Climbing Outside
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Cover photo: Clipping a camming device, Stanage
Photo – Alex Messenger

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A number of diagrams have been taken from MLTUK’s book Rock Climbing – Essential Skills & Techniques by British Mountain Guide Libby Peter.

To purchase a copy now please contact the BMC on 0870 010 4878.
Britain is often referred to as the home of adventure climbing, and renowned for the incredible variety of rock types available on such a small island. Our cliffs may not be the tallest, but they present many new challenges not experienced indoors, forcing the climber to adopt very different climbing styles. Slabs require a very balanced approach; cracks require jamming with fingers, hands, fists or even arms; steep overhanging cliffs can be very energy sapping but with good footwork and inventive body positions a lot of weight is taken off the arms. Different rock types present different hazards: cliffs are being continually eroded by the elements and some rock types are ‘more stable’ than others. This can present a real danger of experiencing loose rock or even snapping holds, so helmets are a very worthwhile investment.

Britain is a world-class venue for sea-cliff climbing, but just getting to the bottom of a route may involve an abseil or tide dependent approach. Our mountains have many soaring cliffs, but a change in the weather can present real difficulties to the unprepared. With this variety comes venues that are very novice friendly, perfect for learning new skills before venturing into more challenging arenas.

Our cliffs are a finite resource and the BMC is heavily involved in securing access to them for climbers and mountaineers. You need to be aware of seasonal or permanent restrictions that are in place to protect nesting birds and other animal and plant species. The sport of rock climbing has been evolving for over 100 years, and even though a ‘rule-book’ does not exist, there are many different ethics that have developed through time which allow the sport to continue in a sustainable way.

This booklet is intended to provide guidance for the indoor climber who wants to venture outside. There is an emphasis on ensuring that these first trips are done safely, but of equal importance is knowledge of the sport and the environment in which you climb.

Happy climbing.

Dave Turnbull
BMC CEO
1 Risks

The BMC recognises that climbing and mountaineering are activities with a danger of personal injury or death. Participants in these activities should be aware of and accept these risks and be responsible for their own actions and involvement.

An important part of making the transition to climbing outside is developing the art of balancing the skills you have available, against the challenges provided by the environment. That the sport involves risk is obvious to all, and this is an integral part of the activity. It is important for each individual to identify a personally acceptable level of risk.

Minimising risks boils down to having the right level of skill and experience relative to the difficulty and seriousness of a given route. On a climbing wall different routes present a fairly equal level of risk, irrespective of their difficulty. When climbing outside this is not the case, and the potential level of risk to which a climber is exposed does not equate to a route’s difficulty. This is one of the biggest differences an indoor climber must understand when climbing outside. Sustaining an injury on an easy sea cliff climb is likely to be more serious than having an accident at a roadside crag, and generally the amount of ‘safety’ or ‘danger’ involved comes from the climber, not the rock.

We all have varied perceptions of what risk is and experience taking risks in different ways. When starting out choose the easiest routes available so that you are (hopefully!) still smiling when you finish them. In this way you find your limit by working up to it and so build a clear picture of the perceived and actual risks involved. Accidents often happen when people confuse these two very different concepts.

Imagine walking around at the top of a cliff where a slip over the edge could be fatal – the actual risk – but one can feel safe as the terrain is flat – the perceived risk. Climbing a difficult route with a top rope is very safe – the actual risk – (assuming the anchor is good, the belayer is paying attention etc) but the difficulty of the climb can induce a lot of fear – the perceived risk. Ask yourself lots of ‘what if’ questions, and in this way you can be objective about the risks to which you are exposed.

Because experienced climbers strive very hard to know their own limitations, the sport enjoys remarkably low accident rates. Incidents that make the headlines often involve individuals operating in environments for which they were ill-prepared, and this can give a somewhat skewed impression of the dangers involved in the sport.

Accidents can happen due to circumstances over which the climber has no control, such as rockfall, and in these events first aid training can make all the difference. As an absolute minimum all climbers should be familiar with

Managing risk: high runner placement protecting leader  Photo – Jon Garside
Climbing is part of our childhood: scaling trees, sneaking over walls, exploring rock pools, stepping-stone games – so you’re already a natural! Having opportunities to develop your skills further is often the biggest obstacle.

Youth Participation Statement:
Parents and young participants should be aware that climbing, hill walking and mountaineering are activities with a danger of personal injury or death. Parents and participants in these activities should be aware of and accept these risks and be responsible for their own involvement.
Young climbers can find it difficult to get involved in climbing, particularly if their parents, or persons with parental responsibility, are non-climbers. Some clubs do not want the responsibility of accepting people under 18 years old, as they are concerned about liability issues. It is therefore essential that written parental consent is given, and that both parent and child are fully aware of the activities to be undertaken and their associated risks. Advice on child protection issues, liability and event organisation is available from the BMC office. Check out the BMC website for clubs that welcome young members.

Young climbers must be fully aware of and accept the risks involved in climbing in the same way as adults. The more experienced and mature a child is, the more able they are to understand and manage risk.

**Tuition and clubs**

If tuition is being given to young novices then a greater burden of responsibility falls on the climber providing guidance, than if the novices were adults. This climber does not have to be qualified but must be competent in assisting the less experienced. If professional outdoor instruction is being given to minors then organisations delivering this must be registered with the Adventure Activities Licensing Authority (AALA).

As well as BMC clubs, there are other organisations such as the youth service, schools and climbing walls where young people can participate on a regular basis. Once involved, the BMC can offer advice to adults and young participants through the BMC Area Youth Co-ordinator network on training, equipment and injury prevention.

The BMC has a Child Protection Policy and guidelines, which is designed to protect both young people and support those looking after them. The guidelines are followed whenever a BMC Youth Meet is run. The policy also helps those working with young people by specifying what constitutes good practice when working with this age group.

Young people and their parents should visit www.thebmc.co.uk for more information.

