

# Sports Psychiatry

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Journal of Sports  
and Exercise Psychiatry

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# Sports Psychiatry – Journal of Sports and Exercise Psychiatry

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The development of sports psychiatry started around the early nineties [1]. In 1994, the *International Society of Sports Psychiatry* (ISSP) was founded, the first sport psychiatric society [2].

Ira Glick, Todd Stull and Alan Currie (2022) describe in their article and in this first issue of *Sports Psychiatry – Journal of Sports and Exercise Psychiatry* the remarkable development of sports psychiatry in the United States and internationally in the last three decades, which we are very pleased and honored of [3].

Since the beginning of this century, sports psychiatry has also developed rapidly in the German speaking countries in Europe, and various sports psychiatric networks have formed, e.g., a department within the German Association for Psychiatry and Psychotherapy, Psychosomatics and Neurology, as well as national societies for sports psychiatry in Switzerland, Germany and Austria.

The *Swiss Society for Sports Psychiatry and Psychotherapy* (SSSPP) was founded in 2019 as the first national society for sports psychiatry [4]. The purpose of the SSSPP is to promote sports psychiatry and psychotherapy over the lifespan in Switzerland, in competitive sports and in the general population.

The launch of *Sports Psychiatry – Journal of Sports and Exercise Psychiatry* will take place with the first *International Conference on Sports Psychiatry* (ICSP), which will be held online on January 14–15, 2022 [5]. This first issue of *Sports Psychiatry* contains the abstracts of the ICSP 2022.

## Sports psychiatry and fields of activity

Today, physical activity in prevention and therapy of mental illnesses as well as mental health issues in competitive

sports are established areas in sports psychiatry [6]. Other frequently considered interests for sports psychiatry are sports-specific mental diseases in popular sports [7].

Sports psychiatric issues could be also found in the field of sports medicine [7], as well as in paramedical disciplines such as clinical psychology, sports and exercise psychology, and sports and exercise science. The knowledge and skills of these disciplines are paramount in the interdisciplinary and interprofessional approach to sports psychiatry and for sports psychiatrists.

Therefore, sports psychiatry should further be developed (i) as a subspecialty of child, adolescent and adult psychiatry, (ii) in the field of sports medicine and (iii) in close cooperation with paramedical disciplines [4, 7].

In the conception of *Sports Psychiatry*, we have considered this interdisciplinary and interprofessional approach.

## Launch of Sports Psychiatry

While the attention to the field of sports psychiatry has increased significantly in recent years, up to this date there is no corresponding specialist journal. This fact renders it difficult to publish articles in the field of sports psychiatry as well as making them visible to the proper target group.

The aim of the SSSPP was to create an international journal and thus targeting the greatest possible visibility and dissemination of publications in all aspects of sports psychiatry.

Accordingly, the journal's contents will be international, as will be its Editorial Board. With the launch of the journal, the Editorial Board will be continuously enlarged and completed with renowned international clinicians and scientists in the field of sports psychiatry. Likewise, the various networks and societies for sports psychiatry will be approached for support of the journal.

Interested professionals, as well as networks and societies who want to participate are more than welcome and could also contact the Editor-in-Chief directly.

## Aims and Scope

*Sports Psychiatry – Journal of Sports and Exercise Psychiatry* is an international open access, peer-reviewed journal providing a platform for advances in all aspects of sports psychiatry, including but not limited to the diagnosis, management, therapy, and prevention of mental disorders in competitive and popular sports, as well as to physical activity, exercise and sport in the prevention and treatment of mental disorders.

The journal's aim is to publish high-quality original research articles, consensus statements, meta-analyses, reviews, editorials, and commentaries for a wide audience of healthcare professionals and researchers interested in the field of sports psychiatry. *Sports Psychiatry* is the first specialist journal in the field of sport psychiatry.

## Key Data of the Journal

The publisher Hogrefe AG will hold the title rights of *Sports Psychiatry – Journal of Sports and Exercise Psychiatry*, as part of its journal portfolio.

Target audiences of *Sports Psychiatry* are sports psychiatrists, child and adolescent psychiatrists, adult psychiatrists, sports physicians, paediatricians and general practitioners, clinical psychologists, sports/exercise psychologists, mental trainers and other professional coaches, exercise therapists, physical therapists and sports physical therapists, sports/exercise scientists, other disciplines, plus sports organizations and associations.

The scope of the journal is four issues per year with 5–6 articles plus editorial. As the journal is being established, abandoning the issue structure will be considered and articles will be published continually, aiming at a timely publication of submitted work.

Manuscripts are welcome at any time and should be submitted with Editorial Manager®. The journal language is English, and only manuscripts in English will be considered.

Initiatives for special issues and topics are also welcome at any time.

## Sponsoring

Sponsoring, e.g., from institutions, foundations or companies are always welcome and will help us to support all who do not have access to article processing charge (APC) funding.

Currently, there is a waiver program in place, mainly sponsored by Hogrefe AG. Additionally, the SSSPP also supports the journal financially.

## Outlook

We are very grateful for the possibility to develop the first journal in the field of sports psychiatry and we are looking forward to providing a platform for advances in all aspects of sports psychiatry.

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### Author note

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# Development of sports psychiatry in the United States and internationally

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We are honored to describe the development of Sports Psychiatry in the USA and globally for the first issue of *Sports Psychiatry*. Our aim is to give 1) a succinct overview of the field focusing on its history, maturation and current status, 2) the role of the sports psychiatrist and 3) developments internationally.

In the last three decades the literature has detailed founding objectives, definitions of what a sport psychiatrist *is* and what a sport psychiatrist *does* – plus some of the reasons why they have been excluded from “Sports Medicine” [1, 2]. We now think of the range of sports psychiatry as a medical, psychiatric-psychologic-mental health discipline with a neuroscience and integrated medication and psychotherapeutic foundation. The literature details diagnosis and treatment for amateur and elite athletes, youth and adult sports, men and women, teams (and their support staff, trainers, and coaches) and leagues in both individual and team sports. It describes a) models of intervention, b) the range of treatments (psychotherapy, medication, skills and performance interventions), c) range of treatments for symptoms, disorders, and diseases – as well as d) transitions like retirement, problems like cheating, and the evolution of the field to achieving a full role as part of the Sports Medicine team [1, 2, 3].

## Development of the sports psychiatry field in the USA

In the early 1990s, a half-dozen psychiatrists working with athletes over the USA began to work together and founded the International Society of Sports Psychiatry (ISSP). The group defined the field, its objectives, and its evolution over

the next three decades [2]. Initially, it was defined as “sports psychiatry is the application of the principles of, and the function of psychiatry to the world of sports.” As such, the group aimed to move from its position outside of the sports medicine field, as they had been viewed as working in “mental health”, rather than “physical health”, i.e. the brain. The emphasis was to work with the “brain and mind” in relation to the issues, problems, symptoms, disorders and diseases associated with the world of sports [4]. The Sports Psychiatrist is now increasingly viewed as a physician who diagnoses and treats:

- problems, symptoms or disorders associated with an athlete,
- or with the athlete’s family/significant others,
- or with the athlete’s team,
- or with the athlete’s sport, e.g. TBI in football or doping in cycling in order to bring the athlete to optimal health and performance.

As the role of sports psychiatry has expanded, its clinical repertoire has increasingly incorporated performance-enhancing methods. Sports psychiatry also has become involved with the broader range of the field with such topics such as performance-enhancing substances (PESs), substance use disorders, concussion/TBI and cheating [3].

In 2018, the International Olympic Committee (IOC) has for the first time convened a consensus meeting on “mental health in elite athletes”, bringing together experts from a variety of medical and other fields [5, 6]. There has been much new activity in the professional sports leagues in setting up a network of “mental health” providers working with teams [7].

## Role of the sports psychiatrist [8]

A sports psychiatrist is a fully trained physician, who has attained specialty postgraduate training and experience in psychiatric and substance evaluations; they are trained in the treatment of emotional, cognitive, and behavioral symptoms seen in athletes. Sports psychiatrists have a broad range and depth of training and can provide a biopsychosocial and cultural formulation to care and deliver a full range of treatment options. The medical training of a sports psychiatrist provides a unique conduit between sports medicine and mental health providers and other members of the integrated sports team (IST). A sports psychiatrist often operates with a consultation and team (community) model to actively provide or lead in implementing shared care and management of treatment goals with other clinicians. Skills are applied, adapted, and contextualized specifically for developmental stages and settings ranging from beginning to high-performance sports environments. The primary role of the psychiatrist is help – provide clinical psychiatric care to the athletic community that supports the health, well-being and performance of athletes and teams.

