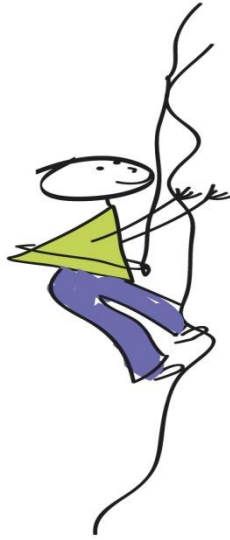




Table of Contents

<u>Page 2</u>	<u>Introduction</u>
<u>Page 3</u>	<u>Comfort Zones</u>
<u>Page 4</u>	<u>Operating procedures</u>
<u>Page 5</u>	<u>Supervision</u>
<u>Page 6</u>	<u>Safety Rules</u>
<u>Page 7</u>	<u>Emergency procedures</u>
<u>Page 8</u>	<u>Equipment</u>
<u>Page 11</u>	<u>Belay Devices / Techniques</u>
<u>Page 14</u>	<u>Tying in</u>
<u>Page 16</u>	<u>Running a Session</u>
<u>Page 17</u>	<u>Managing a session</u>
<u>Page 19</u>	<u>Climbing games</u>
<u>Page 23</u>	<u>Equipment Maintenance</u>



Introduction

The Climbing wall activity is one of our newest activities and one of the most popular activities on camp. It gives campers the opportunity to try a new physical and emotional challenge in a safe, supportive environment. As instructors, it is important that we have completed the required training with an outside assessor such as Enterprise before using the course with a group of campers. This manual will help you to familiarise yourself with the equipment we use here at Barretstown and also some considerations to be taken seriously when working on a ropes course with children and adults. We will also look at how we use therapeutic recreation in the climbing activity in order to comply with the philosophy and mission of Barretstown. Before we go into detail on therapeutic recreation we must first understand about comfort zones.

Barretstown uses a 'challenge by choice' principle in all the activities we run at camp. This means that campers will never be pushed into something or forced into doing an activity/exercise which they feel strongly about not doing. They will choose their own level of participation and challenge.



Comfort Zones

Each individual has three levels of comfort which we call 'zones' at camp; a comfort zone, a stretch zone and a panic zone. You are in your comfort zone when you are doing the things you love i.e. reading, listening to music, watching TV etc. This is a zone you enjoy being in. You enjoy both the activity you are doing and the environment you are doing it in.

The next zone is known as your 'stretch zone'. This is a zone where you feel you are being challenged in some way. You are not as comfortable as you were in your comfort zone but you still feel like you can cope with where you are and carry on doing what you are doing. Each person's stretch zone is different because we all have different levels of comfort. What seems like a challenge to one person may be no problem to the other. Some people have a fear of flying whereas others are quite comfortable in an aeroplane. This is the zone we want our campers to be in. We want them to challenge themselves and put themselves in their stretch zone. This is the zone where you learn that you can overcome challenges, be successful and feel good about yourself. This is the zone where self-esteem grows and campers realise their potential. The same applies to adults.

The final zone is the 'panic zone'. This zone is the last place we want anyone to be in at camp. Camp is a safe, fun and positive environment. When you find yourself in your panic zone you feel scared, unsure about what is going on. You question yourself and the people around you. You become stressed out and you find yourself making quick decisions to get yourself back to your comfort zone. **At no point throughout the duration of camp should campers or staff find themselves in their panic zone.**

By ensuring campers choose their own level of challenge we avoid placing them in their panic zone. They decide their level of participation and their level of challenge depending on their own level of comfort. As staff, we then try to help them overcome the challenges they have set for themselves. We do this by creating a safe and fun activity and, recognising the individual success which each camper obtains through taking part in an activity at some level.

As well as the physical challenge of putting on the PPE, and climbing the different gradients on the wall there is a huge emotional challenge for campers to overcome also. The feeling of



being nervous, anxious, unsafe and unsure of what is going on is a huge challenge to overcome. The campers are placing total trust in both the instructors and the equipment therefore it is important to be empathetic towards them. We can do this by remembering a time when we were in our stretch zone and what it felt like. What would have made us more comfortable at the time? Between doing this and keeping communication open between the instructor and the camper we can ensure that emotional challenges are overcome.