**Competition climbing**

The BMC is involved in running indoor climbing competitions, which are open to everyone. Even if you feel that competition climbing is not for you, these events are a great opportunity to meet other young climbers living in your area.

The British Regional Youth Climbing Series (BRYCS) is for climbers aged 7 to 15 with regional events held throughout the country and a national final. Climbers aged 12 and upwards can also compete in the British Indoor Climbing Championships (BICC), and the British Bouldering Championships (BBC).

**4 The Environment**

Climbing activities often take place in areas of outstanding beauty and great landscape value. As most cliffs in Britain are on private land access is given only at the consent of the owner, and one of the most important areas of the BMC’s work is in Access and Conservation. Following the introduction of the Countryside and Rights of Way Act (CRoW Act), there is now a statutory right of access to some crags, moors and mountains for all outdoor users.

Many popular climbing venues are important sites for wildlife such as nesting birds and rare floral species, and restrictions used to protect sensitive wildlife can prevent climbing. Many sea-cliffs have a range of restrictions during the nesting season from February to July. Numbering over 100 each year and negotiated between the BMC and other conservation bodies they are listed on
our Regional Access Database – www.thebmc.co.uk/outdoor/rad/rad.asp. It is vital that these restrictions are respected, otherwise access which the BMC has carefully secured, could be lost forever.

All upland plants grow in very harsh environmental conditions, cliff vegetation especially so. Flowers growing in thin cracks with a minimum of soil and few nutrients are easy to destroy. It may appear a small loss to remove a few plants, but if other climbers are doing the same then whole cliffs can get stripped of vegetation. Other potential environmental impacts of climbing include footpath erosion, rock abrasion, and damage to trees from abseil ropes.

As a general rule, rocks that are good for climbing are not usually good for plants, and vice versa. Plants of conservation interest typically like damp, nutrient rich, friable rocks with plenty of loose flakes and pockets. Most traditional venues are therefore not botanically rich, but where they are and where there is a conflict between climbing and conservation interests, agreements are generally worked out.

We all have an equal responsibility to preserve our finite climbing resources and need to tread lightly, making sure we leave the crags and boulders we love so dearly as we would like to find them.

CASE STUDY:

Hawks Stones, Yorkshire

Situated on private land, the owner famously banned access in the late 1960s. For many years the BMC was involved in negotiations, but the situation became exacerbated through errant climbers ignoring the restrictions. Due to the implementation of the CRoW Act, this crag has now been defined as situated on Open Access Land, giving climbers and walkers almost unlimited access to the open moorland, main cliff and surrounding boulders.

Due to the historical difficulties with access, the close proximity of the landowner’s house, and for the sake of future relations, the BMC has agreed to implement a number of concessions designed to conserve the surrounding habitat and maintain biodiversity at the crag. No dogs are allowed due to the presence of rare-breed sheep and ground nesting birds; a clearly defined access route has been created; no human waste please – the moor is a catchment area for the house’s water supply; due to tree planting, keep to the land directly below the crag; keep all noise to a minimum.

It is undoubtedly wonderful news that the CRoW Act will provide access to previously restricted areas, but the vegetation and wildlife at venues like Hawks Stones have been undisturbed for over thirty years. The renewed access demonstrates that even though we now have a legal right to enjoy new areas, with it comes a moral duty to respect the welfare of the people and wildlife living there permanently.

With many climbers, hill walkers and mountaineers visiting our cliffs and mountains, it is the responsibility of us all to ensure that the natural character of the countryside is protected. In order to preserve the access we enjoy today for future generations of outdoor users, it is vital to maintain good relations with farmers, landowners and local residents.
Climbing does not really have any rules. There is no offside, no handball and no penalty boxes, and this is one of the things that make it great. Most people accept that you do not damage the rock and environment in any way, and that whatever you do you should be honest about it, but beyond that, you are free to enjoy climbing in whatever way you want, and the more fun you have while doing this the better.

However, what climbing does have are ethics. Ethics are a code of behaviour that people generally accept as being good things, and are used as a guide to the challenges that climbers set themselves. A very simple example of this is trying to do a route without falling off, or trying to do a boulder problem on your first try. This is because it is generally accepted that these are the best ways to do them.

A lot of the ethics in climbing revolve around the preservation of adventure. The challenges of climbing spread far beyond the purely physical. The management of risk is a huge part of it, as is the journey into the unknown. As such, many climbers seek to preserve the risk and unknown sides of the sport. The UK has a great tradition of bold climbing, climbing where reliance is placed on the climbing party, giving great rewards to all concerned. Many people worry that if bolts appear on all routes, then this adventure will be lost. As such, there are ethics involving the placing of bolts.

Another example of ethics is how people try to climb ‘on-sight’. This means leading a route that you have no prior knowledge about, without falling off. In this way, the climb is more of a challenge.

Most of these ethics have been confirmed by over a century of endeavour on the rocks. Through the need to meet the challenges of climbing head-on, climbers have often been pushed to their limits, and the results have been amazing achievements and stories of adventure. To find out more about all this, and to get an appreciation of the development of the sport and why it is the way it is today, it is a good idea to read some history of the sport.

The easiest place to find any of this is in the history section of a climbing guide. These will often recount the most notable stories of a
Grades

Routes on indoor walls are graded using sport grades. However there is no like for like comparison to be made with an outdoor route of the same grade as an indoor one. This is because outdoor climbing relies on many more skills than indoor climbing. Indoor climbing tends to be on steep ground with positive holds, all coloured and set out in order, and as such, tends to rely a lot on strength.

Outdoor climbing requires the ability to recognise holds, read sequences and involves more friction moves and jamming in cracks. Generally it is less steep and relies more on balance.

It is important not to find this off putting. When moving outdoors for the first time, try not to have your expectations guided too much by the grades that you climbed indoors.

