



INTERNATIONAL HIGH PERFORMANCE CENTER*

HANDBOOK

**Also referred to as Academies or Institutes.*

This Handbook and its contents are intended for the sole and exclusive use of the Association of Sport Performance Centers (ASPC) and the ASPC reserves and retains the sole and exclusive right to use, print, publish, replicate, and distribute this document.

The ASPC is a values based organization. We bring value to Centers and Center leadership through Forums, exchanges, sharing of information, ideas and experiences. We are a continuous learning organization where we learn from each other as we develop and advance performance sport across the world.

ASPC Mission

To provide opportunities that enhance training for high performance sport worldwide.

ASPC Vision

ASPC is an active partner with development and leadership of sport training Centers, setting the standard in the global high performance training site community.

Table of Contents

1.0	INTRODUCTION	2
2.0	HIGH PERFORMANCE CONTEXT	2
3.0	FOCUS OF AN IHPC	3
4.0	BASIC PEOPLE REQUIREMENTS	4
5.0	BASIC INFRASTRUCTURE REQUIREMENTS	6
6.0	PROGRAMMING	6
7.0	CONSIDERATIONS FOR LOCATION	10
8.0	FINANCIAL CONSIDERATIONS	11
9.0	CONCLUSION	11

1.0

INTRODUCTION

The ASPC is an umbrella organization for International High-Performance Centers (IHPC) and there are currently close to 100 Centers across the globe that are members of the ASPC. As identified in the Principles, the ASPC has a desire to share information, best practices being employed by international competitors and operating experiences to elevate the impact that Centers can have on the athletes and their coaches in a Center.

This Handbook offers general comments on the basic elements that should be considered for those desiring to create a new Center and provides general guidelines, especially for developing countries, interested in establishing a Center. It is a central point of this Handbook that support to athletes, coaches and sports would be greatly enhanced through the creation of a multi-sport Center.

2.0

HIGH PERFORMANCE CONTEXT

Succinctly, Centers are created for the purpose of supporting the development of high performance sport primarily through athlete performance and enhancing athlete preparation for signature international events. The mandate of the Center would be to enhance the training environment of the country's high performance athletes and coaches by providing them with programs and services to help them reach the podium at Olympic and Paralympic Games and World Championships.

This can be achieved directly (i.e., services provided) and/or indirectly (i.e., environment created). Centers normally include general and sport specific facilities including the human capacity to provide a comprehensive and dedicated high quality training environment that allows athletes and coaches to be able to effectively train towards international podium success. A high performance “hub” or “precinct” is formed whereby unique synergies are created when all elements of a specialized daily training environment are vlocated in close proximity.

It is further recognized and understood that:

- Medal winning performances on the international sporting stage are incredibly tough; margins between success and failure are becoming smaller each passing year.
- Multiple factors contribute to an athlete's preparation and eventual performance at major benchmark competitions.
- All the leading sport nations in Olympic/Paralympic sport use variations of facility based "high performance sport Centers" as an integral component of their national sport system to ensure athletes have every opportunity to compete with the best.
- Centers focused on sustainable international performance provide a variety of generic and sport specific training facilities, sport science and sport medicine facilities and, in some locations, residential facilities.
- Priority access for high performance with the array of services athletes and their coaches require; integrated into the daily training environment.
- The combination of world class facilities (i.e., the bricks and mortar) and the "brain trust" (i.e., knowledge/expertise of people fully integrated to deliver the programs and services) make the multi-sport Center environment very unique.
- Top performances can be a driver of national pride and inspiration for a country.

The ASPC has also developed a self-assessment tool that can be used by leaders to guide and critically assess the programs, services, operations, facilities and people development.

Above all, this Handbook is intended to support new or ASPC-affiliated Centers in the establishment or optimization of services. However, along with the ASPC self-assessment tool, it should also serve existing Centers as the basis for improvement and regular quality control.



