



LA MANGA CLUB
sport & leisure

HPSC HIGH
PERFORMANCE
SPORT CENTER



UCAM
UNIVERSIDAD CATÓLICA
DE MURCIA



WHAT IS IT?



The High Performance Sports Center in La Manga Club (CIARD) was created from an arrangement with the San Antonio Catholic University in Murcia (UCAM) to investigate, assess, monitor and advise high-level athletes and the general public about sports performance and health.

Situated in an exceptional location, La Manga Club is the place where top athletes do their preseason training. It is internationally recognized as one of the most prestigious golf, sport, and leisure resorts in Europe.



CENTRO DE INVESTIGACIÓN Y
ALTO RENDIMIENTO DEPORTIVO
HIGH PERFORMANCE
SPORT CENTER

The Catholic University of Murcia has grown considerably in recent years. It has developed its expertise in both teaching and sports research, and has become an international benchmark for university sports and sponsorship of teams and athletes.

The partnership between La Manga Club and The Catholic University of Murcia, has made this Research Center a reality based on solid foundations: experience, professionalism and quality of their services.



*Research, development,
innovation, prevention*

OBJECTIVES



The main objectives of CIARD are research, development and innovation in two areas: sports medicine (prevention of musculoskeletal and cardiovascular injuries) and the general health of the population (assessment, monitoring and advising on the state of fitness, body composition, nutrition, podiatry, etc.).

These objectives are developed with an emphasis on the prevention and alleviation of age related problems associated with the lack of sufficient physical activity (osteoporosis, diabetes, sarcopenia, etc.).





LOCATION

A natural park surrounded by coves and pristine beaches, within one of the best preserved areas of the Mediterranean coast. It enjoys over 300 days of sunshine a year, making this paradise the ideal environment to locate a luxury, specialist sports and leisure resort.

La Manga Club is located near the historical city of Cartagena in the southeast of the region of Murcia. La Manga club is easily accessible from the two local airports (Murcia - San Javier MJV, twenty minutes and Alicante ALC, an hour) and by road.

DIRECTIONS

Using the motorway from Cartagena to La Manga, take exit 8 towards Los Belones, Portman and La Manga Club, from there just follow the signs. After a roundabout, the road continues for about two miles where you will find the entrance and a sign to CIARD and Las Lomas Village 4* on your right.

DIRECT FLIGHTS - ALICANTE			DIRECT FLIGHTS - MURCIA		
Destination		T	Destination		T
Madrid		1:30	London		2:35
Barcelona		1:10	Manchester		2:45
Eindhoven		2:50	Brussels		2:45
Amsterdam		2:40	Dublin		2:50
London		2:40	Glasgow		3:00
Paris		2:15	Oslo		3:55
Berlin		2:55	Madrid		1:05
Brussels		2:40			



Mediterranean Sea

FACILITIES



The CIARD has approximately 380 square metres of facilities available for athletes to use, and is located in the same building as La Manga Club Spa. The Spa is a 2,000 square metre building that is dedicated to the health and wellbeing of the guests. There are steam rooms, saunas, jacuzzis, treatment rooms, a 25 metre pool and a gym.



The centre has the most advanced technology available for assessing an athlete's performance and health. It can make an assessment of strength, using a Humac Norm Plus® isokinetic dynamometer; an assessment of maximum oxygen consumption in the field or in a laboratory with the latest CORTEX MetaMax equipment; or an analysis of the way you walk or run using the latest generation of OptoGait analysis system.

CIARD can also do cardiac checks using an analysis of electrocardiogram and echocardiogram. These checks are carried out by specialised UCAM personnel, who have years of research experience into the prevention of sudden death.



The centre also offers contact force platforms, lactate analyser, radar and a multitude of measuring instruments with which it can extract data essential for maximizing athletic performance.

SERVICES

CARDIOLOGY

Electrocardiogram

It is advisable to perform an ECG before starting any workout plan, whether or not you are a high-level athlete or not. The electrocardiogram (ECG) uses electrical signals from your heart to detect any anomalies in its operation and record them. It is recommended that this test is repeated at least once a year.



ECG-monitored stress tests can also be carried out by a cardiologist while doing light exercise or under stress in order to detect conditions that are not apparent when at rest.



