



# *Competitive Climbing*



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## About the Tutorial

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Competitive climbing, also known as **Comp**, is a competitive sport where the players climb artificial walls that resemble natural rock formations. This sport is mostly played in indoor courts on artificial walls. The rules of the competition vary based on different categories.

This tutorial will let you know about various aspects of the game like its rules, method of playing, scoring, etc.

## Audience

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Competitive Climbing is gradually becoming popular worldwide. Many competitive climbing events are being organized quite regularly across the globe. The number of competitive climbers is also gradually increasing.

This tutorial will be helpful to all those readers who want to learn the fundamental rules and regulations of Competitive Climbing. Step-by-step descriptions with picture illustrations are provided wherever necessary.

## Prerequisites

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Before proceeding with this tutorial, you are required to have a passion for competitive climbing and an eagerness to acquire knowledge on the same.

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# 1. Competitive Climbing – Overview

Competitive climbing is an indoor competitive sport where the players need to climb the artificial walls. There are three different categories in this sport which are **lead**, **speed** and **bouldering**. The rules and strategies vary based on the sport type. With a wide popularity worldwide, this game was also considered to be included in Olympic games in 2013.



## History of Competitive Climbing

Competitive climbing was initially originated at Soviet Union where the sport was mostly focused on speed climbing. In 1985, a group of best climbers gathered at Bardonecchia, Italy in an event called **SportRoccia** and it was the first lead climbing competition. In 1986, the French Federation organized the first indoor competitive climbing event at Vaulx-en-Velin, Lyon.

Slowly the sport started getting worldwide recognition and in 1988, the first Competitive Climbing World Series was organized. In 1989, the first Competitive Climbing World Cup in Lead and Speed was organized. Around the 1990s, many large events in countries like Europe, Japan and US were organized and the competitions started using artificial walls in order to avoid negative environmental impact.

In 1991, the first world championship was held in Frankfurt, Germany. In 1998, Bouldering was introduced as another competitive climbing discipline and in 1999, the first Bouldering World Cup was held. In January, 2007, 45 country federations together found the International Federation of Sport Climbing (IFSC).

## Participating Countries

Both as a recreational activity and as a competitive sport, competitive climbing is presently one of the popular sports. Today more than 75 countries actively participate in different

worldwide competitive climbing events which include popular events like World Championship and the Youth Championship.



Some of the countries where competitive climbing is considered as a popular sport are France, Italy, Spain, Ukraine, Russia, Austria, Japan, Canada, Slovenia, Netherlands.

## 2. Competitive Climbing – Equipment

In case of competitive climbing, players not just have to be excellent in climbing, they also have to be fully aware and cautious as the game involves a lot of risk.

### Climbing Equipment

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As far as the equipment are concerned, the players have to use both climbing and protective equipment for a safe and successful climbing experience. Let us discuss some of the climbing equipment used in this game.

#### Ropes

The ropes that are used in climbing are typically in kernmantle structure, i.e. a long and twisted fibre at the core while an outer sheath, made of woven coloured fibres, covers it. The core fibre provides around 80 percent of the tensile strength during the climbing whereas the outer sheath layer provides the desirable handling characteristics as well as durability to the inner core fibre.

There are two types of climbing ropes:

- **Dynamic ropes** – Dynamic ropes are designed in order to absorb energy from a falling climber and they are mostly used in order to help a falling climber not fall very far by reducing the force experienced by the climber and his/her equipment.
- **Low elongation ropes** – Low elongation ropes stretch very less and thus is not ideal for belaying. These ropes are mostly used for anchoring as well as for abseiling where players climb using these ropes. In some cases, players also use these ropes as fixed ropes to climb by using ascenders on them.

#### Webbing

The modern webbing used in the game are made of either nylon or spectra or the combination of both. The webbing that are specific for climbing are made of nylon pressed flat tubes and are very strong with a capability of 9kn or 2020 pounds of force.

The webbing that is made of dyneema is even stronger with a capability of more than 27kN. Webbing is used for many purposes. It can be used as an anchor around trees and hurdles. It is also used for carrying equipment.

#### Carabiners

Carabiners are used as connectors during competitive climbing. These are metal loops with spring loaded gates. Initial carabiners were made of steel whereas presently lightweight Aluminum alloy is used to make these. Usually there are two types of carabiners which are: locking and non-locking carabiners. Different gates in carabiners are used which are: **wire-gate**, **bent-gate** and **straight-gate**.