3.0

FOCUS OF AN IHPC

The primary focus of an IHPC is to ensure the delivery of comprehensive services for elite sports. The services of an IHPC therefore also include the areas of talent search, youth sports and competitive sports required for professional sports. Which elements are actually offered in a Center depends on the Center itself. Thus, the specific nature of a Center must correspond with the central goals of the respective Center. A consistent scheme can therefore only be seen as a model or as a guide to further considerations.

The goal should be to provide “the best necessary” to meet the needs of the athletes and their coaches, not always “the best possible”. The elements need to be integrated for optimal performance impact.

Quality plays a decisive role in elite sports. Not only the athlete and the trainer, but also the supporting Centers are therefore permanently required to improve their services - in the organizational as well as in the technical field.

Succinctly, some of the basic elements of a Center include:

- A Center of excellence for the training and development of international class athletes and coaches.
 - Provision of (world-class) sport specific training facilities.
 - Support of full time (world-class calibre) coaches potentially linked to each Center.
 - Direct support from an integrated support team, which overtime, could include full time experts in sport medicine and sport science providing specific support to athlete training groups, including applied sport science research.
 - Synergy created through interaction of athletes and coaches from different sports learning best practices from each other and being motivated by the proximity to other champions.
 - Much greater efficiency by having large numbers of athletes, coaches and support staff working out of the same facility.
 - Coach education.
 - Links to high schools, colleges and/or universities for athlete education support.
 - Venue for hosting of local/national/international events.
 - Focal point for high performance sport development and activities including media and community awareness.
 - Provision of holistic support to athletes and coaches beyond just their training needs.
 - Provision of a sense of pride and affiliation for athletes and coaches of being connected to something special in support of their goals.
- In short, a Center creates a dynamic multi-sport environment, that together with sport specific experts, provides the best opportunity for athletes and their coaches to train at world class standards comparable to their competition.

Below is a brief description of the minimum or core elements of a Center.

4.0

BASIC PEOPLE REQUIREMENTS

The goal is to be able to provide all sports - relevant sciences/medicine on site as part of an IHPC. This enables high-quality and above all interdisciplinary consultation and support.

A high performance “hub” or “precinct” is designed whereby unique synergies are created when all elements of a specialized daily training environment are located in close proximity.

Expert staff are needed to lead the Center and provide the needed support services that athletes require in their daily training and preparation environment. Qualified discipline leads with experience and practice are needed.

The nature and number of staff will grow as the Centers demonstrates success. Examples include the following personnel.

Prior to opening a Center and offering the quality services needed by the athletes, there is a need to ensure appropriate staff leadership is in place. These would include:

A. President/Chief Executive/Executive Director/Manager

The President is the most senior executive position within the management structure of the Center and is responsible for providing the overall leadership and strategic direction for the Center operations to ensure the realization of objectives and long-term vision. All programs, services and initiatives

are designed and operated so as to provide the environment necessary for high performance athletes/coaches to pursue excellence and to be successful in-their life beyond sport.

Within policies determined by the Board of Directors, the President/CEO will assume primary responsibility for the programs and activities of the Center; will represent the Center as its senior officer in major negotiations with other agencies; and will develop and maintain communication and collaboration with key stakeholders.

B. Director Coach Services

The Director leads the development and delivery of programs aimed at improving the quality of coaching. The Director oversees the development of coaches and the delivery of coaching programs and services.

C. Athlete Services Manager (more than one in some cases based on number of athletes)

This position supports athletes and coaches contributing to an integrated, holistic approach to athlete development and confidence to reach the podium and beyond. Programs, services and resources are required to support personal and professional development of athletes, to enable them to learn, thrive and contribute to the community during their high performance career and life afterwards. Programs and services must be kept current and relevant to today’s athlete population.

D. Sport Science/Medicine Director

This Director will develop and implement strategic initiatives to support the performance and health of athletes and teams. Implementation of modern sport science knowledge and technologies to keep athletes healthy, enhance training adaptations, monitor training adaptations and optimize the competition environment.

E. Lead Performance Director

Leadership from a performance director (with a strength and conditioning and/or sport science background) is necessary

to connect the expertise and ensure appropriate sport specific programs are built.

