



# UIPM OBSTACLE DISCIPLINE TRAINING TIPS

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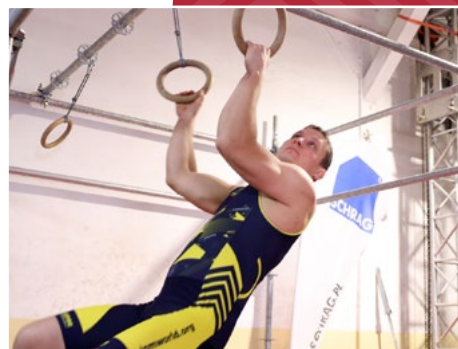
## Introduction

With the integration of Obstacle in Modern Pentathlon for Juniors, U19, and U17 age groups, athletes, coaches and National Federations (NFs) need to adapt their training and competition plans to fit the new discipline.

UIPM Obstacle Discipline Training Tips is a publication that highlights UIPM's ongoing commitment to informing and supporting the Modern Pentathlon community.

This document will assist you in creating and implementing obstacle training programmes considering the complexity of pentathlon training as a whole. It is always important to highlight that training sessions must be prepared and closely followed by professionals who will adapt them to the characteristics of their athletes such as age group and training/competitive level.

This advice is not exhaustive but it covers important obstacle basic techniques used by experienced athletes. We strongly believe that it will play an important role in the evolution of different training methods for pentathletes worldwide.



# Glossary

The aim of this glossary is to establish a common understanding of expressions, techniques and even the obstacles that will be key features of Obstacle Discipline. Each word is highlighted throughout with the corresponding super-index<sup>[X]</sup>, which redirects you to this glossary for a reminder of the meaning.

<sup>[1]</sup> **Airtime:** Duration of the flight phase in which the athlete is not holding on to any element of the obstacle.

<sup>[2]</sup> **Back swing:** Phase of the movement in which the athlete is moving away from their direction of travel.

<sup>[3]</sup> **Bar swing:** Move or cause to move back and forth or from side to side while suspended or on a bar.

<sup>[4]</sup> **Bent arm:** The act of keeping the arms curved or at an angle.

<sup>[5]</sup> **Crushing:** The act of closing fingers against resistance.

<sup>[6]</sup> **Dead hang:** The act of hanging from a bar with the arms fully extended.

<sup>[7]</sup> **Finger extension:** The act of opening the fingers and thumb.

<sup>[8]</sup> **Fingertip:** Exercise performed using only the last part of the fingers.

<sup>[9]</sup> **Forward swing:** Phase of the movement in which the athlete is moving in their direction of travel.

<sup>[10]</sup> **Frenchie bar:** A type of bar pull-up that incorporates isometric actions within each repetition.

<sup>[11]</sup> **Frenchie rope:** A type of rope pull-up that incorporates isometric actions within each repetition.

<sup>[12]</sup> **Leading hand:** Hand which is closest to the direction of travel.

<sup>[13]</sup> **Momentum:** The quantity of motion of a moving body.

<sup>[14]</sup> **Pinch grip:** The act of grasping something with the thumbs in opposition to the fingers.

<sup>[15]</sup> **Platform:** A raised level surface on which the athlete must land.

<sup>[16]</sup> **Proprioception:** The neurological ability of the body to sense movement and position.

<sup>[17]</sup> **Supporting:** The act of lifting something with fingers taking most of the load.

<sup>[18]</sup> **Trailing hand:** Hand which is furthest away from the direction of travel.

# 1. Equipment

Equipment is a priority part of an athlete's training and competition. As in all Modern Pentathlon disciplines, the obstacles require the use of specific equipment which, among other aims, guarantees a safe practice.

## 1.1. Summary of basic equipment

**Footwear:** Athletic shoes without spikes use are needed. It's recommended to use low profile shoes.

**Handwear:**

1. Gloves are allowed, but not recommended. They can be used during the beginning of the training period while hands get used to the activity.
2. Wristbands, compressive sleeves and taping are allowed.
3. It is important to note that magnesium, chalk, or any other sticky substance is prohibited.