General Operating Procedures

- Every Climbing Wall Activity Leader must be belay trained and assessed by either a qualified Barretstown staff member (certificate for training the trainer) or an external training company. Assessments are always carried out by an external training company to promote best practice and ensure we are working with the most up to date guidelines for operating a ropes course. Staff are trained and assessed every year.
- The climbing wall programme is designed for children ages 7 and up and children must be able to fit the PPE. During family camps younger children can use the climbing wall if they fit the PPE and have parental supervision. Each participant must be old enough to understand the safety rules and operating procedures.
- A ratio of 3 qualified instructors to a maximum group of 20 campers will be maintained during climbing activities. There will also be a minimum of 4 Cara's attached to each group of 20.



- The Climbing wall staff use walkie talkie's in the hall to have communication should there be an emergency or should vital information need to be communicated.
- Staff and campers alike must be orientated to the safety procedures before they step on the course.
- Helmets are to be worn at all times by all participants. Helmets are provided to all participants.
- Harnesses must be worn at all times by all participants. Harnesses are provided to all participants.
- Closed toed shoes must be worn when climbing the wall.
- The climbing wall activity leaders are responsible for supervising the campers and staff while visiting the ropes course.
- The summer staff are trained in basic PPE (personal protective equipment) which includes putting on and taking off harnesses and helmets. A brief overview is given prior to each climbing session to reinforce the procedures.
- If there is a climber with physical limitations, the Climbing wall activity leaders or climbers may request assistance on the course.
- The wall is off limits to all staff and campers when activities are not in session.
- All equipment is stored in a dry, locked storage room just off the hall when activities are not in session and Blue mats are put in place to ensure the wall is not used when unsupervised.
- Equipment checks are done at the end of each session and equipment use is logged and recorded at the end of each session and season.
- Equipment is replaced based on the manufacturer's guidelines or when it is deemed unsafe for use by the Climbing wall Activity Leaders.



Supervision

- There must be at least 3 qualified instructors with the appropriate training and certification to supervise the Climbing Wall activity for an activity group of up to 20 children. The instructor is responsible for the safety of the children and staff who are visiting the wall.
- A typical activity group size at camp is made up of 16 children with up to 7 Cara's attached for support and supervision. A minimum of 3 Cara's must be with each activity group at all times and adhere to our staff to camper ratios.
- A Barretstown nurse must be on-call by walkie talkie at all times during activities.

Safety Rules

- Closed toed shoes and long trousers with empty pockets must be worn along with a helmet, and waist harness.
- Helmets must be worn by everyone standing on the blue mats i.e. interpreters, Cara's etc.
- Participants who are not climbing must not walk on the blue mats while others are climbing. There are blue mats to ensure protection if climbers fall and also to clearly indicate the boundaries of the course.
- A ratio of 3:20 climbing wall instructors to campers must be maintained.
- The Wall is certified for use every year.
- The Climbing Wall Activity leaders are certified every year.



- All summer staff are trained in the use of PPE during staff orientation and prior to each climbing session.
- In the case of a fire alarm please leave the hall and move to the fire assembly point.

Controlled Access

- No one is permitted on the Climbing Wall when activities are not in session.
- All equipment is stored in a locked and dry storage room when activities are not in session.
- The hall where the climbing wall is protected by coded doors to ensure campers do not enter unsupervised.

Emergency procedures

Fire Alarm

When you hear the fire alarm in Jims Place the steps you take are very straight forward.

1. Ensure all campers are safely off the wall before the group begins to move together toward the assembly point at the front of the castle.
2. All but 2 climbing wall instructors should escort the group along with the Cara's to the assembly point.
3. When arriving at the front of the castle please notify the support team member taking attendance that two of your team has stayed back at the wall for safety reasons. Please do not stay in the building however ensure everyone has left before the last two activity leaders leave.
4. Line up accordingly and await further instructions from the support team.

Medical Emergency

In the event of a medical emergency you should;

1. Contact the medical centre immediately



2. Remove the rest of the group if possible to the theatre or dining hall if necessary.
3. Remain calm and wait for medical help to arrive.

Missing Camper

When you hear a call over the walkie talkie that 'the red folder has gone missing' you must;

1. Safely ensure all campers are off the wall and close down the activity area
2. Volunteer Cara's escort the group to the dining hall while the full time staff meet at the cottage coordinators office.
3. Check in with the support team and await further instructions

Equipment

During training we will ensure all our Instructors are familiar with the function, construction, inspection and maintenance of the Climbing Wall equipment.

N.B. Although participants should be familiar with all the equipment used on the Climbing Wall it should be stressed that (due to changing standards and operating procedures) the manufacturers recommendations should always be observed over and above any information given in this document.