It is best to drop down a lot of grades as you start out, as this will give you the chance to learn the skills needed for outdoors in more comfort and safety. It is not much fun for your first outdoor experiences to be desperate struggles. Try to relax and enjoy it.

You will need to understand how grades work. This, surprisingly, can be a complicated job, due to the number of different styles of climbing, and the number of grades that exist for each. There are, amongst others, ice-climbing grades, aid-climbing grades, big-wall grades and Alpine grades. However, these are generally for more advanced climbers. For people moving outdoors for the first time, there are three main grading systems: sport grades, bouldering grades and traditional grades.

**Sport grades**

These are perhaps the easiest to understand, as they will be the same grades used for routes indoors – using traditional grades for indoor climbs does not transfer to outdoor climbing. The sport grade tells you how technical, pumpy or powerful a route is. It doesn’t account for how exposed it might be. They are for routes that are fully protected by bolts and graded using the French system, which runs from 3 to 9b+ (3, 4, 4+, 5, 5+, 6a, 6a+, 6b, 6b+, 6c, 6c+, 7a...9b, 9b+). Sometimes there might be the letter F in front to local area. As well as being interesting reading, these histories can bring a lot of extra life to climbs. You might find out that a climb that you did was the most ferocious climb in the country in 1915, or that you have just climbed a Joe Brown classic. This sense of history brings extra rewards to a climb.

So as you venture forth onto the rocks, try to be aware that all this is more than just exercise. Try to understand that through a century of climbing, there has developed a set of ethics as to how you should aspire to climb. And remember that these are not rules to tell you what is disallowed, but are guides that can show you how to get the most from your climbing. Respect the rock, be honest, and enjoy yourself.

Left: Hope, Idwal Slabs, N Wales. First climbed in 1915 and still very popular. Photo – Jon Garside
help identify it. Many countries have their own systems, and grade comparison charts are common in guidebooks to show how each compare.

### Traditional grades

Traditional grades are grades given to roped climbs that rely on the leader placing their own protection. The system, as used in the UK, can seem complicated at first. It has two parts to it, an adjectival grade and a technical grade. The adjectival grade gives an idea of how pumpy, exposed or safe a climb is. For historical reasons, and to further complicate things, it runs from E, M, D, V Diff, S, HS, VS, HVS, E1, E2...E10. The technical grade gives an idea of how hard the hardest moves on the climb are. Once again, this system resembles sport grades, and runs 3c, 4a, 4b, 4c, 5a...7c. This leaves grades like VS 4c, E3 6a etc.

It is a system unlike those used indoors, but once understood gives a lot of information about a climb. For example, a VS climb – Very Severe – usually has a technical grade of 4c, and a VS 4c climb should have adequate protection. A VS 4a climb is very likely to have little protection, like many slab routes. A VS 5a climb will have lots of protection for the 5a moves. Climbers describe themselves as ‘VS leaders’ or ‘E2 leaders’ as the adjectival part of the grading system gives a very good description of the overall feel of the route.

### Bouldering grades

These are grades for boulder problems, and in the UK there are currently several systems in use. There is the Fontainebleau system, developed in the famous boulders just outside Paris, and runs from 3 to 8c, in much the same way as the sport grades above. Unfortunately,
while they look the same, they are very different. Sometimes they might have Fb, Font or bloc (French for boulder) in front of them, but not always. There is also the American V system, which is much simpler as it runs from V0, V1, V2 to V15. There is also the B system, which is much like the V system. Like sport grades, boulder grades account for technicality, pumpiness or power, although problems that are very high up sometimes have slightly higher grades.

These are the three most basic types of grades that you will meet as a novice to the outdoors. Try not to be too daunted or guided by them. While they seem complicated and easily confused to begin with, experience will soon begin to make sense of them, and before you know it, you will easily tell your sport 6as from your Font 6as from your technical 6as.

### Conservation

A lot of vegetation on boulders is heather and grass, but some venues are home to less common species. There is always a chance that a site with protected plants may be developed, and for this reason you should not do any gardening. Vegetation gets eroded by climbers wandering between boulders and falling off problems, and many popular venues have suffered greatly. Pads can prevent further erosion.

### USA V grades

<table>
<thead>
<tr>
<th>USA V grades (Used in the UK)</th>
<th>French Fontainebleau system</th>
</tr>
</thead>
<tbody>
<tr>
<td>V0–</td>
<td>Font 3</td>
</tr>
<tr>
<td>V0</td>
<td>Font 4</td>
</tr>
<tr>
<td>V0+</td>
<td>Font 4+</td>
</tr>
<tr>
<td>V1</td>
<td>Font 5</td>
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<tr>
<td>V2</td>
<td>Font 5+</td>
</tr>
<tr>
<td>V3</td>
<td>Font 6a/F6a+</td>
</tr>
<tr>
<td>V4</td>
<td>Font 6b/F6b+</td>
</tr>
<tr>
<td>V5</td>
<td>Font 6c/6c+</td>
</tr>
<tr>
<td>V6</td>
<td>Font 7a</td>
</tr>
<tr>
<td>V7</td>
<td>Font 7a+</td>
</tr>
<tr>
<td>V8</td>
<td>Font 7b</td>
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<tr>
<td>V8+</td>
<td>Font 7b+</td>
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<tr>
<td>V9</td>
<td>Font 7c</td>
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<tr>
<td>V10</td>
<td>Font 7c+</td>
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<tr>
<td>V11</td>
<td>Font 8a</td>
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<tr>
<td>V12</td>
<td>Font 8a+</td>
</tr>
<tr>
<td>V13</td>
<td>Font 8b</td>
</tr>
<tr>
<td>V14</td>
<td>Font 8b+</td>
</tr>
<tr>
<td>V15</td>
<td>Font 8c</td>
</tr>
</tbody>
</table>

Source: North Wales Bouldering, Simon Panton

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7 Bouldering

At every stage in your climbing career you will benefit from bouldering. Your body learns a broadening repertoire of muscular adjustments and the mind adjusts to noticing opportunities for movement and recovery.