Sports psychiatrists benefit from having a working knowledge of the roles of various individuals within the IST. The IST is designed to work with individual athletes and teams within a given sport. Each sport has a unique set of requirements needed to excel and perform optimally. The psychiatrist is best equipped to have a working knowledge of the multidimensional nature of the athlete's life and the roles, responsibilities, terminology, and understanding of sports and how each individual or area functions. The sports psychiatrist needs to have a strategy to communicate within the IST and effectively implement recommendations.

The sports psychiatrists can help a team/organization create a list of screening tools to use in identifying those athletes who may need further evaluation for a substance use or other psychiatric disorder. A part of this process ideally should include education to create an understanding of mental health and substance-related issues and how they are identified, evaluated, treated, and managed.

Finally, the treatment approach should always start with a diagnostic evaluation and workup to rule out medical causes for psychiatric symptoms and disorders. An integrated multidisciplinary treatment approach that includes psychotherapy coupled with psychopharmacotherapy, if indicated, should follow.

## The international perspective [9, 10, 11, 12]

Outside of the USA, there has been significant growth in sport psychiatry in the last two decades with many in the

field looking to the ISSP for support, guidance, and leadership. In the early 2000s for example, sports psychiatrists in central Europe began to collaborate and to share ideas in the science and practice of sports psychiatry and to publish in the field [10]. Later, in 2016 in the United Kingdom, a sport and exercise psychiatry group was formed and now has over 1000 members, several of whom have gone on to accredit themselves with the ISSP certificate in sports psychiatry. This group advocates not only for improved mental health within sport, but also for the incorporation of sport, exercise, and physical activity into mainstream mental healthcare to improve the mental health of everyone. The UK group meets twice per year for a scientific and clinical conference and its members have published two books while contributing to many others [9, 10, 11].

In 2019, the English Institute of Sport (EIS) appointed two psychiatrists to a panel to advise on policy and practice in high performance sport and to support the IST. There has been much collaboration between the EIS and colleagues in Australia who provide mental healthcare to the Australian Institute of Sport (AIS) and where there is growing acceptance of the value of the psychiatrist on the IST in many sports. There are many other examples from around the world, for example Brazil where the seeds sewn by the ISSP in the early 1990s have scattered and flourished as we move towards a time where athlete mental healthcare is on a par with physical healthcare.

## Summary and conclusion

Over the past three decades the Sports Psychiatry field has grown to take its place as an integral part of Sports Medicine. Teams of the old and young, for men and especially for women, have understood the necessity of having a sports psychiatrist as part of the medical team. As such, there is now increasing development of both research on the effectiveness of treatment as well as to determine the basic epidemiology of the field, e.g. incidence and prevalence associated with athletes.

Problems for the field include overcoming stigma associated with psychiatric illness, ensuring that our specialists are adequately trained (ISSP offers certification in Sports Psychiatry), and encouraging controlled research in order to have an evidence base for what we do.

Countries including Germany, Switzerland, Brazil, Canada, United Kingdom, Australia, and New Zealand, as well as in the USA, have started to connect their physicians and their organizations to advance the field.

The future is expanding globally with increasing focus on the “mental and physical health” of athletes before, during, and after their careers on and off the field. We view the expanding involvement of Sports Psychiatry into Sports



Medicine as a very positive and a gradually increasing evolution [13].

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# 1<sup>st</sup> International Conference on Sports Psychiatry (ICSP)

January 14–15, 2022

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We welcome you to the 1<sup>st</sup> International Conference on Sports Psychiatry (ICSP). The conference will be held online on January 14–15, 2022. Initially, the conference should take place on site at the Psychiatric University Hospital Zurich and in part online. Due to the COVID-19-Pandemic restrictions we had to adapt the ICSP 2022 to an online-only format at the end of November, 2021.

The 1<sup>st</sup> ICSP was initially scheduled for January 2021, but also due to the COVID-19-Pandemic we had to postpone the conference. We are very pleased that nearly all speakers who committed to the conference in 2021, also agreed to present one year later at the ICSP in 2022. Moreover, several speakers submitted an abstract for the ICSP 2022, and all these abstracts, respectively lectures and courses could also be considered. To be on the safe side, we decided to use from the beginning for the ICSP 2022 a hybrid format. For that reason, is uncomplicated to react on the worsening of the COVID-19-Pandemic in November.

All abstracts are available in this first issue of *Sports Psychiatry – Journal of Sports and Exercise Psychiatry* [1].

## Swiss, German and Austrian Societies for Sports Psychiatry

There is a close cooperation between the three German speaking societies for Sports Psychiatry.

The ICSP 2022 is under the auspices of the Swiss Society for Sports Psychiatry and Psychotherapy in cooperation with the German Society for Sports Psychiatry and Psychotherapy and the Austrian Society for Sports Psychiatry

and Psychotherapy. The 1<sup>st</sup> ICSP is also the first joint annual meeting of the three societies.

In 2021 the Austrian Society for Sports Psychiatry and Psychotherapy was founded, and as a positive effect of postponing ICSP to 2022, the colleagues from Austria could participate at the conference.

The next joint annual meeting of the three societies will likely take place 2023 in Germany, one year earlier than the 2nd ICSP, and perhaps other (newly founded) societies for sports psychiatry will join and will in the future organize their annual meeting in collaboration with the Swiss, German and Austrian Societies for Sports Psychiatry.

In 2024 the 2nd International Conference on Sports Psychiatry will again take place in Switzerland. As soon as the venues and exact date are set, they will be announced on the web site of the Swiss Society for Sports Psychiatry and Psychotherapy [2].

## ICSP 2022 Program – Day 1

Day 1 will focus on the importance of physical activity for mental health and on the treatment of patients with psychiatric disorders (see Figure 1). In a symposium and in various courses, different aspects of physical activity in the prevention and therapy of mental illnesses will be discussed.

On day 1 there is also a focus with one lecture and one separate course on sports-specific mental illnesses in popular sports, as well as with one course on the education and training in sports psychiatry.

Between the symposium and the courses, the general meetings of the Swiss, German and Austrian Societies for Sports Psychiatry will take place, and for those, who do

Day 1: January 14, 2022

9:15 AM	<b>Welcome</b> Erich Seifritz, Malte Christian Claussen
9:30 AM	<b>Symposium I: Sports and Exercise</b>  Chair: Ulrich Michael Hemmeter
<u>Physical activity in prevention and therapy of mental illnesses</u>	
9:35 AM	<b>Physical activity for prevention and treatment of depression</b> Christian Imboden
10:05 AM	<b>The potential of physical activity to reduce cardiovascular disease risk and excess mortality among patients with depression</b> Markus Gerber
10:35 AM	<b>Physical activity as a vital sign – assessment of physical activity in psychiatric patients at the Charité in Berlin</b> Jannik Roempler
<u>Sports-specific mental illnesses in popular sports</u>	
11:05 AM	<b>The muscular ideal. Body image, diet, and exercise behavior</b> Robin Halioua
11:35 AM	Break
11:45 AM	<b>Member Meetings</b>
Note: The Member meetings of the Swiss, German and Austrian Societies for Sports Psychiatry take place separately.	
1:00 PM	Lunch break
1:30 PM	<b>Course I: Sports and Exercise / Education and Training</b>
<u>Physical activity in prevention and therapy of mental illnesses</u>	
Course I.1	<b>Effects of body-oriented yoga in depression</b> Miriam Bieber, Esra Görgülü, Viola Oertel
Course I.2	<b>Physical activity coaching: How can behavior change be achieved by individual remote-based telephone coaching?</b> Robyn Cody, Jan-Niklas Kreppke, Oliver Faude, Markus Gerber
Course I.3	<b>Chronotropic incompetence of the heart is associated with exercise intolerance in patients with schizophrenia</b> Karl Baer, Andy Schumann, Marco Herbsleb
<u>Education and training in sports psychiatry</u>	
Course I.4	<b>Curriculum Sports Psychiatry – development, implementation and out view</b> Carlos Gonzalez Hofmann, Malte Christian Claussen
2:45 PM	Break
3:00 PM	<b>Course II: Sports and Exercise</b>
<u>Physical activity in prevention and therapy of mental illnesses</u>	
Course II.1	<b>Perspectives in exercise/movement therapy and how they influence contents and methods in therapeutic practice</b> Katharina Alexandridis, Jannis Alexandridis

**Figure 1.** Schedule and Program of the 1<sup>st</sup> International Conference on Sports Psychiatry (ICSP), January 14–15, 2022, Day 1.