In case of locking carabiners, these prevent opening the gate in case of use and are mostly used in conditions where important connections are needed such as: anchor points or belay device. Different types of locking carabiners are there which are **twist lock** and **thread lock**. The twist lock carabiners are also called **auto locking carabiners** because of their spring loaded locking system.

## Quickdraws

These are used by the climbers in order to connect to bolt anchors and for other security purposes. It consists of two non-locking carabiners which are connected by pre-sewn loop of webbing or a dyneema/spectra webbing. This webbing is a 60 cm loop which can be tripled over and turned into a 20 cm loop.

Carabiners that are used for protection have a straight gate whereas those to which the rope side is connected have a bent-gate as it helps in clipping the gate easily and very quickly. The safest as well as the most effective place to clip a quickdraw is when it is at waist height.



## Harness

A harness is made from nylon rope webbing where the rope is tied around the waist for better comfort as well as security. It secures the climber to a rope or anchor point. It also helps in working at heights and includes amenities like gear loops and paddings.

There are different types of harness that are used based on patterns such as **sit harness**, **chest harness** and **full body harness**. While a sit harness consists of a waist belt and two leg loops, a chest harness is worn around shoulders and is considered as an extension of sit harness. A full body harness is a combination of sit and waist harness with the webbings used for the harness is polyester webbings.

## Belay Devices

This equipment is used to control the rope while the climber is belaying. Primarily a belay device locks off the rope which helps in providing minimal effort to arrest a climber's fall. Usually a climber takes the help of these belaying devices while coming down.

Two types of belaying devices are used which are **active** and **passive design devices**. Passive belay devices rely on the climber's brake hand. It also has a carabiner to lock off the rope. In case of active devices, a built-in mechanism locks off the rope without the help of other equipment.

## Rappel devices

These are also known as **friction brakes**. These devices are designed for descending on a rope. Different types of rappel devices are used in climbing. These devices include **figure eight, rescue eight, and Petzl Pirana**.

## Ascenders

Ascenders are mechanical equipment that are used for ascending on a rope during the climb. To prevent these ascenders from coming off the rope, locking triggers are used. These are first attached to the climber's harness with the help of a webbing sling and then clipped to the rope and locked. Usually two ascenders are used to climb a fixed rope.

## Protective Equipment

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As climbing is a risk filled sport, climbers use various protection devices in order to ensure their safety. These devices vary from personal clothing equipment to that of different climbing tools. Some of these equipment are described below.

### Helmets

Helmet is one of the primary safety equipment in climbing. A helmet is mostly used to protect skull against the impact forces during a fall or accident. In order to avoid flipping and having impact on back side of the head, helmets are highly recommended for the players. However, in case of competitive climbing, the use of helmet is optional.

### Climbing Shoes

In case of climbing, a specially designed shoe is used by climber in which sole is vulcanized with a rubber layer in order to increase the grip of the foot while climbing. These shoes are a few millimeter thick and fit comfortably around the foot. In order to reduce the frequency of replacing the shoes, they can be resoled.

Leather is used as the most common upper material whereas other materials such as fabric and synthetic leather are also used in making a climbing shoe. A downward pointing toe box ensures stability while standing on small holes and pockets.

### Gloves

The belay glove used in climbing is mostly made of either leather or synthetic substitute and is mostly helpful in protecting the hands while belaying down the rope. It also prevents rope burns and involuntary releases of the rope.

### Chalk

Chalks are mostly used by all climbers in order to absorb moisture and sweat on the hands. Mostly these chalks are stored in a chalk bag and are placed near the waist area of the climber with the help of a belt or hanged from the rope through a carabiner.



# 3. Competitive Climbing – Environment

In case of competitive climbing, the players climb an artificial wall. The climbing has a strong resemblance with natural climbing obstacles and has grips for both hands and feet to climb. This sport is considered as an indoor sport but it is also performed at outdoors.

## Walls

Some of the walls are constructed out of bricks and woods whereas in case of modern climbing, most of the climbing walls are made of thick multiplex board with holes drilled on it. Recent walls are made of manufactured steel and iron. The walls have places for fitting the belay ropes.



## Types of Walls

Different types of walls are there based on the materials used in their construction. The simplest kind of wall is made of plywood and is also called as **woody**. The holds used on a plywood wall may be bolt-on holds or screw-on holds. Bolt-on holds are fixed to the wall by iron bolts that are inserted through the holds whereas screw-on holds are smaller in size and are connected to the wall by screws.