F. Strength and Conditioning

Strength and Conditioning coaches (S&C) apply scientific knowledge to the training and development of athletes with the objective of improving their performance. These specialists focus on quality movement patterns required for sport specific skills in areas such as agility, balance, coordination, strength, speed and power which will improve ones athletic performance. Additionally S&C programs will assist with injury prevention as well as recovery from injury if an injury has been incurred.

Appropriately planned and prescribed programming is performance specific and utilizes scientifically-backed training methods tailored to each athletes’ body structure and sport requirements. S&C is imperative for athletes that have specialized in a particular sport. A S&C coach is essential to maximizing ones capabilities to improve performance as they are able to identify gaps in performance, specific areas for improvement and measure the athletes progress and results accurately.

G. Other

Eventually, other staff need to be employed such as: operations staff (finance/administration, human resources, communications/marketing) and scientific/medical personnel.

Other components that could be added based on need and resource availability include:

- Physiologist – testing, monitoring, program prescription
- Para specialist
- Talent identification expert
- Sport physician (could be contracted position) – offering basic health, proactive/preventive performance medicine and para medical services – massage, physiotherapy, chiropractic, osteopath.

5.0

BASIC INFRASTRUCTURE REQUIREMENTS

The infrastructure area is divided into several subareas.

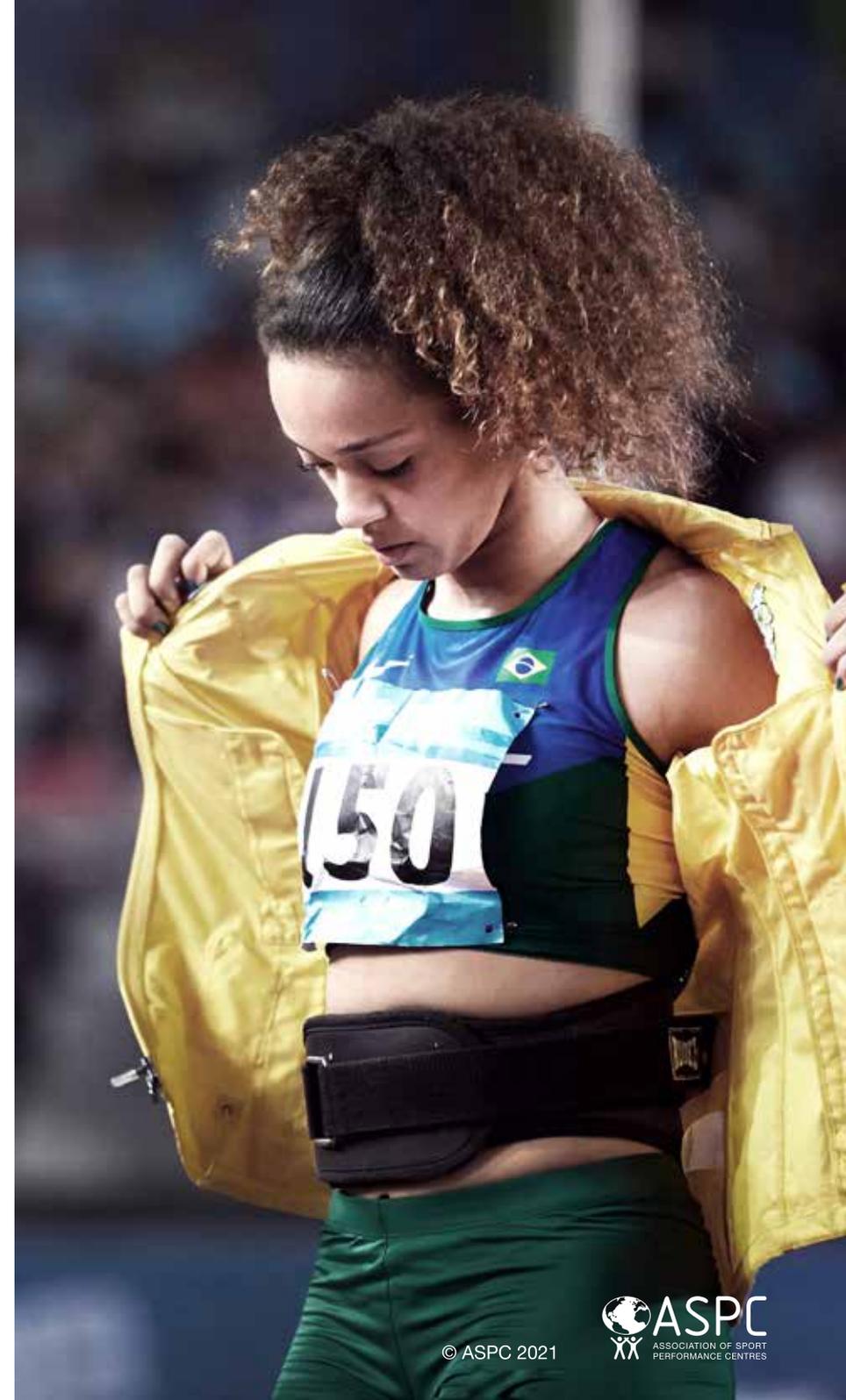
Dedicated facilities will be needed for:

- Office/administration needs.
- Sport science/medical clinic, labs, administration space
- Recovery/regeneration area (hot/cold, cool down, sauna, steam bath and other modalities)
- Core generic sport facility needs such as gymnasium, resource Center, etc.
- Classrooms
- Video technology capability (equipment, workstations, viewing rooms, etc.)
- Nutritional Support (performance based meals and/or advice available)
- Resource Center
- Strength and Conditioning facility/equipment
- Generic/multi sport training areas
- Sport specific facilities
- Housing/accommodation

Other facility components that could be added based on need and resource availability include: (these may be available through partnerships within the local community).

- a. Training/competition venues (specific to sports) important to the Center
- b. Education – arrangements with educational institutions for high school and post secondary education.
- c. Medicine – examination rooms

A key requirement is, in addition to the appropriate infrastructure, the staff. Along with subject-specific university education, many years of practical experience and, above all, sports-specific expertise is required.



6.0

PROGRAMMING

The programs and services offered will be dependent on the expressed needs of the athletes and their coaches and should be focused and customized to the client athletes and training groups.

An educational theme should permeate the Center with the desire to always elevate the athlete's knowledge and understanding of their training programs and the provision of educational opportunities for the athletes to prepare for their career outside and beyond their sport career. Some examples include: Dual Career offered in the EU, GamePlan for Canadian athletes, IOC Athletes 365 and Australia's mental health and athlete well being.

Scientific support is an essential part of a high-performance center. Decision must be informed by evidence. Top experts from all sport-specific scientific areas must be integrated in the central support team for coaches and athletes. Training and competition support based on scientific knowledge and experiences in combination with scientific research must be the main focus for the expert team.

Baseline profiles in many areas are needed to ensure the athletes, both on the field of play and in training are healthy and safe. Athletes must be fit to train and fit to compete.

The following list of basic activities in the various scientific areas shall provide an overview of the fundamental requirements.

A) Sport Medicine

Sport medical support is indispensable in training and competition. Regular determination of the health status, the performance level and the resilience of athletes are necessary.

This area ensures the medical needs of the athletes are attended to and can be coordinated by a medical professional (e.g. physiotherapist) and not necessarily a medical doctor. A healthy baseline is the foundation to performance improvement.

Personal requirements:

Priority access to physicians with sport-specific education, medical support personal for lab and field, medical specialists (orthopedic, internal medicine, surgery, dentist, gynecologist, etc.), physiotherapist.

Cooperation with external specialist and/or hospitals is recommended.

The following list of activities in the medical field is required:

- Health tests (including internal, orthopedic, blood, metabolic checks)
- Performance tests (e.g. (spiro-) ergometry with ECG, lactate, etc.)
- Muscle function tests (e.g. FMS-tests)
- Physio-tests (injury prevention and rehabilitation)

B. Regeneration / Recovery

Regeneration is an essential part of high-performance training. Physiotherapy and/or massage are part of daily training.

Physiotherapist and/or massage should have sport specific education and essential knowledge about training and regeneration.