Bouldering outside requires no extra equipment to that used in a wall, but bouldering pads are becoming increasingly popular. They absorb some of the impact force when landed on, and so can reduce both ground erosion and the likelihood of sustaining an injury when falling off.

Using a bouldering pad Photo – Alex Messenger
If a particular venue is becoming damaged, some well thought out management techniques can maintain access and prevent further erosion. The landowner will need consulting; this could be an individual or organisation such as the National Trust. If the welfare of rare plants or animals is an issue then the Countryside Council for Wales, English Nature or Scottish Natural Heritage may be involved. Finally, many of our popular climbing venues are in National Parks, whose authorities oversee the recreational management of these scenic areas. When there is an access issue the BMC actively negotiate to protect the interests of climbers.

Happy landings

Landing safely from a boulder problem is quite an art. Try to anticipate the likely flight path resultant from failure, not always easy, but with growing experience you should be able to work out suitable padding arrangements. It is worth remembering that whilst a high fall onto a flat padded surface can be fine, a low level slip onto uneven ground could result in serious injuries.

The main area where even well seasoned boulders tend to fail is in the basic act of spotting – guiding a falling climber to a landing zone by supporting their back. Spotting is not catching! Consider a problem where a fall may result in your partner tumbling backwards. With your hands close to their back they will hardly accelerate before you can guide them. Conversely, even if only a metre or so above you, they will accelerate a great deal, possibly injuring you. This does not mean that on high problems you can simply stand around with hands in pockets; a spectator as your partner lands in a crumpled heap! You can still do a great deal to guide them into the padded area, keeping them in an upright position if possible, but be careful not to get injured yourself. Remember that just as boulderers fall off without warning, so holds can break unexpectedly – pay attention all the time.

You should not underestimate the potential violence of a fall, even from a low position. A strong climber exploding backwards from a bunched up position will do so with a terrific amount of force, and as a responsible spotter you must ensure that you are best prepared to deal with this eventuality. A pad will absorb some of the impact force in these situations and so can reduce the likelihood of injury – but only if landed on. As pads protect vegetation you should try to stand on one when spotting.

Bouldering is a great group activity. You can learn from watching others, experimenting with new techniques as you go. With more pads and people, the safety margins increase, useful when spotting those high scary problems.

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**BOULDERING:**

**Conservation issues**

- No chipping
- No wire brushing – use a nylon brush if cleaning holds
- Use bouldering pads to reduce ground erosion and vegetation damage
- Clean and dry your footwear to reduce rock damage
- Don’t use resin (pof)
- Minimise chalk use – brush away any excessive build up
- Dry wet holds with a towel or wait until a windy day – no blowtorching please
- Remove carpet patches or towels – they kill off vegetation and create a mess
- Take all litter home and follow the Countryside Code
- Leave vegetation in place – no gardening please

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Attentive spotting  
Photo – Alex Messenger
8 Leading Indoors

Climbing walls provide facilities that can allow you to get a taste of leading climbs. Don’t be fooled though; there is a big difference between leading indoors and outdoors, even on sport routes. Leading routes on an indoor wall will give you the thrill of moving above protection, and trusting your partner’s belaying. The relaxed and sociable atmosphere makes the whole thing seem very cozy and safe, so much so that accidents in climbing walls are often due to poorly positioned belayers or careless mistakes. So before leading check your partner’s equipment as well as your own.

Once satisfied that your partner is capable of belaying safely, you can set off with confidence. Clipping the rope into a quickdraw is something of an art. You have a choice – either stand below the bolt, pulling up rope to clip above your head, or you climb up until the bolt is just below your waist, reaching down to clip it. The handholds and footholds will dictate which level you choose, and either way can result in a longer fall if you slip before you clip.

Whether indoors or outdoors make sure you clip the quickdraw correctly – don’t back clip. This term refers to how your lead rope is oriented in the quickdraw. With the quickdraw flat against the wall, clip the rope so that it comes out of the front of the karabiner towards you. Once clipped, ensure that the end attached to your harness is not passing between the karabiner and the wall. In that situation the rope will run along the karabiner’s gate as you lead above it, and can easily unclip if you fall off. Practice clipping at ground level, and learn to do it quickly – when leading you do not want to use up vital energy reserves fumbling with quickdraws.

At the top of the wall clip the final karabiner and lower off, but ensure your partner has taken in any slack rope before weighting the rope. Don’t unclip any quickdraws on the way down; they will act as a failsafe.

9 Sport Climbing

Most of the techniques described above will stand you in good stead for sport climbs.

On sport climbs no one is responsible for maintaining fixed protection, and even though bolt failure is extremely rare it can happen. There is also the possibility of rock fall or holds snapping, and taking a fall on any climb can result in injury.

The tops of most sport climbs have two belay bolts to lower off from. Sometimes they are linked with a chain, which should be checked for corrosion, but in Britain it is common to have two bolts through which the rope is threaded. Not all bolts can be threaded, however, such as those with sharp edges. If in doubt consider lowering off both bolts with a karabiner or quickdraw attached to each one.

Having led a climb a common lower-off method is as follows (see over):

1. Clip into one of the two belay bolts;
2. Thread a loop of your rope through both bolts and tie a figure of eight in it;
3. Attach a screwgate karabiner to the figure of eight;
4. Clip the karabiner to the central loop on your harness and screw it up.

Once sure that the rope passes from your belayer, through both belay bolts, to the knot attached to your harness, untie your original attachment. Before being lowered clearly communicate with your belayer, and ensure you both understand each other. An accident at this stage is likely to have fatal consequences.