Besides plywood, walls are also constructed using slabs of granite, concrete sprayed onto a wire mesh, pre-made fiberglass panels, large trees, manufactured steel and aluminium panels, textured fiberglass walls and inflatables. The holds that are placed on the walls are of different colours.



## Holes

Each hole on the walls contain a specially formed **t-nut** that allows modular climbing holds to be screwed into the wall. The outer face of the wall is covered with concrete and paints or polyurethane loaded with sand. The grips are made of different sizes to resemble an outside rock.

## Holds

All holds are painted with different colours and holds with same colours form a route. These routes are of different difficulty levels and are overlaid on one another. In another way, the route is defined by the holds with coloured tapes placed below it.

During the climb on a specific route, a climber is allowed to use only the holds with designated route colours as hand grips but is allowed to use both hand-holds and foot-holds as well as surface structures and textures as foot grips. The level of difficulty of the routes are usually a result of consensus discussion between the route setter and the first few climbers to climb the wall.

# 4. Competitive Climbing – How to Play?

In case of competitive climbing, the rules and regulations of the sport vary from each other based on the type of competition. There are three main categories which are **Lead climbing**, **Speed climbing**, and **Bouldering**. Rules and regulations as well as the gaming procedure of these categories are explained below.

## Lead Climbing

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Lead climbing is considered as the most common type of competitive climbing sport. In lead climbing, climbers ascend a long and difficult route that is designed by the route setters. Here first the climber attaches himself/herself to an elastic climbing rope and then ascend through the route while placing protections periodically to the face of the route.



The climber must have a **belayer** as the helping person. The belayer has multiple tasks including holding the rope in case of falling as well as paying out the rope to the climber when he/she moves with the help of a belaying device.

During the climb, the climber places protections periodically through the route which includes clipping to pre-placed bolts and pitons or using different removable protection devices into the cracks or other features. Distance between these protections mostly stays between 6 to 12 feet.

## Scoring

The performance of the climber is determined by the highest hold point he/she has reached. Again the hold point has to be **controlled**, i.e., the climber has to achieve a stable position on that hold. There are three rounds in a lead climbing competition. The first round is the qualifier round where the players are not isolated and they can watch other players climbing before their own attempt.



In the semi-final and final rounds, the climber has to go for isolation where they can't see other players climb and before their round, they are allowed to go for "observation" where they are allowed to see the climbing route for better planning that stands for 6 minutes.

The judgment is mostly based on the climber's performance, which includes route selection to time management. The climber has to finish the route in the minimum time. In case of tie in the final, scores from the previous rounds are taken into consideration. During the competition, 26 climbers get selected for the semi-final round whereas 8 climbers make it to the final.

## Speed Climbing

In lead climbing, the performance and efficiency of the climber is taken into consideration. In case of speed, the speed at which the climber climbs through the route is the only factor for evaluation. Here the climbers climb a **vertical piste** which is slightly overhanged with belaying from the top. The governing body has created a standard wall design for speed climbing.



Speed climbing can be played either individually or in a team. Each team consists of three members. Here the climbing wall is divided into four equal columns where initially two players from each side compete against each other to climb fast and hit the button on the top. Clicking the button on the top enables the 2<sup>nd</sup> player from each team to again move in other columns.

In this way, once the second player hits the button on the top, it enables the third player from each team to climb to the top in a different row than the second player to hit the button. The final score is calculated by taking all the individual team player's performance into count.

The climbing time in the game is evaluated by mechanical-electric timing which is very much accurate even up to 0.01 second. When a climber hits the top button on the top of the route, the climbing time is decided based on which the winner is declared.

## **Bouldering**

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In case of bouldering, no ropes or other typical climbing equipment are used. The routes followed in case of bouldering are shorter as compared to other climbing categories, which are generally below 20 feet in height. Similarly, the routes are more difficult as compared to other categories with limited time for completion. Here bouldering mats are placed below in order to prevent injuries during a fall.



The players are mostly dependent on proper and secure foot works. In order to avoid sweating and for better grip, they use dry chalk in their hands. Here the climber can attend the same route more than once unlike lead climbing. In case of bouldering, the scores are given based on the number of routes the player is climbing as well as the number of attempts he/she takes for that.

In case the player fails to reach the final finishing hold. The scores will be provided based on a particular hold called **bonus hold** that the player has cleared. The placement of the bonus hold is decided by the route setter. In bouldering competitions, 20 athletes are selected in the semi-final from which 6 make it to the final round.