Course II.2	Trainers of the voluntary sports group for individuals with psychiatric disorders: Who are they? Epiney Florence, Nikolai Kiselev, Daniela Loosli, Frank Wieber
Course II.3	Sports psychiatric effects in prevention and treatment of dementia Theofanis Ngamsri, Alexander Schrenker, Ulrich Michael Hemmeter
Sports-specific mental illnesses in popular sports	
Course II.4	Image and performance enhancing drugs in leisure sports Samuel Iff, Ingo Butzke
4:15 PM	Break
4:30 PM	Keynote I Development of sports psychiatry in the United States and internationally Ira D. Glick
5:30 PM	Closing of day 1

**Figure 1.** Schedule and Program of the 1<sup>st</sup> International Conference on Sports Psychiatry (ICSP), January 14–15, 2022, Day 1. (continued)

not participate at one of the general meetings, there will be an opportunity for physical activity.

At the end of the first day, we are very pleasure to welcome Professor Ira Glick as the first ICSP 2022 Keynote, and we refer to his editorial “Development of Sports Psychiatry in the United States and Internationally” who is published in this first issue *Sports Psychiatry* [3].

### ICSP 2022 Program – Day 2

During day 2 of the ICSP 2022, we will focus on competitive sports (see Figure 2). In a symposium and in various courses, we will be concentrating on different aspects of mental health issues in competitive sports.

As further keynotes of the ICSP 2022, we are also very pleased to welcome Professor Vincent Gouttebarga, who will discuss in this lecture injuries and mental health symptoms in professional football, and Professor Alan Curie, who will give an overview on sports psychiatry in the United Kingdom and with the International Olympic Committee.

In addition, Professor Gouttebarga and Professor Curie will discuss in a course the question “If exercise is good for your mental health, then why it is risky to be an athlete?”.

From the United States we are also very pleased to welcome Shane Creado, who will give a course on “Sleep for the sports psychiatrist”.

Finally, we would like to thank all speakers for their involvement and support in realizing the 1<sup>st</sup> International Conference on Sports Psychiatry.

### Wishes and information

We wish you a successful congress and also with the only-online format stimulating contacts and discussions.

Further information on the ICSP 2022 can be found on the congress web site [4]. If you have any questions you can also contact the congress secretary at [info@kongress.sgssp.ch](mailto:info@kongress.sgssp.ch).

### Outlook

Our hope is to establish this new conference and meeting format as a regular format to promote networking and exchange in sports psychiatry.

Further information on the ICSP 2024 will be announced on the web site of the Swiss Society for Sports Psychiatry and Psychotherapy. We hope, that we could welcome you in 2024 in Switzerland.

See you also at the 2nd International Conference on Sports Psychiatry in 2024.

## Day 2: January 15, 2022

9:00 AM	<b>Symposium II: Mental Health Issues in Competitive Sports</b>
	Chair: Malte Christian Claussen
9:05 AM	<b>Risk of post-traumatic stress symptoms in alpine sports</b> Christian Mikutta
9:35 AM	<b>Gaming and gambling in competitive sports</b> Tobias Freyer
10:05 AM	<b>Sports psychiatric diagnosis in competitive sports – a structured, multistage diagnostic procedure for mental disorders in competitive sports</b> Carlos Gonzalez Hofmann
10:35 AM	Break
11:00 AM	<b>LGBTQI* and sport – what does this mean to sports psychiatry?</b> Andres Ricardo Schneeberger
11:45 AM	<b>Keynote II</b>
	<b>Injuries and mental health symptoms in professional football</b> Vincent Goutteborge
12:30 AM	Lunch break
1:30 PM	<b>Keynote III</b>
	<b>Sports psychiatry development in the UK and with the IOC</b> Alan Currie
2:15 PM	Break
2:30 PM	<b>Course III: Mental Health Issues in Competitive Sports</b>
Course III.1	<b>Sleep for the sports psychiatrist</b> Shane Creado
Course III.2	<b>Brain injuries in competitive sports – when both the brain and the psyche are affected</b> Antonella Palla, Maryse Dewey
Course III.3	<b>Psychodynamics in competitive sport: Case studies and discussion</b> Valentin Z. Markser, Laura Barta, Alexander Chedron
3:45 PM	Break
4:00 PM	<b>Course IV: Mental Health Issues in Competitive Sports</b>
Course IV.1	<b>If exercise is good for your mental health, then why it is risky to be an athlete?</b> Alan Currie, Vincent Goutteborge
Course IV.2	<b>Overtraining in sports psychiatry</b> Alexander Schorb
Course IV.3	<b>Sports Vision – experience-oriented course in sports optometry</b> Pascal Abegg, Marcel Ivan Raas
5:15 PM	Closing of the ICSP 2022

**Figure 2.** Schedule and Program of the 1<sup>st</sup> International Conference on Sports Psychiatry (ICSP), January 14–15, 2022, Day 2.

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# Abstracts

of the 1<sup>st</sup> International Conference on Sports Psychiatry (ICSP), January 14–15, 2022

## A1

### Physical activity for prevention and treatment of depression

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#### Introduction

Physical activity has shown an array of benefits in the prevention and treatment of depression. Several meta-analyses have been published up to date. In our review we aimed at summarizing the body of evidence based on meta-analyses.

#### Materials and methods

We conducted an umbrella review of meta-analyses on (i) the effects of exercise therapy as treatment for depression in adults, older adults, children and adolescents and during the peripartum period; (ii) preventive effects of physical activity (PA) on incident depression and (iii) effects of regular PA on depression or depressive symptoms associated with various physical diseases. Our PubMed-search yielded a total of 55 meta-analyses falling under the scope of this umbrella review [1].

#### Results

Aerobic, resistance or combined exercise regimes for several weeks as well as mind-body exercise such as yoga have shown to have significant moderate effects on depression severity in adult patients including the elderly [2,3,4]. The effects diminish if only high-quality studies are analyzed but still reaches the magnitude of other efficacious

treatments such as psychotherapy or pharmacotherapy [2]. Additionally, exercise has shown positive effects on insomnia [5], cardiorespiratory fitness [6], and quality of life in depressed patients [7]. In children and adolescents and during the peripartum period, exercise interventions have shown to have small-to-moderate effects; studies varied in methodology and methodical quality could be improved [8]. Regular PA has shown to prevent depressive episodes in adults (reducing odds by 17 to 21%) [9]. In children and adolescents, the effect tends to be smaller [10]. Across 15 meta-analyses in samples with various physical diseases, exercise-treatments have shown to have positive effects on depressive symptoms in general chronic conditions, cancer survivors, post-stroke depression, neurological and cardiovascular disorders, diabetes, chronic kidney disease, arthritis and adults living with HIV [1].

#### Discussion

Physical activity has shown a wide range of benefits for depression and depressive symptoms in at-risk populations. Further research is needed to find optimal dose and duration of exercise-treatment, identify mediating factors and methods to increase physical activity in psychiatric populations and patients with chronic diseases in a sustainable way.

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## A2

### The potential of physical activity to reduce cardiovascular disease risk and excess mortality among patients with depression

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#### Introduction

Major depression is one of the most prevalent psychiatric disorders worldwide [1] and is characterized by a high level of comorbidity with other physical conditions [2]. Currently, research on the potential of physical activity to reduce cardiovascular disease risk and excess mortality among patients with depression is scarce.

#### Materials and methods

We will present the findings of a recent umbrella review, in which we examined the associations between depression and excess mortality, cardiovascular diseases (CVD), and CVD risk factors [3]. Existing meta-analyses were identi-

fied via PubMed. Myocardial infarction, coronary heart disease, stroke and hypertension were included as CVD outcomes. CVD risk factors were metabolic syndrome, diabetes and overweight/obesity. Moreover, we will present preliminary findings from the PACINPAT randomized controlled trial [4], in which we assessed physical activity, cardiorespiratory fitness levels and cardiovascular risk markers (blood pressure, heart rate variability, body composition, cholesterol levels, triglycerides, and HbA1c) in approximately 250 in-patients with moderate-to-severe depression and 150 healthy controls.