**Apparel:** Clothes that reduces the likelihood of snagging on obstacles.

**Others:**

1. Glasses are permitted when wearing the fastening strap.
2. Jewellery, watches or hanging objects are not allowed.
3. Cameras, phones, radios, tape recorders or any type of communication systems are prohibited.



# 2. General preparation

In addition to the physical preparation usually done by pentathletes, it is interesting to include in their routines specific exercises for the obstacle discipline, focusing mainly on three pillars: joint stability/mobility, [proprioception](#)<sup>[16]</sup>, and hands preparation.

## 2.1. Joint stability/mobility

It is important to have control of the body at the joint level. Special attention should be paid to scapular and lumbar stability along with thoracic and shoulder mobility. This will help to generate more efficient movement and prevent injuries.

## 2.2. Proprioception

It plays an important role in the planning of precise and coordinated movements, in maintaining balance and controlling body posture.

## 2.3. Hands preparation

In the Obstacle Discipline hands are constantly being put to the test as you swing from bar-to-bar, ring-to-ring, and scurry over and across the walls. Hand and grip strength and conditioning can make the difference between succeeding on an obstacle or failing that obstacle. This is one of the most important topics where to put attention on.

Preparation should be trained on bars, rings, climbing holds, and ropes. Although gloves are allowed, it is highly recommended that athletes develop regular callouses for this type of activity. It may take up to some months for the skin to fully adapt to the new demand.

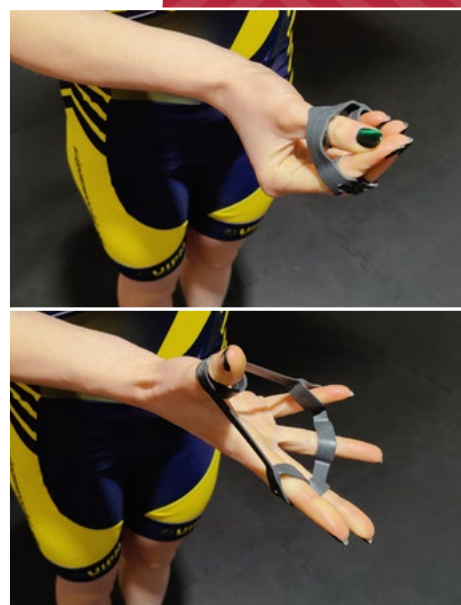
The first training periods should be taken slowly. The key is to limit training time and weekly frequency until hands are fully adjusted. It is necessary to pay special attention to possible skin tears that occur during the first phases of training and to treat them.

The other crucial topic regarding hands preparation is the grip strength. It's important to note that grip strength isn't just about hand strength. Grip strength involves everything from the muscle near the elbow all the way down to your [fingertips](#).

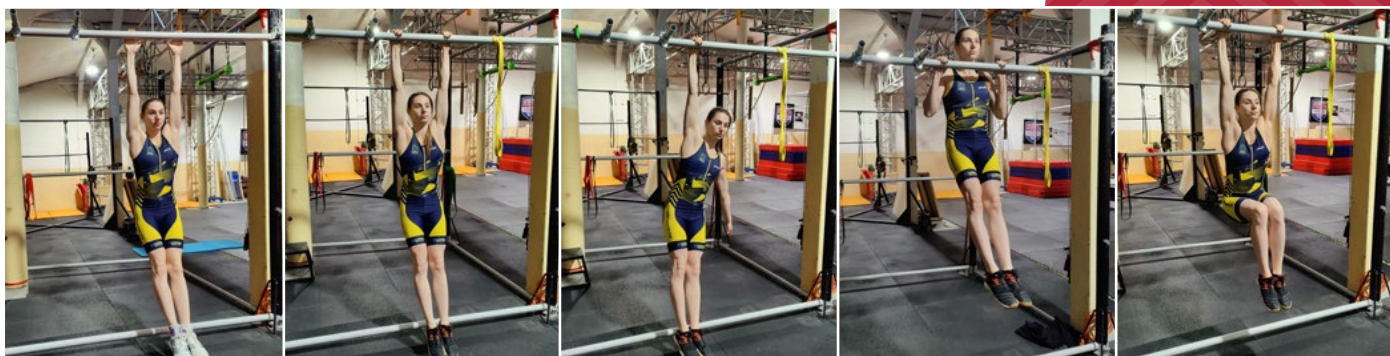
There are some specific exercises that can be very useful in improving grip strength, as follows:

### Finger extensions

Place a rubber band around the tips of your fingers while maintaining a straight wrist. Spread your fingers without bending your wrist. Hold this position, then let your fingers collapse back in. Use several rubber bands around your fingers to increase the resistance.



