Blue Lagoon Christian Camp and Conference Centre

Indoor Climbing

Standard Operating Procedure

and

Risk Management Plan

Revised 2021

Revised 2023

OVERVIEW

Indoor Climbing is a part of the Blue Lagoon Adventure at Heights program and is a fun and challenging activity for all ages and skill levels. The wall has a variety of climbs to challenge different abilities. It tests physical coordination, agility and endurance. It also tests the participant's problem solving skills as they attempt to make their way from the bottom to the top. Trust and teamwork are also important as climbers are belayed by teams of their peers.

OUTCOMES

Indoor Climbing as a part of the Adventure at Heights program focuses on personal challenge, peer support, group encouragement and active participation. For participants to learn the practical skills involved in belaying and the sport of climbing.

PRE-REQUISITES FOR INSTRUCTORS

Level 2 first aid
Indoor Climbing Guide Qualification (or equivalent)

LOCATION

Blue Lagoon Indoor Rock Climbing wall

PRIOR TO COMMENCING

The instructor is responsible for checking, monitoring and maintaining equipment and recording usage and maintenance needs.
The instructor will need to set up the area prior to the participants arriving for their activity.

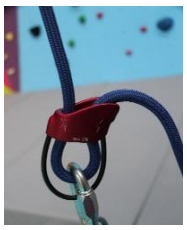
SET UP OF CLIMBS

Delta Maillon

Regular Maillon

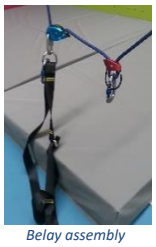
Each climb requires a top rope setup that includes a rope, a pulley, 3 carabiners, a belay plate, a maillon, a GriGri and a floor sling.
Firstly the floor sling should be fixed to the floor anchor point by the Delta (triangular) maillon.
The GriGri should be attached to the top of the sling with a regular (oval) maillon. The rope should be correctly threaded through the GriGri before the maillon is attached.
The tail of the rope should then be passed through the ATC around a carabiner and back through the ATC.
(There are images on the side of the ATC to help you work out the way the rope should be threaded through)

Maillon attaching floor sling to floor anchor



Rope correctly threaded through belay plate

Stopper knot (3 wraps)



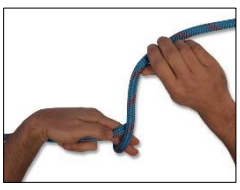
Belay assembly

Correctly tied figure eight rethreaded

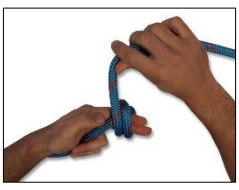
Rope threaded through an open Grigri

Correctly tied Alpine Butterfly

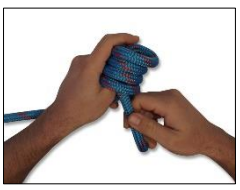
The belayer's end of the rope should be finished with a stopper knot (see Below)



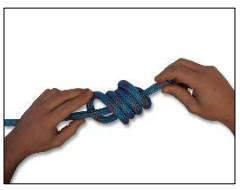
1. *Grab hold of rope so you have a long working end. Make a crossing turn around the fingers of the hand that's holding standing end.*



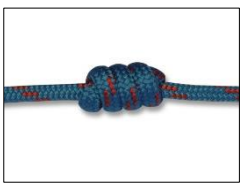
2. *Start wrapping the working end around the fingers along and over the standing end.*



3. *After you've created a few wraps, take the loops you've created off your finger and tuck the working end through the middle*



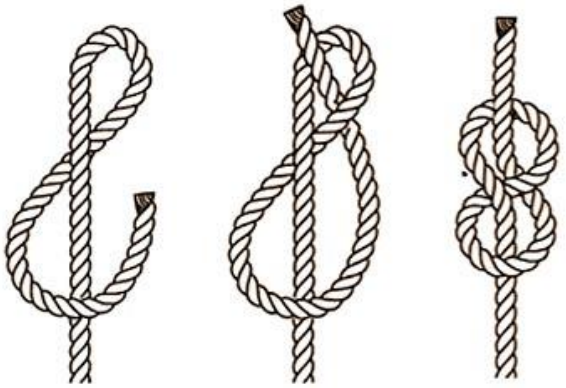
4. *Push the working end through the middle of the loops until it comes out of the other side*