#### Results

In the umbrella review, 14 meta-analyses were included for excess mortality, 15 meta-analyses for CVD, 5 meta-analyses for metabolic syndrome, 22 meta-analyses for diabetes, and 15 meta-analyses for overweight/adiposity. The umbrella review suggests that the association between depression and excess mortality constitutes a robust epidemiological finding. However, the causal pathways linking depression and CVD are complex and to some extent bidirectional. Thus, depression may not only predict incident CVD, but may also be a consequence of cardiac events [5] and/or worsen prognosis [6]. Original data from the PACINPAT study will be presented to shed further light on the question whether cardiorespiratory fitness moderates the association between depression and CVD risk factors.

#### Discussion

The poor physical health of psychiatric patients deserves more attention. High priority should be given to the promotion of physical activity and fitness, as they are beneficial for both physical and mental health [1]. Several clinical guidelines have included physical activity as a treatment for depression [7, 8]. Sustained efforts and well-coordinated action are needed on regional and national levels to establish structures and environments conducive to assess and promote physical activity more systematically among people with depressive disorders [4].

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### A3 Physical activity as a vital sign – Assessment of physical activity in psychiatric patients at the Charité in Berlin

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#### Introduction

Physical activity (PA) has a proven beneficial effect on the mental and physical health of people [1,2,3,4]. Studies have shown that especially psychiatric patients participate in significantly less physical activity, compared to the general population [5-7]. Therefore, we implemented PA as a vital sign at the department of Psychiatry and Psychotherapy, Campus Charité Mitte, Charité – Universitätsmedizin Berlin in July 2019. The goal of this study was

to document, monitor and determine factors of change in physical activity levels during an in-patient treatment, allowing us to find targeted approaches to help specific patient groups.

#### Materials and methods

We analysed the valid data of physical activity of 328 patients treated in our psychiatric hospital on an in-patient basis between July 2019 to February 2021. A total of 328 patients of the department of psychiatry and psychotherapy Charité – Universitätsmedizin Berlin, Campus Charité Mitte were included. We used a slightly altered version of the Exercise as a Vital Sign (EVS) questions to measure physical activity. All information has been extracted from the letters of discharge.

#### Results

The results show that the average physical activity increases from the date of admission to the date of discharge, however, still many patients do not reach the WHO recommended 150 minutes of moderate to intense physical activity per week. Furthermore, there are big differences in physical activity levels when comparing patients with different primary diagnoses. It is also becoming clear, that only a limited portion of patients are benefiting from exercise interventions during the in-patient treatment. We identified factors that might influence the level of physical activity, as well as groups of patients that need different approaches to increase their physical activity level.

#### Discussion

Using this knowledge and implementing physical activity in a greater number of psychiatric departments will be inevitable to develop evidence-based approaches for each subgroup of psychiatric patients to decrease physical inactivity. Physical activity is becoming ever more important in the field of psychiatry. Utilizing its full potential to improve the health and quality of life of patients is crucial. With this activity, we want to further promote the wider and simultaneously targeted use of physical activity in psychiatry.

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## A4

### The muscular ideal. Body image, diet, and exercise behavior

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#### Introduction

Since the 1970s, the body ideal for both men and women has become increasingly muscular and lean [1]. This shift toward a muscular body has changed both our eating and exercise behaviors. In extreme cases, the pursuit of the muscular ideal can lead to a disorder known as muscle dysmorphia (MD) [2]. Although MD was initially conceptualized as inverse anorexia, it is now considered a body dysmorphic disorder. The rationale behind this was that the focus on diet is secondary in nature. This led to a very narrow definition of MD and excluded associated eating disorder pathologies.

#### Materials and methods

We conducted a narrative review for MD and associated disordered eating. Preliminary results from our own research will also be presented.

#### Results

The development of muscle dysmorphia is multifactorial. Important etiological factors include sociocultural influences as well as visual attention biases, control and avoidance behaviors, and a negative bodily self [3, 4]. There is evidence to show that early bullying experiences and internalization of the muscular ideal are risk factors for developing MD [5]. Regarding disordered eating pathology, current diagnostic tools fall short, so that muscle-oriented eating is often not recognized. Evidence suggests that there are no differences between MD and anorexia nervosa regarding restrictive eating behaviors [6]. New diagnostic tools have been developed to detect muscle-oriented eating behaviors but have not been widely used in research and clinical practice [7]. Although the phenomenon of "cheatdays" has not been well studied, preliminary research indicates that binge eating and purging may also play a role in the context of MD.

#### Discussion

There is evidence showing that the conceptualization of muscle dysmorphia is too narrow and would benefit from a transdiagnostic perspective.

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## A5

### Effects of body-oriented yoga in depression

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#### Introduction

Major depressive disorder (MDD) is one of the most common mental illnesses worldwide. Current treatment standards recommend a combined therapy with medication and psychotherapy. As an additive component, physical activity such as yoga may be integrated into conventional treatment. The aim of the study is to examine the impact of a three-month body-oriented yoga in patients with MDD.

#### Materials and methods

In total, n=83 MDD patients received a vigorous Ashtanga-Yoga for 3 months / 3 times a week. The waiting-list control group obtained a Treatment as usual (TAU). This was a RCT study. Several clinical data were assessed to three time points: depression severity (BDI I), positive and negative affects (PANAS) and remission rates. The data were analyzed using multilevel models; effect sizes were also calculated. The study was done at the Psychiatric Department of the University Hospital Frankfurt, Germany.

#### Results

The results showed an improvement of BDI scores over time in both groups, but also an interaction effect time\* group. Regarding the effect size, yoga treatment had a positive trend. The strongest improvement were shown in the first 6 weeks of the treatment. There was no significant group differences in positive or negative affects. Remission rate improved significantly in the yoga group in comparison with the TAU group.

#### Discussion

The findings suggest that there is a trendsetting additive effect on severity of depression of Ashtanga Yoga after 3 months. The beginning of the intervention might be particularly effective.

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## A6

### Physical activity coaching: How can behavior change be achieved by individual remote-based telephone coaching?

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#### Introduction

Physical inactivity is a prevalent public health issue. It is estimated that one third of the world population does not adhere to physical activity recommendations. Sedentary and physically inactive lifestyles can lead to and perpetuate psychiatric as well as physical illnesses such as depression, cardiovascular and metabolic diseases [1]. Initiating and maintaining a physically active lifestyle is considered a behavioral adaptation requiring self-regulatory skills such as motivation, needed to form a behavioral intention, and volition, needed to actually perform said behavior and so close the intention-behavior gap [2]. Individually tailored physical activity coaching based on behavior change theories has proven to be effective in increasing subjective as well as objective physical activity levels in healthy populations [3]. Moreover, this approach may address the often physically inactive lifestyles observed in people suffering from depression.

#### Methods and materials

In this course, we aim to give an insight into the concepts and theories behind individually tailored physical activity

coaching and the practical implementation in particular in people suffering from depression.

### Results

We shall present background knowledge regarding coaching methods, mainly focusing on personal and remote delivery methods including telephone and online tools, conversational conduct, and the unique role of a coach. Taking a behavioral approach means that the coaching involves goal setting, planning and self-monitoring as well as behavior-specific feedback and cues [4]. In addition, using a tailored coaching approach, which entails adapting the content to the individual based on characteristics derived from personal assessments, promises a behavioral impact [5].

Additionally, we would like the participants of the course to gather some first-hand experiences of the coaching process. There will be guided written and conversational exercises as well as visuals of selected coaching materials and recordings.

### Discussion

The knowledge and practical experiences in the world of physical activity coaching will be transferred to people suffering from depression. In this context, we will discuss the implications of physical activity coaching in participants suffering from depression, population specific adjustments and the feasibility of implementing such coaching sessions into regular psychiatric care.

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### A7

## Chronotropic incompetence of the heart is associated with exercise intolerance in patients with schizophrenia

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### Introduction

The elevated cardiovascular risk of patients with schizophrenia contributes to a reduced life expectancy of 15-20 years. This study investigated whether cardiac autonomic dysfunction (CADF) in schizophrenia is related to chronotropic incompetence, an established cardiovascular risk marker.