All equipment needs to be inspected. At Barretstown we ensure that:

- Each piece of equipment be uniquely identifiable
- The date of purchase be recorded
- The date of first use be recorded
- Each scheduled inspection to be recorded (minimum 6 monthly)
- The records be kept of the life of the equipment
- The inspection programme to be overseen by a competent person
- Manufacturers recommendations are followed for lifespan and maintenance

Harnesses

At Barretstown we ensure that Activity Leaders are familiar with a variety of designs and aware of the safety considerations concerning the buckling and monitoring of harnesses in use. They should be able to select appropriate harnesses for the client group. They should be able to evaluate wear and damage. As well as ensuring that candidates are aware of good practice with their own harnesses, consideration should be given to the occasions when a full-body or chest harness might be used as is the case with individuals with “lack of defined hips” e.g. small children or those with a large midriff.



Full Body Harness



Chest Harness

With regard to sit harnesses there are two major types; those with a centralized attachment point and those with an attachment point which joins the waist loop and leg loops.



Both can be used with groups or individuals and have advantages and disadvantages inherent to their design. Activity Leaders should be familiar with both types and understand how to use and fit them correctly. Manufacturers will supply instructions relating to correct usage of their equipment, their recommendations should be followed. It is an essential part of the



Activity Leaders job to ensure that harnesses are fitted and attached correctly. In the case of sit harnesses the waist belt must be fitted securely above the hips and secured according to the manufacturer's recommendations. Most group harnesses will have a large buckle securing the waist belt and each of the leg loops these all must be **doubled back** and have a minimum of 10cm of webbing protrusion to be considered safe. Instructors should adopt a clear and systematic checks for ensuring harnesses are secure.

Ropes

At the Barretstown climbing wall there are two types of rope generally used; low stretch and dynamic. Regardless of type it is imperative that the rope be a Single type rope designated by the following symbol:

- Low Stretch rope is usually white or black in colour and normally used as a rigging line or for the main abseil line, it will stretch approximately 3-8% depending on the manufacturer, age and diameter, it should not be used to lead climb.
- Dynamic rope can be almost any colour and is normally used as the main climbing rope; it is more pliable and can stretch up to 20% depending on the manufacturer, age, and diameter.

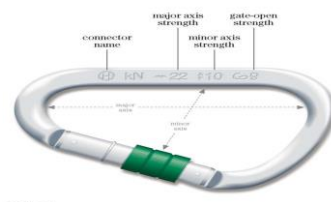
Helmets

At Barretstown we recommend that helmets be used during all climbing sessions. You must be familiar with the type of helmet used at your wall, how to fit it and when to use it.



Karabiners

At Barretstown's climbing wall there are two main types of Karabiners, screwgate and snapgate; they are made from aluminum. - Locking karabiners will normally be of the screw gate variety and will be either HMS/Pear, "D" or oval shaped. HMS/Pear shaped karabiners are normally used with belay devices and necessary when using the Italian Hitch as it allows space for the knot to pass through. Screwgate locking karabiners are used in critical positions where the opening of the gate would possibly cause a dangerous situation. - Snap-gate karabiners are normally "D" shaped and used in non-critical positions such as lead protection points.



Belay Devices / Techniques

We use two types of belay devices and a 5 point belay technique for both devices at Barretstown. There are three normal devices / techniques: ATC (or similar), Gri-Gri and the Italian Hitch, the use of each will be demonstrated during the training course but with all systems it is essential to **never** let go of the brake hand! This is particularly important with the Gri-Gri where there is a tendency for reliance on the assisted-braking feature, it can and does fail. **The Gri Gri is not a hands free device!**



ATC



Gri Gri

There are many different types of devices acceptable for use when belaying or lowering.

A few normally used for abseiling are:

Gri-Gri:

Advantages: Assisted locking, easy to hold falls, higher level of training required for use, must be rigged properly
Disadvantages: rope may drag, dangerous if installed incorrectly, only for use with

certain types of rope, expensive, training needed for correct use, flattens rope

Italian Hitch (as bell toll system):

Advantages: Free, easy to use.