Traditional climbing requires you to place your own protection – utilising cracks, spikes and threads – and so demands more judgement. Do not try leading these routes until you have mastered the art of placing protection and constructing belays. Ease yourself into the skills and demands of lead climbing by starting on routes that are well below your technical grade.
Britain is a small island with no glaciated terrain and famous for its wet climate! So how come it continues to produce world-class rock climbers and alpine mountaineers? Well it is not called the home of adventure climbing for nothing. Our crags, mountains and sea cliffs are easily accessible, and the more you climb our changeable weather simply becomes another factor to take into account. Traditional (trad) climbing in which the leader places protection as they climb is alive and well, and the climbing community takes pride in the fact that this style of ascent means that a seven-metre crag can feel as adventurous as a multi-pitch mountain route.
Why trad?

By accident or design some climbers end up leading from the word go, but most take time to reach this stage. Until recently all first leads were trad, since sport climbing is a relatively recent development. With the wealth of sport routes abroad and some developed areas in the UK you could have a long climbing career without placing a runner, but this will start to limit your options. Plus if you have any aspirations to head to the Alps or get stuck into some American cracks then you will need to know your RPs from your Camalots.

When trad climbing you are entering a very different arena to the indoor wall, and with your experience you are at both an advantage and disadvantage. You like climbing; you feel pretty confident about your ability; you have an idea what to expect; you should know how to tie on and belay safely. These are all positive points.

Your major disadvantage is that you are now responsible for everything, but with little or no experience of managing these new risks. An easy ‘mistake’ to make is to view your technical climbing ability as the mainstay for a successful transition to climbing outside. Think of yourself as beginning a completely new sport, because in many ways you are. It is no longer a question of green route or red route? Instead it is, ‘Will that gear hold a fall?’ or ‘Is that anchor safe?’

When making decisions that impact upon your safety, it is essential to appreciate the limits of your knowledge and expertise.

First steps

On your first visit outside it would be best to join a more experienced climber and for you to watch them placing protection and constructing belays. Choose a small cliff no higher than half a rope length as in this setting any problem can usually be solved by lowering to the ground, and verbal communication from the top to the bottom should be possible. A cliff with an accessible flat top where it is possible to walk around in relative safety means that your attention can be focused on developing new skills, as opposed to being worried about walking off the edge.

Leading Source: Rock Climbing – Essential Skills & Techniques, MLTUK
Successful trad lead climbing is obviously closely linked to acquiring the skills of placing natural protection – gear. It’s one thing to have every camming device and nut on the market dangling off your harness, and another to know exactly how to place them properly.

**Gear**

Gear falls into two broad categories: passive and camming. Passive protection is wedged into a constriction, whilst camming devices convert their downward force into a sideways pressure. They can even work in flaring cracks!

Wedge shaped chocks, often referred to as wires or nuts, are the most common pieces of protection used. These have curved sides and when placed with three points of contact in a crack are very stable. They should be ‘seated’ with a firm tug in the direction the force will be applied, at the same time watching if they move.

In larger cracks hexagonally shaped chocks work well. Before the days of camming devices hexes were the only gear available for parallel-sided cracks, the offset attachment of their sling means they cam in a crack as a force is applied.

As a general rule the larger the protection the stronger it is, assuming the rock is sound. Look out for cracks or friable patches that suggest suspect rock. Larger nuts and cams have more surface area to grip with, and therefore more in reserve if the edges of a crack crumble slightly.

Utilising natural rock features such as threads and spikes can also make very secure anchors.

When using spikes you need to be sure that the sling will not ride up when a force is applied from below. The shape of the block will give a good indication: does it have positive edges that will hold the sling in place, or is it rounded with a whaleback shape? As a test, a simple tug is insufficient. What is necessary is to slide the sling backwards and forwards in the direction that the force will be applied, and to check it does not ride up and off.

Camming devices are easy to place badly, easily enough such that they are gone forever – an expensive loss – or provide no security at all. Think of the following three points when...
using them: open the cams to about the middle of their range; make the stem point as best as possible in the direction the force will be applied; make the cams symmetrical on either side of the stem. As opposed to passive devices that are tugged to seat them, camming devices are assessed in a more visual way. If you start pulling them around you are likely to move them, and will only have to reposition them again.

Experiment by removing, testing and placing gear at ground level to get a feel for what works. It is often surprising what works – and fails!

**What gear to have**

Shops will be keen to sell you a hefty rack of gear and it will all come in useful one day. However, for your early leads, chunky items of gear such as hexes and medium to large wires provide reassuring strength and are relatively easy to appraise once placed. About ten quickdraws of different lengths should be adequate to begin with and a few longer slings are needed too, for extending runners, and threading spikes or chockstones.
Organising your gear

Develop a system for racking gear on your harness that works for you and keep to it. This will allow you to quickly locate gear when you need it with minimum angst. Generally gear such as wires should be placed close to hand on your stronger side, with larger items such as cams further back. It can be helpful to bundle wires according to size: small, medium and large. Quickdraws can be stored even further back. Test yourself by locating gear with your eyes closed before setting off.

Ropes

If you’ve got a rope from indoor climbing, this should be fine for easier trad climbs, but for climbs of more than half a rope length abseil retreat becomes an issue, and on wandering lines friction from rope drag will make your life a misery. So sooner or later you may want to use double ropes. Two full ropes would be extra safe but heavy, so it’s normal to use half ropes, usually between 8 and 9mm in diameter. The good news is that you’ll only need one since it’s normal practice for your climbing partner to have one also.

Controlling the rope

Belay devices such as Sticht Plates, Reversos, Bugs, ATCs etc are much more suited to handling dynamic loadings with gradual deceleration, than a grabbing device like the Grigri which will shock load the runners. There are also some lightweight devices available such as Bugettes and Reversinos. These are designed for thin double or twin ropes, 8.5mm and less. They will dissipate heat less effectively often getting very hot when abseiling, but with thin ropes can make holding a fall easier, especially if the climber is heavier than the belayer. So there is a range of belay devices for a reason, and when making your choice consider the ropes you use and your weight relative to your partner’s – don’t just buy a device because your mate bought it!
First leads

Before embarking on your first leads, you should have gained plenty of experience at the other end of the rope, have recruited a competent belayer and it would be best to lead on an indoor wall first.