### Methods and materials

We investigated thirty-two patients suffering from paranoid schizophrenia and thirty-two control subjects matched for age, sex, body mass index and fat free mass. A cardiopulmonary exercise test (CPET) was performed to study heart rate responses to exercise as well as submaximal (ventilatory threshold 1, VT1) and maximal endurance capacities (peak oxygen consumption, VO<sub>2</sub>peak; peak power output, Ppeak). In addition, epinephrine and norepinephrine levels were assessed in a subset of patients.

### Results

Fitness parameters were significantly reduced in all patients. Most investigated physiological parameters were significantly different at rest as well as during peak exercise being in line with previously described CADF in schizophrenia. In particular, 14 out of 32 patients were classified as chronotropically incompetent, whereas no control subject was below the cut-off value. In addition, a positive correlation of a slope reflecting chronotropic incompetence with peak oxygen uptake ( $p < 0.001$ ) was observed in patients only indicating a close correlation to the lack of physical fitness. The catecholamine increase was reduced in patients after exercise.

### Discussion

This study identified a novel cardiac risk factor in patients with schizophrenia. Moreover, it seems to be associated with reduced physical fitness and indicates targets for exercise intervention studies. Future studies are warranted to elucidate pathophysiological mechanisms of this cardiac condition.



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## A8

### Curriculum Sports Psychiatry – Development, implementation and out view

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## Introduction

There is a tremendous development in child and adolescent psychiatry, and adult psychiatry in all their aspects over the years. Evidence for this progress is the increasing specialization in these fields with five sub-specializations within private law [1]. These sub-specializations are intended to deepen knowledge and skills. The development of sport psychiatry is part of this trend, just as being affected thereof. Sports psychiatry includes mental health and illnesses in elite and amateur sports as well as exercise and sport in treatment, rehabilitation, and prevention of psychiatric disorders.

## Materials and methods

While there are different content-related and structural approaches and needs in sports psychiatry, an adapted concept of qualification is required [2]. To meet this objective, a three-level curriculum was developed, according to the concept of the German curriculum for sports cardiology [3].

## Results

Level 1 "Basic Health Care in Sports Psychiatry" intends to gain fundamental basic knowledge. It is at the same time entry qualification for levels 2 and 3. Level 2 "Clinical Practical Sports Psychiatry" intends to convey specialized practical competence and skills in treatment,

rehabilitation, and prevention of mental illnesses. Level 3 "Field of Activity Sports Psychiatry" builds on the acquired knowledge and skills of levels 1 and 2 and shall convey specialized, practical competences, knowledge and skills in mental health and illnesses in elite sports.

## Discussion

The three-level curriculum sports psychiatry is the first of its kind [4]. This course intends to show the concept and development of the curriculum, just as content, implementation, and an out view.

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## A9

### Perspectives in exercise/movement therapy and how they influence contents and methods in therapeutic practice

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## Introduction

Exercise has been shown to be efficacious to treat major depressive disorders, insomnia, panic disorder with and without agoraphobia and post traumatic stress disorder (PTSD). As a bio-psycho-social intervention, exercise/

movement therapy (EMT) for mental illness covers the same goals as psychotherapy.

### Materials and methods

Using a variety of methods (e.g. training, psychoeducation, *desensitization*, body image work) and contents (e.g. jogging, walking, aquatics, dance), four perspectives of EMT can be defined. A short lecture will be given on the instrumental perspective. The focus is on physiological processes, caused by exercise, follows a sports medical approach, in which psychological adaptation as a reaction to physical activity is postulated as a change agent of therapy. The sensitive and social perspectives of EMT apply factors known from behavior therapy, like self-efficacy, awareness, and exposition. The symbolic perspective uses the body and movement experience to represent and explore psycho-social issues of the client. Theoretical insight into the basics of these perspectives will be given and excerpts can be experienced in practice.

### Results

EMT combines non-verbal behavior and body experience with verbal components on various levels. In this course, examples out of evidence-based therapeutic practice of EMT will be shared to underline the connection between verbal and non-verbal therapy components in EMT.

### Discussion

Despite its promising therapeutic effects, exercise programs are currently not sufficiently provided within the inpatient treatment of mental disorders. EMT is currently not provided within the outpatient mental health care system in Germany.

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## A10

### Trainers of the voluntary sports groups for individuals with psychiatric disorders: Who are they?

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### Introduction

There is strong evidence that physical activities (PAs) are an important factor in increasing and maintaining mental health as well as in preventing relapse after psychiatric disorders [1,2]. Almost every psychiatric hospital in Switzerland offers PAs for their patients [3]. Besides the mental health services (MHS), the number of voluntary sports groups for individuals with psychiatric disorders (vSGfIPD) has been continuously growing in Switzerland since 2016 [4,5]. These vSGfIPD are trained by non-medical volunteers. Yet, there is little information about how to manage and organize vSGfIPD to meet the needs of their participants [6,7,8,9,10]. The present study aimed to explore and identify challenges, barriers, and facilitators for the participation in vSGfIPD from the point of view of trainers of vSGfIPD. Additionally, the study aimed to identify reasons/motivation as well as the personality characteristics of the trainers of vSGfIPD.

### Materials and methods

Semi-structured interviews were conducted with 15 trainers of vSGfIPD recruited using maximum variation sampling. Interviews were audiotaped, transcribed, and analyzed using thematic analysis.

### Results

Participants identified several intrapersonal barriers (lack of motivation, lack of fitness, mood problems, etc.) that hinder IPD from participating in vSGfIPD. Further frequently reported barriers were among others interpersonal (conflicts between participants) and structural barriers (time/location). Participants reported that trainers might overcome the barriers as facilitators by supporting IPD. Social skills seem to be essential for the successful management and organizing of vSGfIPD. Furthermore, the ability to set boundaries in order to protect one's private life and sports skills expertise were mentioned as pre-

ferable characteristics of a trainer as well. The most mentioned reasons for engagement as trainers of vSGfIPD were the satisfaction of doing sports with IPD and being able to improve the physical activities habits of IPD.

## Discussion

The findings are crucial for the upskilling of the trainers of vSGfIPD, highlighting the importance of social skills for the successful management of vSGfIPD. The results also allow improving recruitment of the future trainers of vSGfIPD by focusing on the assessment on appropriate personality characteristics of trainers and their motives. Further research should be undertaken to validate the findings from the point of view of the participants of vSGfIPD.

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## A11

### Sports psychiatric effects in the prevention and treatment of dementia

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## Introduction

With increasing life expectancy, also gerontopsychiatric diseases are increasing, in particular dementia disorders. In 2019 157.700 inhabitants of Switzerland suffered from dementia. For the year 2040 a prevalence of 300.000 subjects is expected [1]. In 2010 there were 35.6 million people worldwide with diagnosed dementia and in 2018 in Europe 9.8 million people [2,3]. Various factors contribute to the development and the course of the dementia, some of these are modifiable (physical inactivity, nourishment, sleep disturbance), and some not (e.g. genetic Factors, age). Therefore, physical activity may provide an easy intervention to reduce the risk for the development of dementia [4].

## Materials and methods

We conducted a narrative review on dementia and exercise / sports. The study protocol of the planned study on this topic is also presented in this course of the first International Conference on Sports Psychiatry.

## Results

Several studies show that physical activity can be used to prevent dementia, by delaying cognitive decline and the onset of dementia [5,6]. Compared to other preventive measures, physical activity is easy to carry out and very effective when carried out regularly. Exercise also reduces the risk of myocardial infarction, stroke and diabetes mellitus. By reducing these risks, the secondary risk of dementia can also be reduced. The course of dementia can also be positively influenced [7]. These connections between physical activity, cognition and dementia point to the possible preventive role of physical activity in the

development of dementia. Prevention can thus consist of a multimodal strategy that altogether includes the adaptation of lifestyle (diet, physical and mental activity) [8]. In addition to prevention, beneficial effects have also been shown in the treatment of dementia patients by promoting exercise and sport. There are positive effects on functional and cognitive performance and on BPSD (behavioural and psychological symptoms of dementia) [9,10].

### Discussion

There are clear indications that the promotion of physical activity has a positive effect on the prevention and the treatment of patients with cognitive impairment and dementia. A detailed analysis of these effects on MCI and the various dementia diseases and clear recommendations would be important in the future.