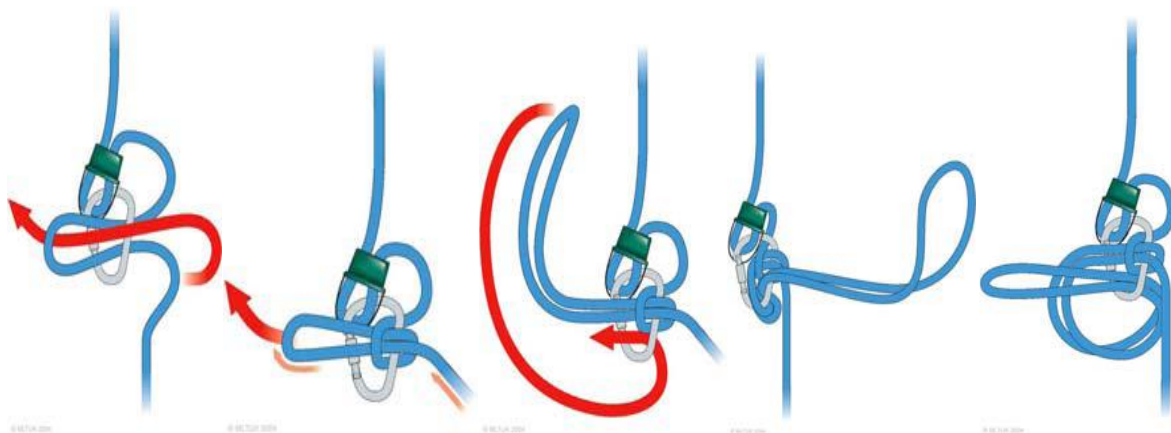
Disadvantages: Must be tied correctly, twists rope, can only be used in some orientations

Other belay device (ATC, Bug....):

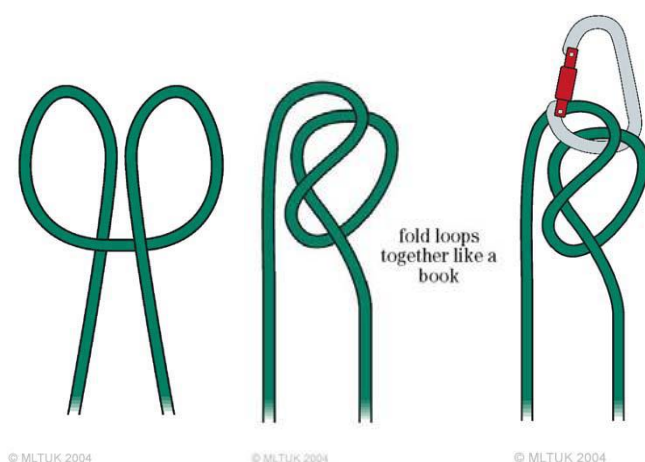
Advantages: Cheap, simple to set-up

Disadvantages: may bind on some types of rope, must be rigged properly.

It is acceptable to use any of these for its designed purpose; however it is critical you know how to operate the device, including how to tie it off. The figures below demonstrate the procedure for tying off a device.



The following figures demonstrate how to tie and lock off an Italian Hitch:



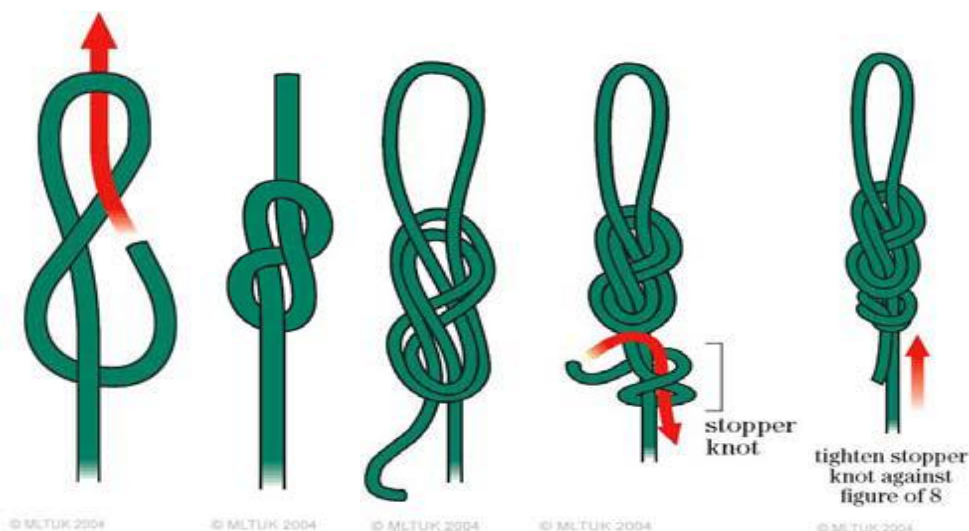
The best practice method for belay and lowering instruction will be demonstrated during the course, if you have any questions please address the trainer.