Do not be too ambitious; choose well-protected climbs that are comfortably within your technical abilities as you learn the craft. Look through the guidebook for clues to identify the right climb. If the route is relatively technical for the grade (e.g. Severe 4b) then you can usually expect good protection. On the other hand, if the climb looks like a blank featureless wall from below, leading to a bold roof, then it’s probably not a very sensible proposition at this stage, or perhaps ever!

Whatever grade you have managed prior to trad leading, be realistic on your first excursions. A good idea is to stick to classic climbs – look for quality star ratings or adjectives like ‘excellent’ or ‘enjoyable’ within the Diff to V Diff grade range. On these routes you will generally be able to stand comfortably whilst placing runners, and not get too distracted by the technicalities of the moves.

The normal goal of trad climbing is the onsight lead. To take the sting out of your first leads why not lead a route you have climbed before? Or when seconding routes try placing protection as you climb, in this way you will develop the essential skill of standing – or hanging! – in one place whilst selecting a suitable piece of gear. A more experienced friend could then give you feedback about the reliability and positioning of your runners.

Strategies

Leading a route requires a strategic approach; the climber needs to make best use of their strength and equipment to reach the top before either runs out, and coping strategies are needed for the occasions when they are in short supply!

Before leaping on a climb, take a good look at it beforehand, something that’s often forgotten in the excitement. If it follows a hairline crack all the way you can leave your hexes and large cams behind. Try and match the amount of gear with what you will need.

Guidebooks

Using a guidebook to find climbs is an acquired art. Develop a good climbing vocabulary and learn to find routes described in relation to one relatively easily identified feature or route. The guidebook will also provide information about the descent from the top of the climb. This is particularly important for multi-pitch climbs and you should have planned the basic outline of your descent before starting these routes.
Fourteen quickdraws may be fine for a long mountain route, but do you really need that many on a short Gritstone classic? Ask others who know the route, as there may be crucial or trick placements you cannot anticipate from the ground. Take time to inspect the route from below, hopefully you will be able to read some of the moves and spot potential recovery spots, thus saving maximum energy.

Plan where you will be getting that crucial first runner in, and try to spot where the hardest move might be. It’s always a good idea to arrange a cluster of runners before a hard sequence so that you have a failsafe in case one fails or gets knocked out. Eliminating this kind of worry helps you focus on the climbing instead of fussing about the gear.

Psychology

Ensure that you fully understand and accept the risks of leading traditional climbs. Before leading climbs you will also need to have developed the ability to find opportunities to rest and recover.

Hanging on long enough to place a natural runner takes a lot more effort than clipping a bolt. A positive frame of mind is essential for leading climbs, so regular practice is essential, particularly if you want to progress to harder routes.

Desire is essential for leading climbs, so do not try a climb unless you really want to get up it. On the other hand try not to get despondent if you fail – it happens to the best climbers, you just don’t hear about it! Failure is useful, it shows a good climber how to improve through working on their weaknesses.

Building belays

You are at the top of the crag, first lead in the bag, time for some self-congratulation! But it’s not over yet – you have to build a belay so your second can follow the climb.

If belaying off nuts, hexes and cams, you must always use two or more to construct your belay, and it is often necessary to link these multiple anchors together to a single point.

There are many ways to do this and what is important is not the system used, but the way in which it is done. The two concepts to be clear
about are whether the individual anchors when linked together are **independent** and **equalised**.

Anchors are independent of each other if, should any individual one fail, then the others are not shock loaded. The anchors are equalised if once connected together, they are all pulled with an equal force. Both of these requirements can be achieved using simple knots such as clove hitches or overhand knots.

Having more than one anchor shares the load between them, but keep the angle between any two to 60° or less. Once equalised with a sling attach yourself to the anchor with a clove hitch.

Instead of using slings to attach to anchors it is sometimes easier to use your rope instead.

Once attached to your anchors belay your partner by attaching your belay plate to the rope loop, not the central loop. There is a good reason for this concerning the forces applied to the system should your partner fall. With the belay plate attached to the rope loop and you appropriately positioned, the weight of the second should go directly through to the anchors.

Whereas even though completely safe, attaching the belay plate to the central loop
Useful for tying on to anchors due to its simplicity and adjustability (1 & 2).

The load rope should be positioned next to the back bar of the karabiner (3).

When tying a clove hitch on a stake, the cross should rest at the back of the stake so it will tighten up when loaded (4 & 5).

**Source:** Rock Climbing – Essential Skills & Techniques, MLTUK

Attachment to a sling with a clove hitch

Photo – BMC

If you belay off a single anchor make sure it’s big! Photo – Alex Messenger
can be more uncomfortable should the second fall – their weight will pass more directly through your harness.

You must be aware of the potential forces involved should the climber fall, as being poorly prepared can lead to an accident. This is especially true should the climber be a lot heavier than the belayer. Your position at the top of the cliff is very important, and it is often safer to sit down than stand up. Go through ‘What if?’ questions. Can you see your partner, or at least clearly communicate with them? Are you in line between your anchors and your partner, such that should they fall you will not get ‘pulled about’? Is the rope passing over your leg? Is there space for your arms to move freely such that you can belay safely?

Ask your partner to put their weight slowly on the rope before they leave the ground. In this way you will know if you are able to hold them should they fall when climbing. If you are unsure then reposition yourself or tighten the rope to your anchors. Remember, people fall off without warning, so be 100% confident about your ability to belay effectively.
Attaching to Anchors

Single anchor within reach
Tie a clove hitch to a screwgate karabiner at the anchor.

