good repair, that it is stowed securely when they are not present, for reporting any breakages and putting away all equipment at the end of the day.

The instructor may instruct the assistants and supervisors to enable them to assist the participants

The Instructor is also responsible for coordinating first aid administration or referring it to a suitably qualified assistant or supervisor.

## ASSESSING THE LEVEL OF RISK

Once risks are identified, they are evaluated on a 2 dimensional matrix using a qualitative rating of the likelihood of the event occurring and the scale of the possible consequences. When risks have been identified, they are analysed by combining the consequences and likelihood to produce a level of risk. This form of evaluation provides a good graphical representation of how serious the risk is or where it lies within a group of risks. The risk analysis provides information critical to determining what risks need to be treated and what risks are accepted.

The following matrices have been utilised for the assessment process;

**Table 1: Likelihood Matrix**

Level	Descriptor	More Detail
A	Almost certain	Will occur. Expect frequent/regular occurrences.
B	Likely	The event will probably occur more than once
C	Possible	The event might occur at some time
D	Unlikely	The event is not expected to occur
E	Rare	The event may occur only in highly exceptional circumstances

**Table 2: Consequence Matrix** – relate to the *most probable* outcome.

Eg. A fall from a windsurfer is most likely to result in **no or minimal injury and therefore be rated as 1-2 ie. insignificant/minor.**

Level	Descriptor	More Detail	Injuries	Potential Operational Impact
1	Insignificant	Low Impact, no injuries/damage, low profile.	None	Student still able to participate.  Little impact <30min
2	Minor	Minor Injuries/damage sustained.  Low impact, possible public embarrassment.	First Aid Treatment	Student able to participate after treatment. Low impact <30min
3	Moderate	Significant injuries/damage sustained. Public embarrassment possible.	Medical Assistance Required	Student unable to continue with activity. Instructor impact whilst treatment given.
4	Major	Extensive injuries/damage sustained. Loss of instructional capabilities, public embarrassment, 3 <sup>rd</sup> party action, high news impact	Extensive Injuries. Medical Treatment	Loss of instructor/s whilst treatment/medical aid given. Extended rehabilitation of injury/damage repair.
5	Catastrophic	Public embarrassment, 3 <sup>rd</sup> party action, high news and media impact.	Deaths	Loss of instructor/s, closure of centre whilst investigation conducted.



**Table 3: Level of Risk – consideration of both likelihood and consequence.**

		Consequence				
		1	2	3	4	5
		Insignificant	Minor	Moderate	Major	Catastrophic
Likelihood	A Almost Certain	High	High	Extreme	Extreme	Extreme
	B Likely	Medium	High	High	Extreme	Extreme
	C Possible	Low	Medium	High	Extreme	Extreme
	D Unlikely	Low	Low	Medium	High	Extreme
	E Rare	Low	Low	Low	High	High

**Important Note:** Following the identification and implementation of risk management control measures it is assumed that all Risk Descriptions will be reconsidered as having a “low risk” factor. If the re-assessed level of risk remains at “Extreme” or “High” following implementation of control measures serious consideration should be given to not proceeding with this activity. Risk vs Reward for this specific activity should be carefully considered!!

**Table 4. Risk Priority – an indication of how quickly/frequently an identified risk needs to be addressed and/or monitored.**

Rating	Description
Low	Low priority.
Medium	Medium priority.
High	High Priority. Requires immediate action to redress risk. Additionally, risk should be closely monitored to ensure management strategies to reduce risk are effective.

**Important note:** The assessment and identification of Risk Priority should not be solely based upon the likelihood or frequency of an event occurring, but more a consideration of a number of factors, including: *frequency, likelihood, consequences (particularly the possibility of serious personal injury or death) and risk of litigation or legal exposure!* A student competing in a bicycle tour event on a controlled public road is very unlikely to be involved in a collision with a motor vehicle, however the consequences may well be most serious, with the possibility of a serious injury and possible legal exposure. Therefore a Risk Priority rating of **High** should be applied, with appropriate risk management.

## Risk Register/Risk Management

Activity: **ARCHERY**



**Activity Description:** Archery is conducted on the oval and is an activity where hand eye communication is developed, skills and safety are actively taught and team cooperation is fostered and encouraged.

**General Safety consideration:** Known hazards will be identified to all participants, in particular the risks to participants when rules are not followed. Participants will be required to wear closed toe shoes during Archery sessions. Running is prohibited due to hazards and should be monitored by the supervising adult and instructor. Handling the equipment is prohibited unless authorised by the instructor. There is shelter in the Archery area but hats and sunscreen should be worn as well as sun smart clothing. Equipment should be checked prior to use for damage and it should be reported to the camp manager/maintenance overseer.