Finger extensions



Dead hangs

### Dead hangs

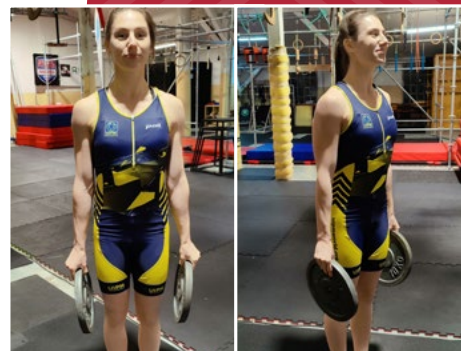
This consists of hanging from an overhead bar with your arms outstretched and your body in different positions. It is a good and easy exercise with a big benefit.

We present five [dead hangs](#)<sup>[6]</sup> exercises in this document: [fingertip](#)<sup>[8]</sup>, double arm, single arm, [bent arm](#)<sup>[4]</sup> and knee tucked.

### Pinch grip

Pinch exercises are fundamental for the obstacles where we must hold on using our thumbs (rings, ropes...). It is very easy to train by simply gripping discs of different weights between the thumb and the other fingers.

See on **Table 1** a proposal of two specific training sessions for grip strength. It is meant for gradually acclimatising the hands and it could be a good starting point on hands preparation.



Pinch grip

Table 1. Grip Strength Sessions

GRIP STRENGTH SESSION 1		GRIP STRENGTH SESSION 2	
EXERCISE	REPETITIONS	EXERCISE	REPETITIONS
<a href="#">Fingertip dead hangs</a>	4 x (3s work + 5s rest)	<a href="#">Frenchie bar<sup>[10]</sup> pull-up</a>	3s each position
<a href="#">Frenchie rope<sup>[11]</sup> pull-up</a>	To fail	<a href="#">Pinch grip<sup>[14]</sup> plate hold</a>	4 x (20s work + 1m rest)
<a href="#">Bent arm dead hangs</a>	4 x (6s work + 30s rest)	Rope/towel <a href="#">dead hangs</a>	3 x (20s work + 2m rest)
Finger rubber <a href="#">extensions<sup>[7]</sup></a>	4 x (3s stretch + 3s rest)	Finger rubber <a href="#">extensions</a>	3 x (8s stretch + 2m rest)
Double hand <a href="#">dead hangs</a>	4 x (25s work + 30s rest)	Single hand <a href="#">dead hangs</a>	3 x (10s stretch + 2m rest)
<a href="#">Bar swing<sup>[3]</sup> technique</a>	4 x (10s work + 10s rest)	<a href="#">Bar swing</a> technique	3 x (20s stretch + 1m rest)
		<a href="#">Dead hang</a> knees tucked	To fail

(Recommended 72h rest between sessions)

### 3. Specific preparation

Each obstacle has one or more techniques to be successfully overcome. Athletes will discover the technique(s) that will best fit to their personal style and physical performance characteristics.

You will see below some common aspects that should be considered on the specific preparation as well as specific techniques for each obstacle.

#### 3.1. Common aspects

There are some common technical aspects to all obstacle courses.

##### 3.1.1. Approaching obstacles

- Study the course before the competition.
- Focus your eyes on where you want to engage the obstacle: top of the wall, step, which grip, etc.
- Position your body to utilise your [momentum<sup>\[13\]</sup>](#) by avoiding stopping or [back swinging<sup>\[2\]</sup>](#).

##### 3.1.2. Landing

- Land in an athletic position that facilitates continuity of movement.
- Be prepared to roll laterally if the landing is hard. This can help prevent injuries.
- Land with both legs if landing from a height.
- Land in a running position, if safe, so you can maintain speed at the next obstacle.