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## A12

### Image and performance enhancing drugs in leisure sports

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### Introduction

A quarter of a million Swiss people use image- and performance-enhancing drugs (IPED) and rarely seek medical help, although the side effects are serious and lasting [1]. At risk are predominantly gym-goers, recreational athletes, elite athletes and bodybuilders. The most commonly used IPEDs are anabolic androgenic steroids (AAS). Users experience initially the desired effects and seek medical help only when the side effects increase. During IPED use, side effects occur in almost all patients, mainly acne (38%), gynaecomastia (34%) and increased libido (27%) [2]. After discontinuation, libido (34%) and erectile function (20%) decreases. Users self-treat side effects with e.g. aromatase inhibitors or clomiphene citrate [3]. IPED use is rarely disclosed to physicians, as users often do not trust the physician to have sufficient knowledge on the subject.

### Materials and methods

We conducted a narrative review for harm reduction and therapy of IPED use.

### Results

The use of AAS can lead to mood-destabilisation with depressive symptoms and short-lasting hypomania. Other psychiatric symptoms or disorders are mania, psychosis, increased aggression, depression, anxiety disorders and suicide [4]. Discontinuation phenomena include marked depressive moods, increased fear of losing muscle mass, fatigue, restlessness, loss of appetite, insomnia, reduced libido and increased craving for IPEDs. About 30% of IPED users develop dependence. There is currently little evidence on the treatment of IPED dependence, either in terms of access to sufferers or how to achieve behavi-



oural change [5]. Steroid clinics have been successfully established in the United Kingdom, Australia and the Netherlands [2]. In practice, taking concerns seriously is most important. For treatment both physical and mental symptoms need to be treated. Later treatment focuses on psychosocial aspects including indication, motivation and causal therapy initiation. The measures should lead to a strengthening of positive body image and self-acceptance and activate other resources like education, leisure and work. A healthy body image also includes a positive relationship to one's own body and the development of a positive body feeling.

### Discussion

Qualified acute treatment should include motivation-promoting interventions in addition to withdrawal and be integrated into a differentiated regional support network. Treatment should be multidisciplinary and include somatic treatments. Simply "stopping" IPED is associated with various psychological and somatic problems and needs adequate medical care to prevent relapse into IPED use.

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## A13 Development of sports psychiatry in the United States and internationally

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## A14 Risk of post-traumatic stress symptoms in alpine sports

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### Introduction

When performing sports in alpine surroundings already small changes of the organism or the conditions might lead to a sincere situation. Data reveal that Swiss alpine guides are confronted with at least 2 potentially traumatic situation in their careers. Further studies indicate that the prevalence of post-traumatic stress disorder (PTSD) symptoms after suffering mountain sports typical traumata like an avalanche or rock-fall is high. In 2020, the Swiss alpine rescue service (ARS) assisted 999 people during their missions in the alps, indicating high numbers of possible traumatised alpinists. In the proposed session, we present data from a study done with the ARS, Swiss mountain guides and the Swiss air rescue (REGA) exploring risk and protective factors for developing of a PTSD. Furthermore, we performed a review summarizing potential traumatic events in alpine sports and existing supportive programs.

### Methods and materials

The talk summarizes the results from surveying 1347 Swiss mountain guides using of the Posttraumatic Stress Diagnostic Scale (PDS), the General Health Questionnaire (GHQ-28), and the Sense of Coherence Self-Rating Scale

(SOC-29) [1]. Further we present results from investigating 450 ARS members using the PDS, the PTSD Checklist 5 (PCL-5), the Resilience Scale 13 and 14 (RS-13/-14), the Perceived Stress Scale 10 (PSS-10), the General Health Questionnaire 12 (GHQ-12), the Pittsburgh Sleep Quality Index (PSQI), the Sense of Coherence Scale 13 (SOC-13), and the Berlin Social Support Scales (BSSS) [2]. Finally, we performed a systematic review on traumatic events during alpine sports.

### Results

Surprisingly, we found a low prevalence of PTSD in Swiss mountain guides as well as in Swiss alpine rescuers. However, we were able to determine risk and protective factors such as high resilience and coherence, good sleep and a well working social network. Further, we identified avalanches, rock-falls and climbing falls as the most common incidents accompanied with a PTSD. Until now, there are only a few organized outpatient clinics specialized in providing treatment for alpinists and alpine rescuers after traumatic events.

### Discussion

Although the prevalence of PTSD is rather low in alpinists, there is a minor population at risk. Major protective factors include the level of coherence and resilience, quality of sleep and general mental health. Data imply that there is a need for specialized mental care for alpine rescuers, guides and alpinists.

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## A15

### Gaming and gambling in competitive sports

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### Introduction

Anecdotal reports seem to highlight gaming and gambling as a serious problem in competitive sports. It is said to threaten mental health of athletes and – In regard to gambling – contradict the principles of fair and unbiased competition by possible manipulation.

### Methods and materials

An overview is given of existing scientific data, with a special focus on gambling, match fixing, and negative impact on athletes mental health. Furthermore, existing and necessary services for early detection and treatment of gambling related problems in professional sports are discussed.

### Results

Literature is still scarce but seems to confirm a high rate of problem gambling in elite athletes. Similar to findings in the general population, problem gambling is associated with high rates of psychiatric comorbidity, notably substance-related disorders, anxiety disorders, eating-related disorders and depression [1]. Factors associated with a possible elevated risk for competitive athletes are controversially discussed [2]. Several reports stress an aggravation of gambling related problems during the covid-19 pandemic and the need for further research [3].

### Discussion

Gambling can be seen as a known threat for mental health during active careers and post retirement of professional athletes. It is crucial for the developing field of sports psychiatry to address this problem. The main challenges will be to raise public awareness, to improve prevention and treatment facilities in professional sports setting and to promote research in this field.

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## A16

## Sports psychiatric diagnosis in competitive sports – A structured, multistage diagnostic procedure for mental disorders in competitive sports

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### Introduction

The diagnostics of mental complaints and illnesses is one of the central duties of medical or psychiatric activities, enabling medical and psychotherapeutic action [1]. In many countries, the pre-participation examination (PPE) is recommended prior to or during the practice of elite and competitive sports. While the investigation of physical risk factors and complaints is common in elite sports, a mental health survey within the PPE is not yet the rule. There are high requirements of a reliable diagnosis regarding specificity and sensitivity, as well as time and economic efficiency. Different needs of athletes, sports physicians and sports psychiatrists must be taken in account. The false positive rate must be minimized and overdiagnosis, pathologization or psychiatrization are to be avoided [2].

### Methods and materials

In most countries, PPE does not include screening tools for mental complaints and disorders. In Switzerland, the WHO-5 Wellbeing-Index is part of the PPE and the Patients Health Questionnaire PHQ-4 is used in the US. There is a need for a suitable algorithm for the implementation of a psychiatric basic assessment (PBA) inside the PPE, followed by a sports psychiatric evaluation (SPE) in case of conspicuous PBA results.

### Results

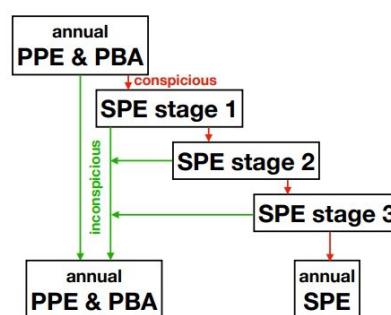
A diagnostic procedure which is presented, is based on an annual obligatory PPE with an integrated PBA [3]. Conspicuous results of the PBA should lead to a SPE, conducted by child, adolescent and adult psychiatrists. The same applies to relevant mental pre-diagnosis, conspicuous behavior changes and severe injuries. The resilience scale

RS-13, the self-efficacy scale SES, general life-satisfaction L1, and the Mini-ICF-APP build the first stage of the SPE. A structured clinical interview is added in case of indications for mental disorders (stage 2), followed by disorder-specific assessments (stage 3; see Figure 1).

### Discussion

The presented model of PBA and SPE could be easily integrated into PPE. It is operationalizable and its benefit and validity could be examined by studies. The implementation of a standardized diagnosis is helpful for the analysis of pooled data sets, leading to a higher information value. Moreover, a workable procedure could support prevention and early detection of mental disorders in elite sports.