Single anchor out of reach
Any adjustment is best done at the belayer to avoid moving back and forth to the anchor to get the correct tension. Clip the rope through a screwgate karabiner at the anchor before moving close to the desired position, tie a loose clove hitch to a screwgate karabiner attached to the central rope loop, tighten the screwgate, then move to final position and adjust tension. This way the belayer is attached before moving to a precarious position at the cliff top.

Two anchors within reach
Clove hitch to the first anchor, leave some slack then clove hitch to the second anchor, bring the rope back to a clove hitch on a screwgate karabiner on the central rope loop. Adjust any of the clove hitches to ensure equal tension.

Source: Rock Climbing – Essential Skills & Techniques, MLTUK

3 anchor essentials
• Anchors equally loaded
• Anchors independently tied off
• Angles between anchors 60° or less
**Two anchors out of reach**

Clip both anchors and move towards desired position holding the middle bit of rope between the anchors and the slack rope. Clove hitch the middle bit of rope from the first anchor, get into position and adjust tension before adding a clove hitch from the second anchor. A large HMS karabiner may be sufficient to seat two clove hitches but if there is any concern of creating a load too wide for the karabiner two separate screwgate karabiners should be used instead.

*Attaching to two anchors is simple when climbing with double ropes*  
*Photo – Alex Messenger*
Top roping

At climbing walls you either top-rope routes that have ropes already in place, or you bring your own rope and lead routes. With trad climbing normal practice is to lead, not top-rope. Most climbers have probably top-roped a route at some point, but there are others who take exception to this practice; they believe top-roping is against the sport’s ethos as it reduces the challenge. The obvious attraction of top-roping is that much of the risk is eliminated, but being able to manage risk is not only central to the sport, but one of its most exciting and satisfying aspects.

If you do top-rope a route be quick and discreet, as a common annoyance felt by other climbers is top-roping parties hogging routes – so do not leave your rope hanging for a long time. Another issue to be aware of is that some rock is extremely soft, the sandstone outcrops in Sussex have been permanently damaged due to poor top-rope practices, for example. Ensure that the karabiner at the top of the cliff is extended over the edge to prevent the rope sawing through any rock or vegetation, and consider using a rope protector, carpet-square or empty rucksack as padding.

When you have finished a climb consider untying and walking down to the cliff bottom. This eliminates the real risk of being dropped as you are lowered, and reduces erosion to ropes, rock and vegetation.

Clubs and instructors

If you are keen to learn but none of your friends are experienced enough to try these tactics, you might find a willing teacher at your local BMC Club. Check out your local climbing wall for adverts, or see the directory on the BMC website. Another way to learn is to recruit a qualified instructor. The minimum qualification for teaching leading is the Mountaineering Instructor Award (MIA), so look for people holding MIA, MIC or British Mountain Guide qualifications. Alternatively book yourself on a course such as those run by Plas y Brenin, the National Mountain Centre.

Falling off

The ultimate goal of a successful lead is to reach the top without falling off. Whilst it’s normal to see sport climbers taking falls, this approach is more dangerous on traditional climbs and a clean on-sight ascent is not only ideal but also advisable. If you are unable to complete a move, try reversing back to a resting spot – you can then piece together a sequence of moves until you are ready to go for it. If this doesn’t happen, down climb until below a couple of reasonable runners and get lowered to the ground. Stripping gear as you go down is not a good idea as your top runners could fail, so it’s best to retrieve it all by abseil. If you leave some equipment behind, so be it. It’s replaceable, but your health isn’t.

If you do take a leader fall don’t grab runners because the loading will then be outward rather than simply downward, so they could rip out. Consider what you might hit if you fall off, as anything less than vertical is going to involve a collision once you’re airborne. Be extremely careful not to lead with your rope behind your leg as it could become tangled if you fall, flipping you backwards and
head first. Wearing a helmet when climbing could save you from serious head injuries.

**Multi-pitch climbs**

Leading multi-pitch climbs is a more committing proposition, and before embarking on the route you should consider how you will get off, whether or not you complete the route. It’s a good idea to carry some spare cord and a karabiner that you are willing to abandon on an abseil retreat if necessary. You may well be able to “swing” leads with your partner. This gives a great team spirit to the climb, and allows you to choose pitches that suit individual skills – your mate will hopefully be happier than you on that poorly protected overhanging crack pitch!

At the end of each pitch a belay must be constructed, strong enough to hold the potentially greater forces involved if the leader should fall off on the following pitch. If runners fail, the leader could fall beyond the belay, resulting in a very high shock loading. Alternatively, a heavy leader can pull a light belayer upwards or sideways, so the anchors need to be chosen with this in mind. A couple of low spikes may be fine for bringing somebody up a pitch but might be lifted off when holding a heavy leader. If the runner subsequently were to fail, the team would be left with no belay! In this situation, high anchors are preferable and multi-directional anchors such as threads are ideal.

Long multi-pitch climbs are best treated like an expedition, and you should aim to be independent in the event of unexpected changes in the weather or incidents. It’s a good idea for at least one of you, usually the person seconding each pitch, to have a small rucksack carrying some drink, snacks and lightweight waterproofs.

11 **Abseiling**

Half way up a long mountain route the heavens open halting your progress. How do you get out of this one?!

If you intend to progress beyond very simple crags you will need to learn how to abseil safely and efficiently. Climbers regard abseiling as a mundane but potentially dangerous task, observing with wry amusement that it is presented as a glamorous activity in some quarters. **Abseiling has caused more fatalities than any other mountaineering activity.**

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**Trad Leading Check List**

- Understand the risks involved – Prepare for them
- Start easy, VERY VERY easy!
- Organise the gear on your harness
- Place lots of runners – Stack everything in your favour
- Don’t fall off!
Abseiling involves descending rope(s) using a friction device attached to your harness, such as your belay device. Terrain that would be too dangerous or time-consuming to descend by foot is descended by abseiling. This may be to escape a route beyond your ability, to get off a pinnacle you have just climbed up, or to approach the start of a sea cliff route. Even steep grassy slopes can feel a lot safer on an abseil rope!