<b>Risk description.</b> What and how can it happen	<b>Likelihood</b> (Refer Table 1)	<b>Consequence</b> (Refer Table 2)	<b>Level of Risk</b> (Refer Table 3)	<b>Management.</b> Including existing Control measures to eliminate or reduce the risk. Note: Once the risk management measures listed below are followed all risks described in column 2 will be reconsidered as having a "Low Level of Risk".	<b>Priority</b> (Refer Table 4)
Trip/stumble whilst walking in archery area	C	2	Medium	<ul style="list-style-type: none"> <li>Brief group on appropriate behaviour.</li> <li>Warn of tripping hazards (uneven ground)</li> <li>Walking pace only</li> </ul>	Low
Being struck by an arrow	C	3	High	<ul style="list-style-type: none"> <li>Instructor to monitor area around and behind archery ranges, and stop session if there are other people in the area.</li> <li>Only loose arrows on command from shooting line.</li> <li>Point arrows at target or floor at all times.</li> <li>No deliberate high or wide shooting.</li> <li>All spectators to stay behind shooting line.</li> <li>Wait until instructed to collect arrows from the target</li> <li>No standing directly behind anyone withdrawing arrows from the target.</li> <li>Warn other visitors that archery is taking place and explain and mark boundaries of range. Ensure warning signs are in place and visible</li> </ul>	Medium
Walking into arrows	C	2	Medium	<ul style="list-style-type: none"> <li>Brief group to walk slowly down the sides to the target. DO NOT walk directly to target.</li> <li>Don't stand directly in front of target whilst removing arrows.</li> <li>Suitable shoes to be worn, (no open toe / sandals)</li> </ul>	Medium

				<ul style="list-style-type: none"> <li>Brief group to be sensible when removing arrows from the target or retrieving them from the ground or elsewhere.</li> <li>Walking pace only on the range</li> </ul>	
Sting or arrow catching hair/ jewellery.	<b>C</b>	<b>2</b>	<b>Medium</b>	<ul style="list-style-type: none"> <li>Advise participants to remove all jewellery and tie hair back.</li> </ul>	Low
Bruising to arm.	<b>C</b>	<b>1</b>	<b>Low</b>	<ul style="list-style-type: none"> <li>Advise to wear long sleeve tops.</li> <li>Advise on arm position if needed.</li> <li>Provide arm braces if needed</li> </ul>	Medium
Lost arrows	<b>B</b>	<b>1</b>	<b>Medium</b>	<ul style="list-style-type: none"> <li>Instructor to look for missing arrows when appropriate.</li> <li>Instructor to report to the appropriate person the quantity missing.</li> <li>Every effort to be made to locate missing arrows.</li> </ul>	Low
Hypo/hyperthermia and exposure	<b>D</b>	<b>3</b>	<b>Medium</b>	<ul style="list-style-type: none"> <li>Instructors should ensure that the group is appropriately clothed for the weather. (e.g. Waterproofs, hat, gloves, warm clothes, sun-lotion etc.)</li> <li>Instructors should ensure that group is appropriately hydrated and monitor the state of all individuals within the group.</li> <li>Instructors should be prepared to stop or have a break during the session.</li> </ul>	Medium
Lightning/Storms	<b>D</b>	<b>3</b>	<b>Medium</b>	<ul style="list-style-type: none"> <li>Activity is to be postponed or cancelled if Lighting is sighted and the thunder clap comes within 30sec.</li> <li>Move group to shelter indoors.</li> <li>There is no shooting in lighting.</li> <li>Local weather is to be monitored and forecasts checked prior to activity commencing.</li> </ul>	Low
Rebounding arrows	<b>C</b>	<b>2</b>	<b>Medium</b>	<ul style="list-style-type: none"> <li>Targets to be placed an appropriate distance from the shooting line</li> <li>Targets made from appropriate materials to reduce rebound risk</li> </ul>	Low
Misfire (arrow falling/landing close to shooting line)	<b>C</b>	<b>2</b>	<b>Medium</b>	<ul style="list-style-type: none"> <li>Participants to be advised to leave dropped arrow where it is until all participants have been told it is safe to collect their arrows.</li> <li>Appropriate length arrows used to prevent overdrawing.</li> <li>Enclosed footwear to be worn</li> </ul>	Medium

Equipment failure	<b>D</b>	<b>3</b>	<b>Medium</b>	<ul style="list-style-type: none"> <li>• Equipment sourced through credible companies</li> <li>• Equipment to be checked prior to each session.</li> <li>• Any broken arrows and bows to be removed from service for repair/replacement</li> </ul>	High
Unsupervised access to archery range	<b>C</b>	<b>3</b>	<b>High</b>	<ul style="list-style-type: none"> <li>• Bows and/or arrows to be locked in shed when instructor is not present.</li> <li>• Verbal instruction not to use equipment unless the instructor has invited participants to do so.</li> <li>• Visual barrier placed to mark edges of range</li> </ul>	Medium
Injury/damage to equipment while stringing bow	<b>D</b>	<b>3</b>	<b>Medium</b>	<ul style="list-style-type: none"> <li>• Only sufficiently trained persons to string bows or to do so under instructor supervision</li> </ul>	Low