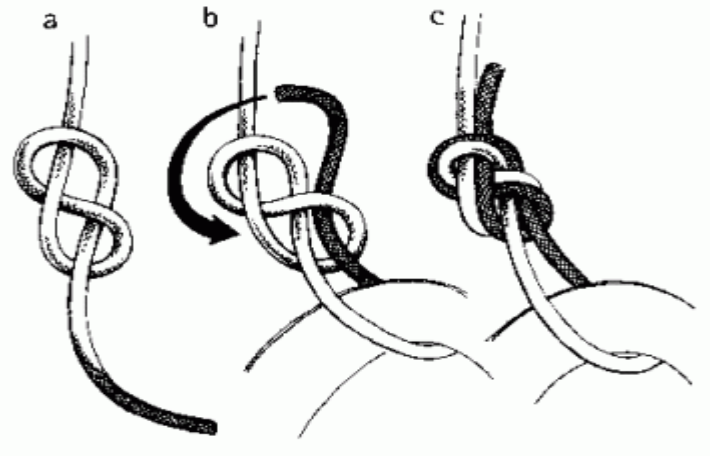
5. *Dress the knot by pushing the loops down the standing end while pulling the working end in the other direction.*

A figure eight knot will need to be tied in the end of the climbers rope and a carabiner will need to be attached to the rope above this using an alpine butterfly.
See below for instructions on tying these knots.

Figure Eight Knot (follow through)



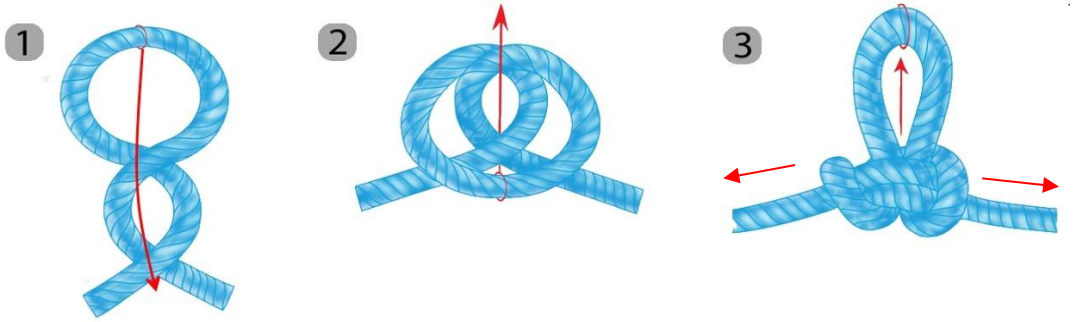
1. *Tie a simple figure eight knot*



2. *Loop the working end through your carabiner and proceed to rethread the knot, following the other piece of rope as you go*

3. *To finish the knot check that you have followed the first knot correctly and that it sits neatly. You will need to ensure that there is a minimum of 10cm of tail when the knot is pulled tight.*

Alpine Butterfly Knot (Alpine hitch)



1. *Make a loop like an 8. Fold down the upper loop to where the two ropes first cross each other*

2. *Tuck the loop under the crossed ropes pull it back up through the first loop*