The following equipment is useful:

- Massage- and/or Physio-Rooms
- Sauna, steam bath
- Cryochamber
- Warm-water Pool
- Relaxation rooms
- Specific equipment (e.g. ultrasound, light, relaxation music, etc.)

C. Anthropometry

Anthropometry is not only essential in all weight class sports, but also an important tool to follow the body changes during training and competition. Anthropometric data are basic information for nutritional advice.

Anthropometry is also an important part in the field of talent diagnostic.

The following tests are important:

- Body composition (muscle, fat, bone)
- Somatotype (sport/discipline specific)
- Talent diagnostic (X-ray, bone age, biological age)

D. Sport Sciences

Sport scientists are the most important supporters for athletes and coaches. Their job is to provide essential and practice-relevant information to the coaches. A close and trustful cooperation between coaches and scientists is important.

Sport scientists have to follow the developments and changes in sports and provide regular updates to the coaches.

The following tasks are important:

- Sports and discipline analysis (performance determining factors)
- Performance diagnosis (lab and/or field tests, e.g. sport motoric tests, sport specific tests, video-analysis)
- Performance and training analysis and optimization
- Biomechanics (e.g. motion analysis)
- Planning and periodization of training

The necessary equipment depends on the specific sport. A close cooperation between lab and field specialists is important.

E. Nutrition Sciences

Nutrition scientists and/or dieticians are important supporters especially in weight class sports. Proper nutrition influences performance and also regenerations strategies.

The following tasks are important:

- Basic sport-nutrition education (e.g.in-house-cooking)
- Nutrition analysis/profile
- Sport specific nutrition (training, competition, weight)
- Supplementation

F. Sport Psychology

The role of sport psychologists and mental performance experts in high performance sport is very important. The desire of athletes and their coaches to access psychological support is growing.

The following tasks are important:

- Psychological diagnosis (stress, regeneration, competition)
- Psychological regulations (relaxation program)
- Psychological techniques for competition
- Psychological and social measurements in teams (e.g. team building, team culture)
- Athlete mental health and wellbeing

G. Sport Technology

Sport technology plays an important role in elite sports. New technologies, testing devices, video-software, training equipment, etc. are an essential part of training and performance optimization. Close cooperation with universities and biomechanic scientists is important. Specific to new innovations in technology the focus should be on implementing and/or developing new equipment and learning that has a performance impact.

The following tasks are important:

- Development and use of new training equipment
- Development and use of new testing/monitoring equipment

- Development and use of new software (e.g. training and competition documentation and analysis)

Further, it will be important to adopt a robust CRM system (Customer Relationship Management) to be able to register and monitor the athletes – their training, their progress, services accessed, their participation in educational events etc.

In compliance with local privacy legislation, the CRM selected needs to be able to measure progress, not just the outcome (ie. medals) and that support to athletes should reflect the age and stage of development.

H. Educators

Education is a very important part in the career of coaches and athletes. A department for education should be included in a high-performance institute, focusing on Dual Career as fundamental for the success of the athlete's lifetime, but also on further education for coaches and Center staff. Education must offer a mix of on-line and in-person opportunities.

ASPC can share their experiences, proven practices and knowledge based on long time experiences and expertise accumulated by ASPC members.

The following tasks are important:

- Education on main topics in sports
- Anti-Doping education
- Further education for coaches and support personnel
- Dual education concept for younger age category athletes
- Dual education concept for elite athletes

The professional noted above must work together in an integrated and multi-disciplinary manner as they endeavor to elevate the performance of the athlete and work collaboratively to remove all barriers that inhibit performance such as sleep, recovery, musculo-skeletal function, injury history etc.

Initially, an individual may lead an area, but it will be important to facilitate the development of a small group within each discipline as sports and athletes benefit from different people and expertise. Thus, the programs and services noted above can be scalable as new athletes and teams are added to the IHPC.