**Sports psychiatric diagnosis in competitive sports**  
A structured, multistage diagnostic procedure for mental disorders in elite sports



PBA - Psychiatric Basic Assessment, PPE - Pre-Participation Examination, SPE - Sports Psychiatric Assessment

Gonzalez Hofmann C, Claussen M C

Figure 1.

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## A17

## LGBTQI\* and sport – What does this mean to sports psychiatry?

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## Introduction

LGBTQI (lesbian, gay, bisexual, transgender, questioning (or: queer), intersex) people experience ever since discrimination in daily life as well as sport [1,2]. In particular, trans, non-binary and intersex people are likely to have a difficult time in competitive and amateur sports. LGBTQI people are at higher risk for non-accidental violence and abuse. This could be a decisive factor for significantly fewer sport participation of LGBTQI people [3]. Media primarily focus on elite athletes, and discussions about hormone levels. A debate about possible advantages in sport and fairness is still going on in sports and science [4,5]. The majority of the affected persons experience discrimination and exclusion on a smaller scale in locker rooms, showers, and the belonging to a team [6].

## Materials and methods

This lecture presents a differentiated view on gender identity, gender expression, anatomical sex, sexual orientation and romantic attraction. It focuses on individual as well as structural discrimination of LGBTQI people in sports and discusses the mental effects and consequences [7]. Based on Ilan Meyer's Minority Stress Model it discusses possible pathways leading to deleterious physical and psychological outcomes [8] as well as therapeutic approaches.

## Results

LGBTQI people experience discrimination, stigmatization and forced outing, which leads to detrimental health outcomes including mental health problems. Furthermore, transphobic and interphobic marginalization mechanism keep people from participating in sports, thus directly having a negative bearing on their physical and psychological health. The literature relating sports psychiatry to LGBTQI and especially transgender, non-binary, and intersex athletes is insufficient, and suggestions how to diagnose and treat these athletes can only be inferred from the existing scientific knowledge regarding sports.

While cis-gendered athletes struggle with the stigmatization of suffering mental health problems, the weight of dealing with different stressors increases the risk for psychiatric disorders in marginalized people. Additionally, transgender and intersex athletes are being targets of an ethical discussion regarding potential physiological advantages. Whereas the ethical debate tries to balance the ethical principles of inclusion versus fairness, the fate of the individual LGBTQI athlete is often forgotten.

## Discussion

Starting points how sports psychiatry can support an affirmative environment are debated [9]. The apparent lack of safe and comfortable spaces to engage in physical activity and sport for LGBTQI athletes, mainly transgender, non-binary, and intersex athletes, calls for efforts in sports psychiatry to emphasize the prevention aspects of sports for this population and the treatment within an LGBTQI-affirmative therapeutic environment.

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## A18 Injuries and mental health symptoms in professional football

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### Introduction

During their career, professional footballers are highly at risk of acute, recurrent and severe musculoskeletal injuries [1]. Especially severe injuries can lead to long periods without training or competition and to surgeries. Injuries generally lead to cognitive responses (e.g., low self-efficacy, loss of identity), emotional responses (e.g., sadness, isolation, lack of motivation, frustration, changes in appetite and sleep) and behavioural responses (e.g., gambling) [2,3]. In some cases, severe musculoskeletal injuries can also trigger the occurrence of mental health symptoms such as psychological distress, anxiety/depression, sleeping disturbance and alcohol misuse [2,3]. As empirical evidence is limited, we conducted a study to explore the interaction between severe musculoskeletal injuries and mental health symptoms in European professional footballers [4,5].

### Materials and methods

A prospective cohort study with a follow-up of 12 months was conducted among professional footballers. The number of severe (time-loss of more than 28 days) musculoskeletal injuries and surgeries during a professional football career was examined, while mental health symptoms were evaluated through validated scales. Logistic regression analyses were used to explore the interaction between injuries mental health symptoms.

### Results

A total of 540 professional footballers were enrolled (mean age of 27 years), of whom 262 players completed the 12-month follow-up period. At baseline, prevalence

of mental health symptoms ranged from 10% for alcohol misuse to 37% for anxiety/depression. Severe musculoskeletal injury at baseline was associated with mental health symptoms during the 12-month follow-up period with relative risks ranging from 1.8 to 6.9 for alcohol misuse and distress, respectively.

### Discussion

Our study showed that professional footballers severely injured at baseline were nearly 2 to 7 times more likely to develop mental health symptoms in the subsequent 12 months by comparison with non-injured footballers [1,3]. The findings might contribute to raising the self-awareness of stakeholders in professional football about the occurrence of mental health symptoms among players and its relation with severe injuries. Also, our study emphasises the importance of applying a multidisciplinary approach to the clinical care and support of professional footballers, especially when a player faces lengthy periods without training and competition as a consequence of severe injuries.

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## A19 Sports psychiatry developments in the UK and with the IOC

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### Introduction / Materials and methods / Results / Discussion

The increasing success of the UK Olympic team in the last 25 years has been attributed in large part to the development of an extensive network of medical, scientific and performance staff and facilities. The inclusion of mental health provision within this network is a more recent development but nonetheless an important and successful one. There is now a Mental Health Expert Panel (MHEP) employed by the National Institute of Sport and there have been significant improvements in mental health awareness, training and service provision for athletes.

Alongside this, a sports psychiatry group was established in 2016 under the auspices of the Royal College of Psychiatrists (RCPsych). The group now has over 1000 members and organizes regular academic meetings where the latest research findings and practice developments are presented. Sports psychiatry has come to be seen as a legitimate branch of sports medicine in the UK.

Mental health is an important interest of the International Olympic Committee and in 2019 a group of international experts convened by the IOC published a consensus statement on athlete mental health [1]. Whilst a consensus statement is an important development, it should be seen as a starting point rather than the end of a journey and the IOC continues to support mental health developments in many ways. Since the publication of the consensus statement and related subspecialty papers, the IOC Mental Health Working Group has led several important projects that will improve mental health services and care for elite athletes:

- Screening and assessment tools have been developed for use by medical and other support personnel who work with elite athletes [2].
- A mental health toolkit has been published that provides a template for mental health provision for sports organizations and those who work within them: [https://stillmed.olympics.com/media/Document%20Library/IOC/Athletes/Safe-Sport-Initi-](https://stillmed.olympics.com/media/Document%20Library/IOC/Athletes/Safe-Sport-Initiatives/IOC-Mental-Health-In-Elite-Athletes-Toolkit-2021.pdf)

[atives/IOC-Mental-Health-In-Elite-Athletes-Toolkit-2021.pdf](https://stillmed.olympics.com/media/Document%20Library/IOC/Athletes/Safe-Sport-Initiatives/IOC-Mental-Health-In-Elite-Athletes-Toolkit-2021.pdf)

- A mental health diploma and certificate are available to all interested practitioners via an online learning platform: <https://www.sportsoracle.com/Mental+Health/Home/>

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## A20 Sleep for the sports psychiatrist

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### Introduction

This discussion will address:

1. The prevalence of sleep problems in athletes across sport,
2. The specific impact of sleep problems on athletic performance,
3. Bi-directional impact of mental health problems and sleep problems in athletes,
4. A systematic approach to optimizing sleep and performance in athletes,
5. The future of sleep in sport.

### Methods and materials

In this discussion, we will talk about the Pyramid of Peak Sleep Performance. Starting from the base/LEVEL I (Sleep saboteurs), to LEVEL II (Sleep metrics), to LEVEL III (General sleep practices), and finally to the very top (LEVEL IV or the Pyramidion) with specific sleep strategies for elite athletes to weaponize their sleep and enhance performance.

## Results

Based on the overwhelming evidence that shows tangible performance enhancement through sleep optimization, as well as the added benefit of good sleep for mental health, it is imperative that every sports psychiatrist is aware of these sleep strategies to help inform treatment decisions, as an integral member of the treatment team.

## Discussion

This presentation will provide the rationale for the necessity of establishing sleep optimization protocols in every sport, and at every level of sport.