3. *pull the loop right through and then pull the two outside ropes to tighten.*

Figure Eight on a Bight

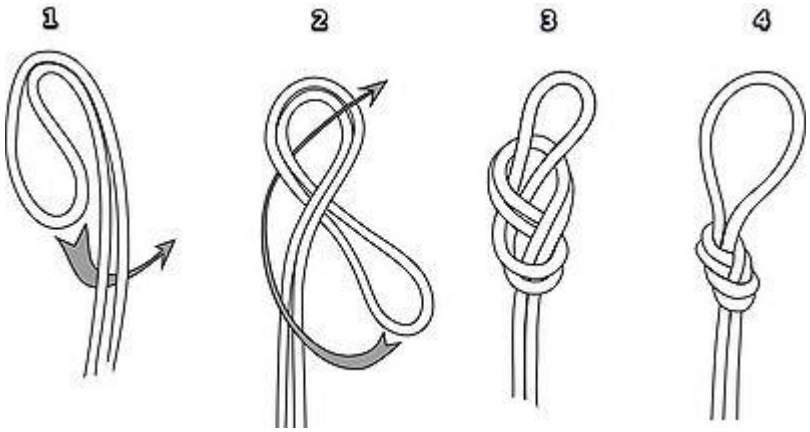


Figure Eight on a bight knot (safety knot)

At Blue Lagoon we generally leave the belay assembly tied and simply unbolt the maillon from the floor anchor. The sling and rope are then laid against the wall and the safety mats are secured in front of them.
Mats must be laid out with their edge hard against the wall. When not in use climbers rope should be clipped onto the floor sling to avoid the climbers end travelling up the wall to the pulley.

INITIAL INTRODUCTION AND PARTICIPANT BRIEFING

All participants must be briefed on correct techniques of climbing and belaying before participating in the activity. Climbing can be a high-risk activity if it is not done correctly.

All long hair must be tied back and any food or gum disposed of before commencing

Any loose clothing should be removed prior to the activity and all participants must be wearing closed toe shoes preferably with non-marking soles.

Point out first aid, rescue kit and toilets and advise participants to use the bathroom before the activity commences.

WARMING UP

Climbing can be a strenuous activity and it is important to get the group ready by warming up some muscles. Do a series of hand, arm and leg stretches with the group to get their muscles warmed up and ready for climbing.

Next, all participants should be fitted with a helmet and harness.

HARNESS FITTING

Using one leg at a time step through the waist belt and into the leg strap as you would when putting on a pair of shorts.

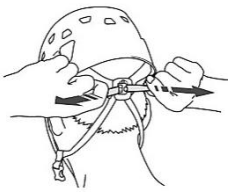
Pull the waist belt up until the belay loop is up level with your navel and above your hip bones.

Tighten the waist belt.

Smooth shorts or pants before tightening the leg straps as bunched clothing can make you uncomfortable. All straps should be done up firmly.

Ensure participants are standing up straight when they tighten their leg straps as bending forward as you do this can result in the harness pulling uncomfortably later on.

HELMET FITTING



Helmets must be fitted before stepping into the climbing zone. Our helmets are one size and are adjustable to fit a range of people. People with long hair will need to tie it back low on their neck to avoid it interfering with helmet fit.

Helmets should sit low on the forehead and once the chin strap is done up the two tabs at the rear of the helmet can be pulled to adjust it to size.

Participants should be paired off and it should be explained that they will take turns belaying and climbing.

SPECIFIC ACTIVITY SAFETY AND INSTRUCTIONS

Once participants are fitted with helmets and harnesses they may move into position by the wall.

Explain the safety check system to the participants

A – anchors and attachments

B – buckles

C – carabiners

D – devices

E – everything else (hair tied back, loose clothing removed, etc)

Demonstrate how to attach climber to the rope.

Climber should be attached to the rope by two points using either a carabiner attached to a figure 8 on a bight or tied in with a figure 8 follow through knot AND be clipped in with the carabiner attached to an alpine butterfly knot tied slightly above the figure 8 knot. The carabiners should be screwed shut and squeeze tested to ensure the gates are closed.

The belayer needs to stand in position with the floor sling in front of them and attach the sling to their harness with a carabiner. This should also be screwed shut and squeeze tested.

The slings are adjustable and should be lengthened or shortened to suit the height of the belayer. The top of the sling should be slightly below the belayer's harness loop when the sling is correctly adjusted.

A second belayer stand beside the primary belayer and have a belay plate attached to their harness.