7.0

CONSIDERATIONS FOR LOCATION

In developing and operating facility-based Centers the following principles have consistently been referenced by sports and stakeholders as critical to achieving long-term success:

- That the location of a Center must be predicated on the needs of a critical mass of identified sports, athletes and coaches. Factors such as sport culture, sport specific needs, access to facilities, climate, traditional links of certain sports to certain regions, community interest, language and partnership potential must be considered.
- That a Center be located at a facility hub that has priority access to world-class sport specific training facilities, as well as general training facilities.
- The notion of investing in quality people as a priority, balanced with appropriate resourcing of the physical component of the Center.
- That world-class calibre coaches are hired full time at the Center, to devote their full attention to the training and development of the athletes.
- Access to expert sport medicine and sport scientist specialists dedicated to the sport system (including appropriate clinic and lab operating space at the Center).
- That Centers be developed with a partnership approach to maximize and leverage resource opportunities and be cost effective.
- Centers must be the location and provider of best practices in high performance sport training, including the ethical pursuit of excellence.
- Centers should focus on supporting a smaller number of core sports but play a stronger developmental role with those sports.
- Centers must be properly resourced with sustainable and consistent financial support to manage the on-going operational costs.
- Centers are centrally coordinated and linked to the national high performance sport council/agency/organization.
- That Centers play a major role in community sport development and assist in the proper pathway development of youth in sport in their province/region.
- That Centers maintain their service provider networks to be able to provide services on an outreach basis to qualified high performance athletes and coaches not able to train at the location of the Institute, as well as possibly provide support to developing athletes if resources are made available.

8.0

FINANCIAL CONSIDERATIONS

It is understood that the pursuit of excellence is difficult, it is long term, and it is expensive. To achieve new challenging performance targets, partners must invest properly in the components required to achieve such success.

Centers need to be properly resourced with sustainable and consistent financial support. Centers are an integral element of a sophisticated sport system that partners with sport federations, to deliver the required world-class, expert driven training environment needed by the athletes and coaches to achieve podium results.

In addition to the above referenced people/expertise costs and facility costs, there will be ongoing operational costs for items such as:

- Facility operation/maintenance
- Coaching salary and expenses (possible partnership with sports)
- Administration/Programming
- Equipment
- Research and innovation

Thus, the investment in a Center(s) must be considered a priority for the countries sport system given the enhanced scope of support that will be provided to athletes, coaches and sports. The Center can be developed with a partnership approach to maximize and leverage resource opportunities and be cost effective.

On a partnership basis, revenue may be also generated from a variety of sources such as:

- Partnership with Government (local/national)
- Local partnerships (universities/colleges, recreation, municipal)
- Public-Private Partnerships
- Private sector sponsorship/fund development strategy
- Contribution from user sports
- Community programming (shared community usage with high performance)

9.0

CONCLUSION

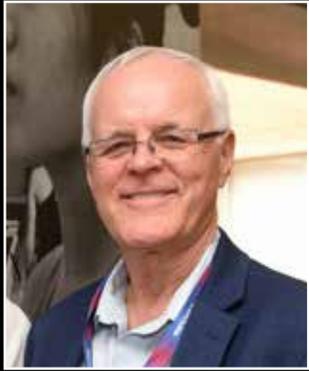
This information is provided as foundational suggestions for those seeking to establish a true high performance center and an environment that offers the additional support and services the athletes and their coaches require to continually become better as performers and as people. The science and medicine team does NOT and CANNOT replace quality coaches.

The psycho-social requirement for successful scientists in sport is to accept the role of a supporter and thus provide the best possible information and knowledge to the coaches and their athletes.

A high-performance center is not and should not be a university. A high-performance center shall use the knowledge and experience of universities, sciences research institutes, etc. and therefore be a cooperative partner.

The information shared in this document, and/or information gathered from other sources must be applied in context to the relevant circumstances, culture and environment of a given location. It needs to be customized to the environment and be practical and realistic.

CONTACT



Dale Henwood:
henwood@shaw.ca
+1 587.999.0970
<https://www.linkedin.com/in/dale-g-henwood>



Johann Holdhaus:
johann.holdhaus@chello.at
+43-664-3570419

ASPC:
Association of Sport Performance Centres
<https://sportperformancecentres.org>