*Cardiological checks to prevent
or detect possible anomalies*



Know your stress limit

and increase your endurance

SPORTS MEDICINE

Ergospirometry

This test is a must for those taking part in endurance sports. The results help identify an individual's respiratory threshold (point at which fatigue occurs during intense exercise), maximum heart rate and peak oxygen uptake, amongst others. This provides a true indication of the physical condition of a sports person.

Although this test is primarily intended for testing physical performance, it can also be used to detect or rule out respiratory or cardiac abnormalities. This test is done using gas analysis and ECG monitoring during intense levels of exercise. The Analysis computer is portable which allows specific tests to be performed in the field.



Determining lactate thresholds

This test can detect lactate threshold, which is an athlete's limit at maximum exercise intensity. This is the point at which the oxygen reaching the muscles during exercise is insufficient to cover the body's energy needs, producing an increase in acid in the blood.

High level training can increase lactate threshold (or lactate tolerance), and therefore increase endurance.



*Optimize your power
and strength training*

BIOMECHANICS



Isokinetic strength assessment

This test measures strength in various forms (maximum strength, speed strength, power, eccentric strength, etc.) and in most of the joints of the body, using the latest generation Humac Norm Plus® dynamometer.



The purpose of these assessments is to find out the athlete's physical condition, and to detect possible muscle decomposition which might impair athletic performance or present a potential risk of injury. The report from the specialist will help to guide training to compensate for any differences found, and to know which type of training should be done to enhance physical performance.

Power curve to identify training loads

The assessment of the power curve is essential for any athlete who requires comprehensive and efficient strength training as the key to athletic performance.

Using a linear encoder power can be evaluated at different intensities in bench press and squat exercises. This evaluation can then be used to find out at what loads the athlete produces higher levels of power. Training can then be guided based on the specific objectives of their sport.



Speed and acceleration test

This test determines how long an athlete takes to travel a known distance. For this, an infrared timing system is used. These tests can be fully adapted to the specific needs of any style (straight line, changes of direction, focusing on skill or agility objectives, etc.).

Hit and throw capacity test

A performance oriented test for any sporting activity in which an object is hit, thrown or kicked (football, tennis, handball, golf, etc). Through this simple test, using the Stalker ATS radar, the maximum speed reached by an object that has been hit, thrown or kicked can be recorded.



Repeated sprint ability

In certain sports like football, the ability to perform repeated sprints and recover is critical for performance. Therefore, CIARD performs Repeated Sprint Ability (RSA) tests with the aim of determining the rate of fatigue during repeated sprints.

Vertical jump ability test

This is an extensive set of jumping activities which measures vertical jump performance. It allows a deep understanding of the physical ability of an athlete and determines which training programs need to be used to improve performance in those sports where these movements are crucial.



Rehabilitation

CIARD rehabilitation service focuses on two closely related areas: rehabilitation and injury prevention. In both cases, a specialist can analyse an athlete's weaknesses or functional deficits. An active and functional rehabilitation or prevention program can be developed, allowing any professional or sporting enthusiast to achieve their personal goals as quickly and safely as possible.

Price to be determined depending on the service.



Biomechanical study of walking and running

This study is used to find out if the way in which you step when walking or running is correct, and to see if there are any specific problems. It also serves as prevention against the occurrence of any future injuries. The service consists of an analysis of your footprint and if there is adequate overload prevention. It detects the points of greatest pressure on the sole of the foot, preventing asymmetrical loads. This analysis is complemented by an assessment of appropriate sports footwear.

Price: biomechanical study of walking – € 65

biomechanical study of walking and running – € 90



NUTRITION

Anthropometric study of corporal composition

This is the essential study into sports where weight is important. It determines body composition (proportion of bone mass, muscle mass, water, fat, etc.) depending on the weight and height of an athlete. These are principal values used to set up training objectives.

For this, an anthropometry technique is used based on the parameters set by the (ISAK) (The International Society for the Advancement of Kinanthropometry).



Nutritional and ergogenic study and advice

Another factor other than training that is critical in sports performance and health is nutrition. To have the appropriate nutrition and to acquire good nutritional habits is essential.