DEMONSTRATE BELAYINIG TECHNIQUE

Correct hand position and rope orientation.

Belaying

Pull – Brake – Under – Slide (PBUS)

To start take up the slack in the rope with the climber standing at the base of the wall. One hand should be on the climber's rope and the other hand holding the brake rope.

Pull: Your free hand (left) pulls down while the brake hand pulls out

1.Pull - As the climber moves up the wall, you need to pull in the extra rope (slack) to keep the rope taught. Do this by pulling down on the climber's side of the rope with your free hand (left hand) while simultaneously pulling out on the brake side of the rope with your brake hand (right hand)**.**

Tip: limit the amount of rope you pull to about one foot. If you pull as far as your arms will reach, you'll have a tough time with the next few steps.

Brake: Bring your brake hand down into the brake position

2. Brake - After pulling in the slack, bring your brake hand (right hand) down into the brake position.

Under: Use your free hand (left hand) to grasp the rope beneath your brake hand.

3. Under - Now that your brake hand (right hand) is in the brake position, have your free hand (left hand) grab the rope underneath your right hand. You can also grab the brake rope with your free hand next to the belay device if you find that easier.

Slide: Slide your brake hand up towards your belay device.

4. Slide - Once both hands are firmly grasping the brake side of the rope, slide your brake hand (right hand) up the rope until it is just a couple inches from the belay device. Your brake hand should never come off of the rope, simply loosen it's grip on the rope so that you can slide it up.

5. Repeat - Repeat this sequence until your climber is ready to be lowered. If at any point the climber falls, bring the rope into the brake position and hold it there with both hands until the climber is climbing again.

Backup or secondary belayer

The secondary belayer should stand beside or behind the primary belayer and should hold the brake rope in one hand and the climber rope in the other. As the climber ascends the secondary belayer should feed the rope through the belay plate taking care to maintain contact with the brake rope at all times. On the descent the secondary belayer should feed the rope through the belay plate to the primary belayer being careful to always keep a hold on the brake rope. The secondary belayer should maintain approx. 1m of slack rope between their belay plate and the primary belayer's device.

Climbing

When ready to climb the climber should approach the wall and stand at the foot of it. The belayer will need to take up the slack in the rope.

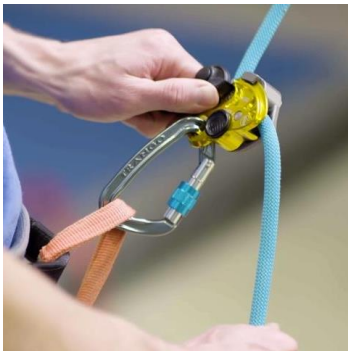
When the belayer is ready they can then say to their climber "You are on belay <insert climber's name>. You may climb when ready". The climber must then respond "Climbing" before they begin to climb the wall.

The climber may climb using a specific colour coded route or just use any of the holds on the wall. They may climb only high enough to touch the top hold of the climb they are on before stopping. They should be careful not to touch the pulley that they are being belayed from.

Once the climber is ready to descend they need to sit back in their harness let go of the wall and place their feet flat against the wall. As the belayer begins to lower them they should walk backwards down the wall keeping their feet out in front of them but below the level of their hips.

Correct hand positions when lowering a climber.

Lowering – with a belay plate When your climber is ready to be lowered, grab the brake side of the rope with both hands and take it around to their hip, keep the rope in the brake position until the climber is fully weighting the rope. Gradually bring both hands up out of the brake position until the climber is being slowly lowered. If the climber isn't coming down fast enough (too much friction or a lightweight climber) then try shuffling the rope through your hands while lightly grasping it. Both hands should always be holding the rope. If the climber begins to descend too quickly bring both hands immediately into brake position.



Correct hand position when lowering a climber with a grigri.

Lowering – with a grigri When lowering with a grigri, the brake hand should hold the brake rope around behind the belayer's backside and the free hand should control the lever on the grigri. Gently lift the lever on the grigri and allow the rope to slide through. If the climber is descending too quickly release the lever and allow the grigri to lock off. Then begin again.