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## A21

### Brain injuries in competitive sports – When both the brain and the psyche are affected

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## Introduction/ Methods and materials

The traditional approach to diagnosis and treatment of sport-related concussion has changed substantially in recent years. Historically, emphasis in concussion research has been on symptoms and cognitive impairment and treatment recommended strict cognitive and physical rest until symptom resolution [1,2]. More recently, researchers have begun to focus on psychological effects of concussion. Anxiety and mood related issues in fact have been shown to represent the primary symptoms in nearly 30% of concussions [3]. It has been shown, moreover, that early moderate levels of spontaneous physical activity rather than complete rest enhances recovery or prevents persistent post-concussive symptoms [4]. A paradigm shift to a more active approach to management of sport-related concussion has been undertaken. Graduated return to play (RTP) has been a widely implemented strategy to assist with concussion management. RTP is a six-stage process managed by health professionals that progressively increases athletes' exertion until they are able to resume preconcussion activity levels [5].

## Results / Discussion

Existing RTP criteria however do not comprehensively account for psychological aspects [6]. By means of case reports from concussed patients treated by our interdisciplinary team we will address the following questions:

- Which psychiatric symptoms/behaviors can generally/usually manifest after a concussion?
- How does the athlete's past medical history play a role in the current concussion?
- What is the athlete's disease insight regarding concussion?
- How is the athlete embedded in his personal, social and sporting context?
- Does the athlete have resources besides sports? Which of them can be activated?
- How can the athlete regain emotional and psychological self-confidence/identity?

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## A22

### Psychodynamics in competitive sport: Case studies and discussion

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## Introduction

Although athletes in competitive sport excel in making optimal rational decisions even in situations of extreme stress, many behaviors and actions remain incomprehensible to the environment and also to the athlete. In the literature, such behaviors are rarely dealt with or are often described as inexplicable failures and as an expression of a lack of mental preparation. In the meantime, however, there is a scientific consensus that unconscious processes have a great influence on the experience and decisions which athletes make in competitive sport.

## Materials and methods

As mental experience and psycho-physiological interactions cannot be fully explained with scientific methods, humanistic methods can contribute to the understanding of the phenomena. Psychoanalytic personality theory has gained extensive clinical experience over the decades with the help of the psychodynamic perspective. Imaging procedures of neurobiological research allows us more and more insights into the functioning of the brain and meanwhile confirm many clinical observations and psychodynamic assumptions. In diagnostic application, these experiences find expression in the operationalized psychodynamic diagnosis (OPD).

## Results

The OPD with its multiaxial system not only serves to identify unconscious dysfunctional relationship patterns and to map conflict-related as well as structurally based behaviors and experiences, but also to derive concrete interventions and individual resources.

## Discussion

Using examples from competitive sport, the discussion with participants will attempt to understand the dysfunctions with the help of psychodynamics and to classify them diagnostically with OPD.

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## A23

### If exercise is good for your mental health, then why is it risky to be an athlete?

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## Introduction / Materials and methods / Results / Discussion

Mental health benefits. There are many ways in which exercise, physical activity and sports participation can contribute to good mental health [1]. For any specific type of exercise, sport, or physical activity, there will be different contributory factors that can be broadly classified as operating via psychological, biological, and social mechanisms. These will be reviewed.

Group exercise. A facilitated group exercise will ask course participants to consider which factors are most relevant in their preferred sport or activity.

Mental health risks. In spite of the known mental health benefits of sports, exercise and physical activity, the prevalence of mental health symptoms and disorders in elite athletes is at least as high as in the general population. This is likely a consequence of a mixture of sport specific risk factors (such as severe injury and transitioning out of sport) and in addition factors that are unrelated to sports participation (such as adverse life events, childhood adversity or genetic predisposition). Sports specific risk factors will be reviewed [2,3].

Group exercise. A facilitated group exercise will ask course participants to consider which factors are most relevant in their preferred sport or activity and what risk management strategies may be most needed.

Mental health screening, treatment and care. A comprehensive range of measures is necessary to improve the mental health treatment and care of athletes. This ranges from creating a healthy culture within sport; improving mental health literacy; screening for the early identification of problems; provision of expert treatment and care



when this is needed; coordinated support to return to sport during recovery and help to leave sport when this is required.

**Group exercise.** A facilitated group exercise on the use of the IOC Sport Mental Health Assessment Tool 1 (SMHAT-1) [4] for the early identification of problems, and to defining a treatment plan including physical activity.

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## A24

### Overtraining in sports psychiatry

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## Introduction

When overtraining, there is a mismatch between the strain exerted and the level of exercise tolerance. Overtraining is generally not sufficiently feared nor is enough attention paid to its prevention. As a result, the first warning signals and symptoms are often either perceived too late or there is a delay in the correct interpretation of the signs [1]. This often leads to negative consequences over months, which, in turn, can lead to more frequent injuries [2] as well as psychiatric symptoms [3]. Psychological parameters can be signs of overload [4]. Examples include

restlessness, irritability, emotional instability, recurring states of anxiety, emerging indifference, loss of appetite or sleep disorders. However, disturbed cognitive processes as an impairment of central elements of movement control can also occur.

## Materials and methods

As part of a sports psychiatric support, conspicuous psychological parameters can be recorded and contextualized. The Synergetic Navigation System (SNS) is available for systematic recording and corresponding process management [5]. In the SNS, questionnaires that are used for high-frequency self-assessments (e.g., day by day) provide data and time series analysis which can be used for reflecting on the visualized process.

## Results

The analysis tools which are available in the SNS (e.g., time series, dynamic complexity applied to time series, intra- and inter-personal raw data and complexity-resonance diagrams, recurrence plots, inter-item correlation patterns) give evidence for nonlinear patterns and pattern transitions like sudden changes (phase transitions), critical instabilities or inter-item synchronization [6,7,8]. In particular, indicators of pattern transitions in pathological developments or during psychotherapy or during training processes can be identified in time and can be addressed. Self-assessments of psychological parameters (e.g., cognitions and emotions like motivational or mood dynamics) can be addressed and compared with physiological or performance parameters.

## Discussion

The SNS can be used as an instrument for load, training and competition control to prevent non-functional overload and overtraining. It is also suitable for promoting performance and preventing injuries as well as stabilizing the psychological structure.

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## A25

### Sports Vision – Experience-oriented course in sports optometry

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#### Introduction

Current motoric theories postulate a unity of perception and action for regulation movement: “We must perceive in order to move, and we must also move in order to perceive” [1]. Anyone who plays tennis, who rides a mountain bike in the forest or keeps the goal of numerous sports games, knows about the importance of high attention, good central and peripheral vision and good depth vision for the assessment of current distances. One of the most influential findings shows that the results of classic vision tests can vary within a short time (for example, after the start of a sports motor training unit). Sports optometry deals with the requirements that are placed on the visual system or to the actor. It is intended to share the subjective perception of sports optometric methods by means of practical exercises and to show the potential of a desirable cooperation between sports optometry, sports science, sports psychiatry, and sports psychotherapy.

#### Materials and methods

Fostering gaze control, eye coordination, perceptual processing as well as adaptive abilities of the eyes and the ner-

vous system are the goals of the exercises. In the combination of eye and movement exercises, intrinsic control of eye functions and attention regulation is promoted. Sports optometry deals with the requirements that are placed on the visual system or to the actor. In the course, basic exercises of functional optometry are taught and applied in practice. The exercises are identical for competitive athletes as well as for patients with attention problems, e.g. ADHD, but differ in the level of challenge. Simple clinical visual tests are used to monitor progress and serve as feedback elements to support self-efficacy and performance development with increasing demands. Success in the exercise is not the main intention, but a prerequisite for further steps. As a body-oriented method, the exercises in the confrontation with the performance requirements serve the exploration of corresponding behavior, associated cognitions and emotional states, which means that they can be used as psychotherapeutic approaches. In competitive sport, it can be an additional method that serves to optimize performance. The aim is to demonstrate the possibilities of conscious regulation of tone and attention by means of practical exercises. Moreover, to transmit how these states feel and how they can be recalled in a more targeted way. In addition, the concept of qualia according to the current discussion in neuroscience and philosophy, to describe and discuss the mutuality of perception and movement is used.

#### Results

A longer phase of visual orientation allows more information to be absorbed. A later switch to precise fixation of the gaze improves calm and coordinated action. E.g. the tennis player's perception is that the tennis balls get bigger and slower. With the conscious use of this possibility for regulation, peak performance can be achieved under changing conditions. Sports Vision makes these processes visible and tangible through exercises.

#### Discussion

This finding not just questions the validity of some tests, but also provides an opportunity for further research on the relationship between the functionality of the perceptual system and motor performance, as well as the relationship between attention and tone regulation.

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