##### 3.1.3. Transition between obstacles

- If landing on a [platform<sup>\[15\]</sup>](#) between two obstacles, plan your landing so you don't overshoot the platform. It will help to be on place to build momentum for next obstacle.
- Carry this momentum into the next obstacle if you can plan your foot placement and steps.
- Back up if you need to reposition or need speed for the next obstacle.

## 3.2. Obstacle Techniques

In this section we will look more closely at the specific technique of some basic obstacles to be used in UIPM competitions in 2023.

For a more logical approach, obstacles will be split into three categories: balance, grip, and walls.

### 3.2.1. Balance obstacles

The next two obstacles are basically focused on body control and balance; proprioception plays a relevant role in the preparation for these obstacles. Hands can always be used to keep the body balanced.

#### Steps

- It should be approached with a high but controlled speed that favours forward movement and helps to keep the body in a straight line.
- Plan how to place the feet before facing the obstacle.
- It is possible to walk and stabilise both feet on each step, but it will be at the final time cost.

#### Balance beam

- Start training on the floor level and walking. Once you feel confidence start running.
- Focus on the end of the beam and don't look down.
- Place your feet on the side to have a bigger surface.
- Use your arms to keep the body balanced.

### 3.2.2. Grip obstacles

The following obstacles have as a common factor the need for trained grip strength as well as control of the specific technique of each one. Controlling and learning to generate a correct swing from a dead hang position can also help to overcome these types of obstacles.

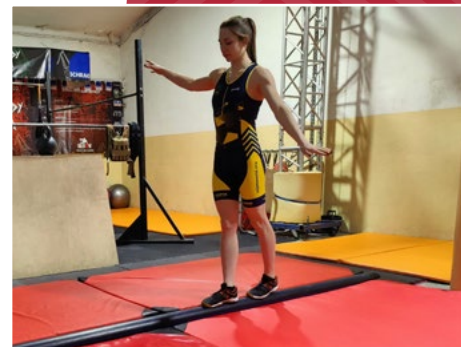
#### Rings

This obstacle has several techniques. We can use one or combine them according to our preparation level.

- **Lateral switch (Beginner)**
  - Place yourself laterally and pull the rear arm to generate swing.
  - Grab the ring with both hands and maintain the swing.
  - Make sure that the body swing is forward.
- **Front switch (Medium)**
  - Grab the rings with one hand and move forward.
  - Keep the momentum and switch the hand as you continue to the next ring.
  - It is possible to skip some rings if the momentum is conserved.
- **Bent arms switch (Advanced)**
  - Grab the ring with one hand and pull it to the chest.
  - Place both hands on the same ring while keep pulling it to the chest.
  - It is possible to skip some rings if the momentum is conserved.



Steps



Balance beam



Rings



### Big wheel

- This obstacle will always come immediately after Steps.
- Maintain the momentum acquired from the Steps.
- Jump by holding on to the highest and closest part of the wheel to assist swinging, using its movement.
- Use as many swings as necessary to generate momentum.
- Big wheels require more speed and some "airtime"<sup>[1]</sup> between each wheel.

### Wheels

- Grab the first wheel with both hands on the top part to help you generate momentum.
- Leave one hand and grab the next wheel the same way.
- Don't leave the wheel with both hands at the same time.
- If momentum is lost, it can be recreated by using the legs to generate the initial swing.

### Monkey bars

Two techniques are presented. A strong initial jump will help to generate the necessary momentum that will make it easier to overcome this obstacle with both techniques.

- Shuffle technique (Beginner)
  - Grab the first bar with both hands.
  - Drive one knee up and release the same hand.
  - As soon as you have grabbed the bar, repeat on the other side, and match your hands to the same bar.
  - Keep a strong knee drive throughout.
- Step technique (Advanced)
  - Grab the first bar with both hands.
  - Drive one knee up and release the same hand.
  - As soon as you have grabbed the bar, repeat on the other side, and grab next bar.
  - Keep a strong knee drive throughout.