Tip: as soon as the climber is standing on the ground, pull an arms-length worth of rope through the belay plate so that the climber has enough slack to unclip.

When leaving a climb, the climber rope should always be attached to the floor sling to prevent it being pulled up the wall. The climber should always leave the climbing area by walking out past their belayer. No one should walk between a belayer and their climber as this area is dangerous if another climber falls.

Safety checks must be done before every single climb regardless of whether anything has been changed.

DEBRIEF
Gather the group and discuss the different situations that arose during the activity. Highlight good team work and support as well as areas the group could work on improving.

Themes : Trust & Teamwork

Trusting in our own abilities
Trusting others, allowing them to help/guide us
Learning to be a Trust*worthy* person. You must build and earn trust.
God is our perfect example of trustworthiness

Whoever can be trusted with very little can also be trusted with much, and whoever is dishonest with very little will also be dishonest with much. – Luke 16:10

PACK UP
Explain the process of packing up and correctly stowing the equipment.
All climber ropes should be secured to their respective floor sling. Participants should return their harnesses and helmets to starting position.
Logs should be filled out regarding who was instructing, who was assisting and how many sessions were run on that day.
Floor slings should be removed from the ground anchors and placed in their storage bags against the wall. Crash mats should be stood up and fastened against the wall.
All equipment and logs should be stowed appropriately and any damaged equipment set aside and recorded for maintenance.

INSTRUCTOR RESPONSIBILITIES
Check all equipment is in good working order
Set up activity
Conduct participant safety briefing
Supervise group participation
Be able to effectively perform a rescue if required
Debrief and pack up activity

EMERGENCY RESPONSE – RESCUES

There are two main types of rescue that can be used in the case of an issue.

There should always be a First Aid kit and rescue kit on hand when operating a climbing activity.

The rescue kit should include:

1 x Ascender

6x Carabiners

1x Grigri

1 x PAS or daisy Chain

1 x Etrier

1 x 60cm sling

1 x 120cm sling

Shifter

Scissors or knife

The first step is to assess the situation and deem whether a rescue is necessary. Try to talk the climber through the situation and reassess.

If a rescue is deemed necessary, have all other climbers come down to ground level before commencing the rescue.

COUNTERWEIGHT RESCUE

Climbing using an ascender and etrier

1. Tie off the participant's belayer's grigri
2. Tie a backup figure 8 knot between the belayers and clip on to your harness
3. Detach second belayer
4. Attach ascender to climbers rope
5. Girth hitch PAS to your harness
6. Attach the etrier and PAS to the Ascender
7. Detach primary belayer from the sling
8. Thread brake rope through a new grigri
9. Take the weight of the climber on the ascender and detach the original grigri
10. Pull through slack rope on the rescue grigri and using the ascender, etrier and grigri climb the rope to the participant. Try to climb as smoothly as possible. You climb by placing your foot in the etrier, moving the ascender and etrier up the rope, standing on the etrier and as you push up with your leg, pull the slack rope through the grigri
11. Tie off safety knots and clip them to your harness as you go to ensure you are backed up
12. When level with the participant, tie off a safety knot,
13. Move the ascender from your rope to the participant's rope.
14. Untie your safety knot and belay down using the grigri.
15. If the participant refuses to come down, attach the PAS directly to the participants harness and you should be able to pull them down with you.

PLUCK OFF RESCUE

1. Tie off the belayer's grigri
2. Tie a backup figure 8 knot between the belayers and clip on to the secondary belayer's harness
3. Instruct them on how to untie their knots when given the instruction to do so.
4. Get another set of belayers prepared to belay you (choose some you trust)
5. Gather all the emergency equipment (slings, carabiners, ascender, PAS, Scissors etc)
6. After doing your safety check and refreshing your instructions with the belayers, climb the wall on your own rope until you are next to the participant.
7. If the rescue requires you to use both hands you may need to attach a sling to a roof beam to enable you to work without swinging away from the participant.
8. Once the issue is resolved and the participant is free to descend, clip the ascender onto the participant's rope
9. Attach yourself to the participant by girth hitching your PAS to your harness and attaching it to the ascender
10. Untie your sling if you had to use it
11. When free from obstruction, instruct the participant's belayers to untie the knots and prepare to belay.
12. Have the belayers work with each other to belay you and the participant down at the same rate.