Falls and Lowers:

While running a session at the climbing wall at Barretstown it is important to demonstrate the ability to hold a fall, even when unexpected and lower a climber safely ground. This becomes tricky when there is a marked weight difference (a weight bag attached to the abseil loop may help with this) or if there are distractions but as an instructor you are responsible for your climber(s) at all times and you must be fully aware of their position. Practice will mean you can hold a greater difference and lower much more smoothly, which the climber will greatly appreciate. This will be demonstrated on the training course.

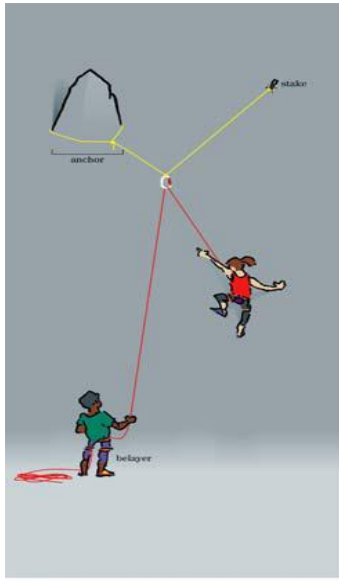
Tying in

The harness's manufacturer recommended method of tying on to the rope should always be used. The differences in appropriate attachment for different harnesses should be understood and candidates will be required to spot incorrect fitting and attachment. There are two normal methods of tying in, one with a figure of eight on a bight directly to the harness and the other using carabiners attached to a pre-tied figure of eight on a bight clipped to the abseil loop of the harness. There are positives and negatives to each situation however it needs to be noted that on some harnesses the manufacturer recommends tying in directly with the rope only. We recommend tying in directly to the rope as it; encourages the instructor to take the time to look at the harness, giving another chance to re-confirm that it is fastened correctly; it dissuades the leaving of knots in the rope after sessions are finished and finally it uses the least amount of equipment and therefore variables for failure.



Bottom Roping

We use the Bottom-roping technique at our climbing wall at Barretstown. Bottom roping describes a situation whereby the belayer is positioned at the foot of the wall, with the rope going from the belayer through a top anchor and down to the climber.



Anchors

As Barretstown is undertaking roped climbing we rely upon fixed anchors. The top-anchor design consists of two independent bolts linked by a chain to a central point, namely a steel ring, to which a screwgate and a snapgate karabiner are attached. The rope is then passed through both karabiners. Barretstown have dual top-anchor systems, allowing both lead climbing and bottomroping to occur on the same route without having to remove in-situ ropes. You must be familiar with the setup at the wall and be able to use it safely and effectively.

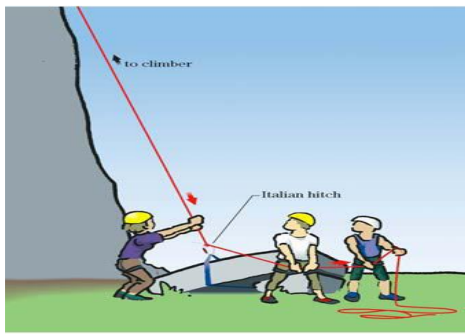
Belay Systems

Indirect Belay: An indirect belay system is one in which the load on a rope is passed to the belayer, it is the normal system for belaying and the one most commonly used.

Peer Belaying:

Many times it is beneficial to have the group involved in the belaying process, this is referred to as Peer Belaying. As many accidents involve poor belaying it is imperative that the

instructor maintains close supervision of all belaying and if there is any doubt then they should be directly involved. The advantages to this system is that it uses many participants and therefore helps with group management, the down side is that if an Italian Hitch is used it may twist the rope and it is not an effective way to teach real style belaying. Whenever the instructor is not directly involved with the system it is critical to back up the belay until you are fully confident of the belayer's capabilities. Peer belaying can be either in a direct belay or indirect belay set-up and can use one or more belayers, depending on the situation. We recommend Gri Gri's be used with special caution as they require an experienced belayer to operate safely that they not be used in a direct belay situation.



Running a Session

Activity Leaders must demonstrate competence in the following areas:

Planning

When planning a session climbing wall activity leaders should consider the implications of factors such as the group's experience and expectations, their abilities, if there are any impaired mobilities and language barriers. Groups normally will use the wall for a one-off session but may choose it as a free choice activity later on in the week. Activity leaders should:

- a. Plan both individual sessions and programmes of activities
- b. Assess the abilities and objectives of the group participating in this plan
- c. Check the underlying aims and objectives of the activity block
- d. Ensure you have included challenge by choice in your plans.



e. Have built in flexibility when planning activities in order to respond to changing circumstances

f. Know where to find and use basic first aid equipment in the case of an accident or injury and know how to call for expert help if necessary, also to be aware of who the nurse on duty is in case they are required at the wall.