# 5. Competitive Climbing – Champions

The International Federation of Sport Climbing (IFSC) works as the international governing body for competitive climbing worldwide. It was founded in the year 2007 and initially there were 48 members. Presently, it has grown to 81 members.

Previously, it used to be a part of the International Climbing and Mountaineering Federation. It is also responsible for organizing different competitive climbing competitions worldwide.

Some of the climbing competitions that are organized by IFSC worldwide are as follows:

- IFSC Climbing World Championship
- IFSC Climbing World Cup
- IFSC European Championship
- IFSC World Youth Championship
- IFSC European Youth Cup

Let us now have a brief synopsis of some of the great players of Competitive Climbing who brought laurels to their country by playing at the highest level.

## **Ramón Julián Puigblanque**

Ramón Julián Puigblanque is from Barcelona, Spain and is a professional rock climber with specialization in lead climbing discipline. In his sports climbing career, he has won the world championship two times in 2007 and 2011.

He has also won two European championships in 2004 and 2010 and one silver and one bronze in 2013 and 2002 respectively. He has won a gold in World Games 2013 in lead climbing. Along with this he has won the 2010 Lead World Cup.

## **David Lama**

David Lama is from Innsbruck, Austria and is a sports climber as well as a mountaineer. At the age of 15, he was the youngest person to compete at the World Cup and the first person to win both lead and bouldering world cups in the first season.

He has won gold twice at the European Championships in 2006 and 2007 and has won the IFSC Climbing World Cup in 2008. In 2011, he retired from climbing in order to concentrate more in mountaineering.

## **Dmitri Sarafutdinov**

Dmitri Sarafutdinov belongs to Korkino, Russia and is a professional rock climber with specialization in bouldering discipline. Till now, he has won ten gold medals in bouldering including one IFSC Climbing World Cup in 2013.

He also has won the IFSC World Championships three times in bouldering in 2007, 2011, and 2012. Along with this he participated in IFSC European Championship in 2006 and 2013. In 2006, he won a bronze and in 2013, he won a silver medal.

## **Sean McColl**

Sean McColl belongs to North Vancouver, Canada and is a rock climber with specialization in Lead, Speed, and Bouldering disciplines. At a young age, he has won the Youth World Championship in 2002, 2003, and 2004.

Till now he has won 23 major titles worldwide in all formats of competitive climbing including five world titles in 2009, 2012 and 2014. Besides competitive climbing, he is also an outdoor climber with some major achievements.

## **Jain Kim**

Jain Kim belongs to Goyang, South Korea and is a professional climber mainly active in lead climbing and bouldering disciplines. She has won the Lead Climbing World Cup in 2010, 2013 and 2014 and three silvers in 2009, 2011, and 2012.

She has won seven golds and three silvers in the Asian championship in lead climbing and in bouldering disciplines individually. She is also a successful rock climber and has also won one gold in the Rock Master in lead discipline.

## **Mina Markovič**

Mina Markovič belongs to Maribor, Slovenia and is a professional climber with specialization in Lead and Bouldering disciplines. She has won the IFSC Climbing World Cup four times with two times in overall and two times in lead discipline.

She also has won two silvers and one bronze in IFSC European Championships. She has won the world games in 2013 in lead discipline. She also has won silver in Rock master in 2009 in lead discipline.

## **Anna Stöhr**

Anna Stöhr belongs to Reith im Alpbachtal, Austria and is a professional climber with specialization in Bouldering discipline. At the beginning of her career, she started competing in speed, lead and bouldering disciplines. Later on she concentrated only on bouldering which brought her great success.

Considered as one of the best bouldering climber in the sports, she has won a total of 42 medals till now in her career that includes 22 golds, 13 silvers and 9 bronzes all in bouldering discipline. She has won two golds and two bronzes in the IFSC World Championships along with two golds and three silvers in IFSC European Championships.

## **Shauna Coxsey**

Shauna Coxsey belongs to Cheshire, United Kingdom and is a professional climber with specialization in Lead and Bouldering disciplines. She has won six golds, six silvers and five bronzes in climbing World Cup in bouldering discipline till now.

She also has won five British Climbing Championships with four in bouldering and one in lead in 2012, 2013 and 2016. For her service to climbing, she was appointed as Member of the Order of the British Empire (MBE) in 2016.