The nutritional experts at CIARD are able to advise and evaluate your nutritional condition. Where necessary, nutritional supplements can be recommended for any athlete who trains to a high level, and needs to complement their diet in order to maximize their performance and to reduce illnesses.

Appropriate nutrition and acquiring good nutritional habits are essential



*Renowned professionals
with many years of scientific experience
in nutrition and sports medicine*

MEDICAL TEAM



The Research Centre has professionals of national and international reputation in the field of Sports Medicine, Cardiology, Nutrition and Sports Science. They can offer advice based on years of experience and supported by scientific knowledge developed by the Catholic University of Murcia.

The team is made up of:

- 1.** A Doctor specialising in Cardiology, with extensive experience in the field of prevention of sudden death.
- 2.** Renowned Sports Medicine Specialists who are experienced in working with international level athletes.
- 3.** Physiotherapists specialising in rehabilitation and prevention of sports injuries.
- 4.** Sports science graduates that are internationally known in the world of research and training.
- 5.** Experts in Sports Nutrition and ergogenic aids.





SOMETHING FOR EVERYONE



The services of the centre are geared to both high-level athletes who want to optimise performance, as well as amateur athletes who wish to focus their training correctly. It is also aimed at anyone who wants to find out their levels of health and rule out any conditions that may create a risk to it.

The CIARD services are fundamentally orientated in the following fields:



Health and wellbeing

Designed for people who want to find out their levels of health and fitness with the interest of improving their quality of life and physical performance on a personal level (non competitive).



High level sports performance

Aimed at high level athletes who wish to have an in depth medical examination, and optimise performance with the latest technology and advice from top professionals. The main objective is not only to guide training and maximize performance, but also to rule out any health conditions that may present a risk during sporting activities.

*Top athletes, amateur athletes
and anyone interested in their level
of health and fitness*

TIMETABLE

- Monday: 3pm – 7.30pm
- Tuesday – Friday: 11am – 2pm / 3pm – 7.30pm
- Saturday: 9am – 12pm

PRICES

- All prices are in Euros with IVA included

Area	Test	Price
Biomechanical	Isokinetic strength test	65
Biomechanical	Power curve	40
Biomechanical	Jumping ability test	35
Biomechanical	Speed and acceleration test	30
Biomechanical	Service velocity test (tennis) Kicking velocity test (football)	30
Biomechanical	Agility test	30
Biomechanical	Swimming kinematic test	30
Biomechanical	Running biomechanics	70
Biomechanical	Walking biomechanics	65
Biomechanical	Walking and running biomechanics	90
Nutrition	Anthropometric	30
Nutrition	Nutritional assessment Ergogenic aid + diet	40
Nutrition	Nutritional assessment review	35
Sports Medicine	VO2max test with ECG	100
Sports Medicine	Lactate threshold test*	100
Cardiología	Exploración + ECG	30
Cardiología	Prueba de esfuerzo con monitorización ECG (sin análisis de gases)	80

The Stress Test is performed on a treadmill and cycle ergometer.
The Lactate Threshold test is performed on a treadmill, cycle ergometer or swimming.
*with gas analysis + € 50 **with a 30 minute after test + € 50



RUGBY

Rugby	
Exploration + ECG	30
Anthropometric analysis	30
VO2max on treadmill	100
Isokinetics strength test	65
Jumping ability test (23 players)	150
Agility test (Illinois) (23 players)	120
Acceleration test (10m) (23 players)	50
Power curve lower limbs/upper limbs	40
RSA and RCOD (Repeated change-of-direction) (23 players)	160

**Rugby Pack
CIARD**
(23 players)

2.600

Exploration + ECG
Anthropometric analysis
Isokinetics strength test
Jumping ability test
VO2max on treadmill

**Rugby Pack
CIARD + Field test**
(23 players)

3.500

Exploration + ECG
Anthropometric analysis
Isokinetics strength test
Jumping ability test
VO2max on treadmill
Power curve lower limbs/
upper limbs
RSA and RCOD (Repeated
change-of-direction)

**Rugby Pack
Pitch**
(23 players)

450

Jumping ability test
Agility test
(T test, Illinois)
RSA and RCOD (Repeated
change-of-direction)
Acceleration test (10m)