Organising

Campers should be issued with suitable equipment and through clear briefings be made aware of its appropriate use and how they should behave during a climbing session. A badly organised group may be a danger to themselves.

- a. Brief individuals and the group appropriately
- b. Issue appropriate equipment and check correct fitting and use
- c. Store equipment appropriately after each session

Managing the session

Activity Leaders need to develop a range of group management strategies. Even within the same group there is likely to be a range of personal ability and motivation, and working with each group member as an individual is challenging for even the most experienced supervisor. Clear communication is the basis of good management and effective group work. Making the group aware of hazards associated with climbing and getting them involved in the management of these risks engenders an atmosphere where all group members feel actively involved. Managing group members whilst climbing should be seen as only one element of supervision, as it is the management of group members not climbing that is often more complex. This can be especially true at a busy wall with many distractions. Considerable experience of group supervision alongside more experienced supervisors and instructors should be gained between training and assessment. As with personal climbing, this experience should be as varied as possible and ideally gained at a variety of walls with groups undertaking roped climbing. Finally, climbing should be fun! Managing a group effectively should not detract from a group enjoying themselves.



Activity Leaders should be able to:

- a. Demonstrate a range of appropriate group management strategies and techniques
- b. Demonstrate the safe and responsible management of all group members irrespective of whether or not they are directly involved in the climbing activity
- c. Demonstrate an understanding of how to avoid common group climbing issues
- d. Manage the individuals and the group effectively by:
 - Good communication skills
 - Setting and reviewing targets. Identifying and reacting to the needs of the group in relation to involvement, interest, enjoyment and achievement
 - Supervise a group belaying
- e. Manage time appropriately in relation to the plan, activity and conditions
- f. Deliver technical instruction to individuals
- g. Suitable choice and fitting of harnesses
- h. Correct attachment of the climbing rope to the harness
- i. Demonstrate effective use of chosen belay device

Coaching and Fun sessions

The Barretstown climbing wall is an excellent venue for learning fundamental elements of efficient climbing movement. Activity Leaders need to have a clear understanding of the concept of 'Centre of Balance' and its relevance to climbing. Activity Leaders should appreciate how different climbing styles affect the position of the body's centre of balance and how that impacts upon the way in which the different muscle groups within the body are used. Non-climbing exercises can be helpful when introducing centre of balance. Once understood as a general principle of all movement it can be easier to appreciate its relevance to climbing, for example 'Centre of Balance' and its relevance to climbing can be exemplified by the everyday activity of getting out of a chair. First try to do so with your feet



directly underneath you (not using hands) and then try to do so again with your feet further away. This demonstrates the link between centre of balance and pushing with the legs: when the body's centre of balance is positioned above the feet it is much easier to stand up. Activity Leaders should feel confident coaching participants in climbing movement. Verbal explanations, games (both climbing and non-climbing) and non-climbing exercises can be used, but Activity Leaders should consider how the principles they are trying to teach are encapsulated within any games or exercises they choose to employ. The Barretstown climbing wall caters to climbers of all abilities, inadequate warm-ups or climbing too far beyond personal ability can lead to injury. Activity Leaders should be aware of these issues, and manage sessions appropriately.

- a. Demonstrate an understanding of warming up and injury avoidance techniques
- b. Demonstrate the use of bouldering/traversing activities with groups, including using appropriate games and activities, including setting simple boulder problems
- c. Advise, demonstrate and coach participants in basic climbing movement skills
- d. Be able to aid the development of climbing movement skills over a period of time
- e. Understand the dangers of overtraining for different age groups
- f. Understand the needs of those with physical and mental disabilities and medical conditions.

Fun Sessions

Fun sessions are meant to be just that, fun!

Example Fun Session:

Warm-up; Whole Body

Climbing Similar; (Swimming away from a shark)

Ice Breakers I am a climbing animal (copy actions of different animals)

Freeze (moving around and then freeze on call)

Simon Says (actions)



Twister (right foot red etc)

Climbing

Start Easy, Work on a challenge

Training Games and or Exercises

Cool Down - Many of the “Fun” games can be used to re-enforce good climbing movement and act as useful coaching aids, but don’t be afraid to change the sessions or the games to suit what you think will work with your climbers.