### Rope swing

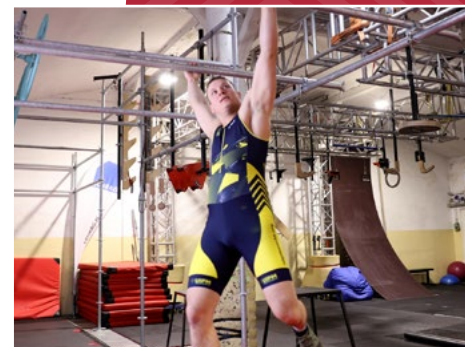
- This obstacle will always come immediately after Steps.
- Jump to the rope with arms extended and grasp the rope with both hands.
- Grab the rope below shoulder height to facilitate a long swing.
- Pull the rope close to your chest, arms fully flexed.
- Lift your legs to make sure you clear the ground.
- Extend your legs and arms as you approach the landing.
- Let go of the rope as your feet approach the landing.



Big wheel



Wheels



Monkey bars



Rope swing

### 3.2.3. Walls

To overcome the walls, speed is the best ally. Arriving at the obstacle with a high inertia greatly facilitates the application of the specific technique for each obstacle.

#### 1.5m wall

Two techniques are presented. A strong run will help to generate the necessary momentum that will make it easier to overcome this obstacle with both techniques.

- **Jump on the side (Beginner)**
  - Grab the top edge of the wall and jump to the side.
  - Use your arms to bring your body up and over.
  - Jump to the other side.
- **Jump on the top (Advanced)**
  - Grab the top edge of the wall with your hands while placing one leg on the same spot.
  - Use the leg to push yourself up and jump to the other side.

#### Final wall

- Run at maximum speed toward the wall looking at the edge at the top.
- Take three to four steps on the wall, propelling your body upwards.
- Grab the top edge of the wall with both hands.
- Pull up with both arms, using a heel hook if necessary.
- Hook your elbows over the top of the wall if you are unable to pull yourself over with your arms.
- Push yourself up and pitch forward onto the top of the wall.

### 3.4. Safety measures

As in any sport, safety is a priority. Here are some key rules that will help you to always keep a safe training environment:

- Always keep the feet below shoulder height, especially on high obstacles such as walls.
- Never go inverted on an obstacle.
- Never use a technique that could result in hands, feet or head getting caught in an obstacle, e.g., running down a net, rolling headfirst down a net.
- Do not attempt moves in competition you haven't mastered in practice, e.g., skipping grips on a rig.



1.5m wall



Final wall

## 4. Training session

Like the other pentathlon disciplines, it is recommended that coaches study, analyse and gradually adapt their training routines to the characteristics of their athletes such as age group and training level.

In addition, a workload equilibrium between the different types of obstacles – upper and lower body, agility and balance – would help athletes to a quicker and safer adaptation to the new discipline.

Please see on **Table 2** an example of an obstacle training session for pentathletes. It applies the concepts presented in this document and could be a good starting point considering a full pentathlon training schedule.

**Table 2. Training sessions**

SECTION	CONTENTS
10 min warm-up	Easy jogging followed by ballistic exercises
10 min joint mobility + stretching	Joint rotations (neck, shoulders, elbows, wrists, waist, knees & ankles) Stretching mainly for the upper body
5 min grip strength + joint stability	Fingertip dead hangs Frenchie rope/towel pull up Shoulder tap Chin-ups
15 min monkey bars	With both hands in each bar Alternative single hand (2 left hand + 2 right hand) Skipping bars
15 min balance	Bosu balance barefoot (individual feet) Jumping with one foot on inverted bosu Offset steps Balance on 10cm beam
15 min rings	Dead hanging to generate swing Alternative hands Skipping rings
15 min walls	1.5m wall pull-up and leg over Techniques and repetitions on curve wall

Training obstacle will be a challenge but also an opportunity for athletes to maximise technical skills and physical attributes, and for coaches to adapt and reinvent training methodologies.

In all cases, please remember to give enough time to gradually adapt to the new training load and the implementation of the foundations. This will help to better assimilate the obstacle performance techniques and skills.



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