Whenever a rescue is performed it must be documented on an incident report form and management notified.

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, 3rd 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, 3rd 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				
Likelihood		1 Insignificant	2 Minor	3 Moderate	4 Major	5 Catastrophic
	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: **Indoor Climbing**

BLUE LAGOON
Christian Camp & Conference Centre

Activity Description: Indoor climing is facilitated in the Recreation Hall on the artificial climbing wall. It is an activity designed to promote group participation, personal challenge and active participation. This is done in supervised scheduled sessions with a qualified instructor present.
General Safety consideration: Known hazards will be identified to all participants, in particular the risks to participants when rules and instructions are not followed. Participants will be required to remove loose clothing and tie back long hair. Harnesses and helmets are to be worn by all participants. No one may walk between the wall and the floor slings unless they are going directly from their belayer to the wall. Closed toe shoes must be worn by all participants. Safety checks must be carried out before each climb. A qualified instructor must be present when climbing is being run.

Risk description. What and how can it happen	**Likelihood** (Refer Table 1)	**Consequence** (Refer Table 2)	**Level of Risk** (Refer Table 3)	**Management.** 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".	**Priority** (Refer Table 4)
Danger from falling objects to belayer and participants on the ground	**C**	**3**	**HIGH**	• Helmets to be worn by all belayers • Pockets must be empty and loose items removed before climbing • All participants who are not climbing or belaying are to remain clear of the climbing area	**LOW**
Injury due to faulty equipment	**C**	**4**	**EXTREME**	• All equipment to be checked prior to the start of the session • Regular monitoring of Equipment condition. • Rope usage logged.	**LOW**
Injury due to ill-fitting equipment	**C**	**3**	**HIGH**	• All equipment to be checked prior to climbing • All equipment to be checked by supervisor before climbing is permitted.	**HIGH**
Friction / rope burn whilst belaying/climbing	**C**	**3**	**HIGH**	• Appropriate briefing on correct technique	**LOW**
Hair / other items caught in belay device	**C**	**3**	**HIGH**	• Long hair must be tied back • Loose items may not be carried when climbing/belaying • Clothing must not be too loosely fitted as to cause entanglement • No jewellery permitted to be worn	**LOW**
Injury whilst climbing / bouldering	**C**	**3**	**HIGH**	• Appropriate techniques demonstrated • Crash mats to be laid out prior to activity commencing	**LOW**
Injury due to loose / spinning holds	**D**	**2**	**LOW**	• Holds to be checked and maintained. • Larger holds are fastened with both a bolt and a screw	**LOW**
Injury due to falling or being dropped	**C**	**5**	**EXTREME**	• Appropriate briefing and supervision. • Crash mats laid at bottom of wall	**MEDIUM**

				• Belayers are to be supervised by a trained staff member and their technique corrected as needed	
Injury from contact with the wall	**C**	**3**	**HIGH**	• Climbers to wear helmets and appropriate clothing when climbing	**LOW**
Injury caused by incorrect climbing / belaying	**C**	**3**	**HIGH**	• Appropriate briefing regarding the correct climbing / belaying technique. • Supervision of group to identify incorrect technique while participating.	**MEDIUM**
Hair or clothing entrapment in pulley	**C**	**2**	**MEDIUM**	• Long hair to be tied back • Helmets to be worn • Loose clothing not permitted • Verbal warning to keep clear of pulleys. • Instruction given to only climb to a certain height	**LOW**
Entrapment of body part in pulley	**C**	**4**	**EXTREME**	• Verbal warning to keep clear of pulleys. • Instruction given to only climb to a certain height	**LOW**