Please be aware that inadequate warm-ups or climbing too far beyond personal ability can lead to injury.

Climbing Games:

Add a Move: Begin by starting the first sequence of moves. The first climber gets on the wall and climbs or traverses this sequence of moves. When the first climber finishes, he/she adds one more move. Each time a climber completes the sequence he/she adds on another move. You can play "hands only" where any foothold can be used, or specify both handholds and footholds.

The stick game: The person designated as the pointer will use a broom handle or any pole to point out the next hold. The climber begins climbing. The pointer taps the next hold. This should be times so the next hold is tapped just ahead of the person climbing. A good pointer makes it challenging but not beyond the climber's ability. The game ends when the climber falls. The climber and pointer then switch positions.

Memory Game: The first person points out a sequence of 4 to 10 moves. There are no markings placed on the wall. The second person has to climb the route remembering each hold. The value of this climbing game is it teaches you to remember the holds in the route, making it an easier transition from preview to climbing.



Take Away: Create a route of about 20 holds. Mark the holds with chalk marks. Each climber climbs the route. After each successful climb/traverse the finishing climber rubs out a chalk mark. If the next climber cannot climb/traverse it without falling the turn is passed to the next person. If no one can do it the original climber must prove it can be done. If he cannot do the move the mark is put back on.

Twister: Designate a section of the wall just like a play field for the game "Twister". It has the same rules as normal twister.

Dice Game: Each climber rolls dice to see how many holds they can use to traverse the wall (you can make the end points shorter or longer) they each have three tries the winner has the most successes.

Laps: The first climber traverses across the wall back and forth using any holds (or harder using only one colour) for as long as possible without stepping off. Each subsequent climber tries to beat the score.

Time's Up: For as many players as desired. Start with a five or ten second time limit. First player gets ready, and a timekeeper says when to go. The climber gets to as many holds as he/she can before the timekeeper yells, "Time". Second climber tries to beat that number. If the climber does, they win, and their time is the new goal. After everyone goes, end of round one, add time, start round two.

Shark Attack: This climbing game can be played with as many climbers as you can fit on the wall. It is very similar to musical chairs. The climbers start in a circle in the middle of the floor facing inwards - when you shout "Shark Attack!" they must get onto the wall as quickly as they can

Simon Says: You can play this with a group of people. There is a leader (Simon, I suppose), this leader gives the group 15 seconds to get off the ground and stay there. After that time, the leader calls out various commands: "Simon says... move your left foot" for example and everyone must move the nominated limb to a new hold unless the command is not prefixed with "Simon says". Players are out if they fall off or do not obey the commands.



I went to the wall and used...: One person starts at one end of the bouldering wall. Their spotter calls out "I went to the wall and used a..." then they call out a move e.g. crimp, undercut smear etc. After the move has been completed the climber steps off and the partner repeats the move. The new spotter calls out the next move to be used. "I went to the wall and used a crimp and a smear." Repeat the moves for as long as you can manage it.

Taps: There will have to be a person on the floor to keep track of totals. This game was made up to assist the young climbers with concentration. What they have to do is climb like normal but every time they use any hand they have to first tap their head and then count out loud starting at one. The goal is to have the climber try to beat their personal best by trying to lessen the number of times they use their hands.

Tap Its: Working in pairs or more, one person chooses a hold for each hand and one foot. With the other foot they then see how many holds they can touch whilst their partner counts. They then swap places using the same holds, the person that touches the most wins. All about flexibility and realizing where and how far they can reach. They are not allowed to move the other foot or hands.

Freeze: All participants engage in traversing at the same time in the same direction at different locations on the route while one stays on the floor and randomly calls out "freeze." When that command is given the climbers must cease all movement, even if in the middle of moving from one hold to the next, for a pre-decided amount of time. Climbers may not move until given a "go" from the officiator timing the freeze. If a climber moves while in a "freeze" or falls off the wall he/she is out until next round.

Silent Feet: A game/training exercise aimed at developing precise foot placement. A group of climbers are asked to traverse a wall silently. Someone else stands at a reasonable distance from the wall with a blindfold on and someone else to help them walk safely. When the listener thinks they have heard someone they shout 'freeze' and walk towards the wall, touching exactly where they think the climber is. If they touch a climber they are out and the process is repeated.