If you have never abseiled before start at ground level down a shallow slope, before doing it ‘for real’ on a cliff.

**Abseiling for real**

Be careful – remember that you are at the top of a cliff!

Practice on a small cliff, but not down a popular route on a sunny day! You should be able to look over the edge to check no one is below and see that the ropes reach the ground.

Be careful when throwing your ropes from the cliff top. With one end attached stack the rest into a neat pile, then holding the last few metres in coils throw them out and down. Shout ‘Rope below!’ very loudly so that everyone is duly warned.

Attach the belay device to the central loop of your harness with the rope running through it, just as when belaying. With both hands locking off the control rope adopt the same body position as when lowered off a route: lean back and legs apart. In this position you will gracefully abseil down the cliff as you let the rope slide through your hands. Or you may judder nervously if it’s your first time!

The take-off is often the hardest part of abseiling as you are leaving the horizontal cliff top for the vertical cliff face. If you find it awkward consider sitting on the edge and slowly sliding off. This lowers your centre of gravity making you more stable – part of the knack of abseiling confidently comes down to your balance skills.

**Making it safer**

When abseiling you can easily slip and let go of the rope – not a good idea! – but with an autobloc you can have a safety back up. This is a clutch that when correctly set up should hold the control rope if your hands let go.

The most common autobloc employed is a French Prusik, which is made using a prusik loop. This is so effective and yet simple to tie that you have to ask yourself, “Why ever travel without it?”

To make a French prusik wrap the prusik loop around the control rope four or five times. Clip both ends with a karabiner and attach that to the leg loop of your dominant hand. If you have too many turns it can be very hard to release it, so get to know how many you need.

When held in your hand the knot is loose allowing the rope to slide freely, but if released it grips the rope and prevents further progress. The prusik is not fail-safe, it could rub against something and release, so always try to keep hold of the control rope.

**Multi-pitched abseil**

If retreating from a longer climb when more than one rope length above the ground, then abseiling on doubled ropes will be necessary. This allows one end to be carefully pulled once everyone is down, and in this way the cliff is descended in stages. Try to pull the rope slowly and treat spikes directly below the anchor with suspicion. They are likely to snag the rope as the free end falls causing a tangle that may well be difficult and dangerous to reach. Almost all commonly used belay devices have two holes to allow you to belay or abseil using double ropes.

One advantage of climbing with double ropes is that when making a multi-pitched descent off a cliff face you can tie your two ropes together and so abseil a full rope length at a time. It is common to tie them together with an overhand knot, as this will be less likely to jam in cracks when retrieving your ropes.

If at all unsure whether your ropes will reach the ground there is a real risk of abseiling off the end of them. In these cases it is always best to tie a knot in the end of them.

**Anchors and attachments**

Roped descents rely on sound anchors and careful checks of all attachments. An
inadequate anchor negates the entire system, and if anything becomes detached the consequences are often fatal.

Bouncing should be minimised, despite the popular television image of the commando-style descent! Shock loading a belay strains the system unnecessarily; an abseil descent should be steady and avoid sudden drops.

If an existing abseil point is used, all equipment should be carefully inspected for secure anchors, signs of serious corrosion, and damage to slings. Retrieving a rope after abseiling can drastically weaken slings by melting them, sometimes after only a single abseil. This is not a problem if you are leaving your own gear behind, but you may be using someone else’s already damaged sling. It is preferable to link the abseil rope to the anchor arrangement with a reliable metal link such as a karabiner.

Most climbers have at some point made an emergency descent off a cliff face. It’s not a sign of failure! If you do find yourself in that position then do not panic – easy to say of course! The large majority of popular climbing cliffs in Britain can be descended in three long abseils at most, so just do a stage at a time.

If you do have to retreat off a multi pitch climb then consider abseiling down your line of ascent – at least it will be familiar territory.

If there are solid spikes or threads you can trust then maybe only a sling will be left behind. Even better buy a few metres of spare rope and with a knife cut bits off to tie into loops as you descend. Do not hesitate in leaving climbing gear behind, as losing any amount of equipment is incomparable to losing a life.

Just remember that abseiling is dressed up at outdoor centres as a safe and fun activity, which in that setting it is. However, when used by climbers as a means of descent it is a much more serious undertaking.

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**Abseiling Checklist**

- Harness tied correctly?
- Are you 100% confident in your anchor?
- Rope(s) threaded through anchor and abseil device correctly?
- Karabiner screwed up?
- Do your ropes reach the ground? If in doubt, knot the ends
- Make it Safe – Think about wearing a helmet and using a prusik loop

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**French Prusik**

A versatile prusik that can be released under load so can therefore be used as an autobloc in situations where it is loaded and then subsequently needs to be slackened, as with protecting an abseil or escaping the system.

**Source:** Rock Climbing – Essential Skills & Techniques, MLTUK
In 1964 the Mountain Leader Training Board was established by the BMC and the Central Council for Physical Recreation to train mountain leaders. Over the years Mountain Leader Training has changed in structure, and there are now home nation boards for England (MLTE), Scotland (MLTS), Wales (MLTW) and Northern Ireland (MLTNI). Mountain Leader Training UK (MLTUK) co-ordinates the work of the four home nation boards and administers the higher instructor qualifications.

On a broad level, the Mountain Leader Training boards administer the formal training schemes and the BMC dispenses training advice in areas such as mountaineering clubs, student clubs and youth participation. The different organisations work very closely to ensure that all aspects of training are covered.

Learning new skills is useful at every stage of your climbing and mountaineering career. Contact the BMC for general advice or the Mountain Leader Training boards to find out how MLT Awards could be of use to you.

There are over 20,000 people throughout Britain and Ireland holding climbing and mountaineering leadership qualifications. Some are professionals but many are leaders working in a voluntary capacity, or individuals wanting skills they can use when climbing or walking.

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