FOOTBALL



Football

Exploration + ECG	30
Anthropometric analysis	30
VO2max on treadmill	100
Isokinetics strength test	65
Jumping ability test (22 players)	150
Kicking velocity test (22 players)	120
Agility test (Illinois) (22 players)	120
Acceleration test (10m) (22 players)	50
Power curve lower limbs/upper limbs	40
RSA and RCOD (Repeated change-of-direction) (22 players)	160

Football Pack Field test (22 jugadores)

500

- Jumping ability test
- Kicking velocity test
- Agility test (Illinois)
- RSA and RCOD
(Repeated change-of-direction)
- Acceleration test (10m)

Football Pack CIARD (22 players)

2.500

- Exploration + ECG
- Anthropometric analysis
- Isokinetics strength test
- Jumping ability test
- VO2max on treadmill

Football Pack CIARD + Field test (22 players)

3.500

- Exploration + ECG
- Anthropometric analysis
- Isokinetics strength test
- Jumping ability test
- VO2max on treadmill
- Power curve lower limbs/
upper limbs
- RSA and RCOD (Repeated
change-of-direction)
- Kicking velocity test

TENNIS



Tennis

Exploration + ECG	30
Anthropometric analysis	30
VO2max on treadmill	100
Anaerobic endurance test	30
Agility test (lateral movement) and acceleration test	30
Agility test (hexagon test)	30
Isokinetic strength test	65
Jumping ability test	35
Service velocity test	30
Power curve lower limbs/upper limbs	40

Tennis Pack Court

100

- Anaerobic endurance test
- Agility test (hexagon test)
- Acceleration test (10m)
- Jumping ability test
- Hit speed test
- Power curve MMII

Tennis Pack CIARD

160

- Exploration + ECG
- Anthropometric analysis
- Isokinetic strength test
- Jumping ability test
- VO2max on treadmill

GOLF



Golf

Exploration + ECG	30
Anthropometric analysis	30
VO2max on treadmill	100
Isokinetic Strength Test upper limbs	65
Jumping ability test	35
Functional Assessment	40
Power curve	40

Golf Pack 1

140

Exploration + ECG
Anthropometric analysis
Functional Assessment
Isokinetic Strength Test upper limbs
Jump ability test

TRIATHLON



Triathlon

Exploration + ECG	30
Anthropometric analysis	30
VO2max on treadmill VO2max on cycle ergometer	100
Lactate threshold test on treadmill * Lactate threshold test on cycle ergometer*	100
Lactate threshold test swimming	100
Swimming kinematic test	30

Triathlon Pack 1

180

Exploration + ECG
Anthropometric analysis
Threshold with gas analysis
on treadmill
or
Threshold with gas analysis
on cycle ergometer
Swimming kinematic test

Triathlon Pack 2

220

Exploration + ECG
Anthropometric analysis
Threshold test with gas
analysis on treadmill
or
Threshold test with gas
analysis on cycle ergometer
Lactate threshold
test swimming

* with gas analysis + € 50

**with a 30 minute after test + € 50

CYCLING AND MTB



Cycling and MTB

Exploration + ECG 30

Anthropometric analysis 30

VO2max on cycle ergometer 100

Lactate threshold test on cycle ergometer* 100

Cycling and MTB Pack

200

Exploration + ECG
Anthropometric analysis
Lactate threshold test with gas analysis on cycle ergometer
30 minute test on cycle ergometer

*with gas analysis + € 50

**with a 30 minute after test + € 50

RACE AND TRAIL



Race and Trail

Exploration + ECG 30

Anthropometric analysis 30

VO2max on treadmill 100

Lactate threshold test on treadmill* 100

Running economy 70

Race and Trail Pack

180

Exploration + ECG
Anthropometric analysis
Lactate threshold test on treadmill
Running economy

* with gas analysis + € 50

**with a 30 minute after test + € 50



La Manga Club
30389 Los Belones
Cartagena, Murcia
Spain
+34 968 33 12 34
lamangaclub.com



CENTRO DE INVESTIGACIÓN Y
ALTO RENDIMIENTO DEPORTIVO
HIGH PERFORMANCE
SPORT CENTER