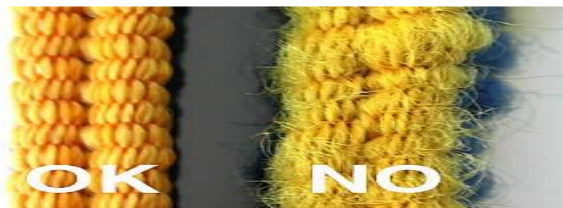


Equipment Maintenance

All equipment used at any climbing facility should be subject to a thorough PPE (Personal Protective Equipment) checking and management system which should be written policy followed by all staff. It should cover appropriate storage, regular thorough equipment checks by a suitably competent person, recording of checks, equipment lifetimes and guidance on pre-use checks. The training provided as part of this site specific scheme is aimed at ensuring an appropriate level of competence to carry out pre-use checks. This training is not sufficient for 'thorough' checks which should be done at a minimum of every 6 months by someone knowledgeable and experienced in the detailed assessment of personal protective equipment. There are many acceptable types of equipment designed for the same use, check with the manufacturer if you are in doubt as to whether or not you are using it properly, you may need additional training for some devices and equipment, seek this from a suitability qualified individual. Included are some pictures of worn equipment to look out for.

Ropes:

All ropes have a lifespan recommended by the manufacture depending on use and condition; however as with all textiles (ropes, slings, harnesses) they normally have a maximum shelf lifespan of 10 years and a maximum in-use lifespan of 5 years. Ropes must be stored and looked after carefully to ensure they are safe to use, care information will normally be provided with the equipment when purchased. The ropes (as all equipment) must be inspected prior to use. You will inspect the rope for any: abnormalities or fuzzy areas, strong deformities (stiffness, nicks and sponginess), damage to the sheath or if the core is showing, any evidence of contact with a chemical agent (oil, grease, acid) and any damage from heat, abrasion or friction. If any of the above is found or suspected the equipment must be isolated and brought to the attention of your supervisor in accordance with the management's operating procedures. You are personally liable if you knowingly use damaged equipment.



Harnesses:

As with ropes the lifespan of the harness will depend on the type, manufacturer and usage. The inspection of harnesses will look at all weight bearing areas for wear or damage to the strands of the webbing. The buckles will be examined for signs of cracking or burring and all stitching will be inspected to ensure that it is complete.



Slings:

There are many types of climbing slings. As with any textiles, care should be taken if the sling is exposed to prolonged sunlight or has had possible contact with chemicals. When inspecting a sling you will look for any damage to the fibres of the sling (sometimes indicated by a furry appearance) and any abnormalities or damage to the stitching (as pictured below). Refer to manufacturers guidelines for specific instructions and care guidelines. If any discoloration of any textile is noticed it should not be used and passed to the person in charge of PPE checking for a thorough inspection.

-Note: some slings are made from Dyneema and although very strong and light can melt at relatively low temperatures (144 - 152 degrees Celsius), be aware to keep them from rubbing as catastrophic failure could result when weighted.



Helmets:

Any modern climbing or mountaineering helmet will be acceptable for use. There are many types available but most fall into two categories, plastic or Styrofoam. Plastic helmets should be inspected for cracks or deep scratches but are normally more resilient and can be used after minor impacts. Styrofoam helmets are not as resilient and must be retired after an impact even if minor. They are to be inspected for cracks, scratches and/or dents to the exterior. Both types of helmets need to be used and fitted properly so that they protect the forehead of the climber and cannot move freely. An easy method to check is to do a “shake” test after fitting them. This will be demonstrated during the training. For care and maintenance refer to the manufacturers guidelines.



Karabiners:

As with all metalwork, karabiners normally have a conditional dependent lifespan; this means that they can be used indefinitely so long as they are not damaged and function properly.

When inspecting karabiners you will check:

- That the gate moves properly and does not stick
- The locking barrel winds and unwinds (if screw-gate)
- That there is no grooving present
- That there are no nicks burrs or sharp area on the karabiner
- That there is no corrosion present



Heavily Grooved Karabiner

Belay / Abseil / Lowering Devices:



There are many different types of devices acceptable for use, check the manufacturers guidelines for specific care and maintenance but below are some general topics for inspection:

- **Gri-Gri:** Inspection: looking for damage to handle, parts. Wear on contact areas, grooving of the Camming mechanism- burrs on rub points
- **Italian Hitch (as bell toll system):** Inspection: must be tied correctly
- **Other belay device (ATC, Bug...):** Inspection: Grooving on wear points, burring or sharp edges, ensure that wires are attached and intact.