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SPORTS MEDICINE &
ATHLETIC PERFORMANCE CENTER

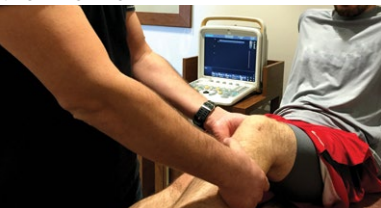
SPORTS MEDICINE & ATHLETIC PERFORMANCE CENTER

Gloria Sports Arena provides all needs of athletes.
Sports Medicine & Athletic Performance Center offers a wide range of medical,
rehabilitation and sports performance enhancement services.
...not only for athletes.
...open both for hotel guests and other clients.



Along with cutting-edge equipment, a team of renowned experts on sports medicine, sports science, athletic performance and sports physiotherapy which is led by sports medicine specialist Prof. Dr. Ali Erdogan (MD) provides a focused and comprehensive service portfolio.

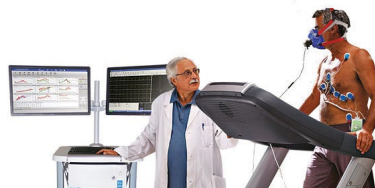
SPORTS-MEDICAL EXAMINATION & CHECK-UP



The physical examination for musculoskeletal problems and general health screening by using various diagnostic tools. A preparticipation examination is also recommended regularly (yearly) for both professional and amateur athletes and includes:

- Comprehensive sports medical examination
- Consultation and evaluation of general health
- Evaluation of present performance status
- Evaluation of posture and musculoskeletal system

ECG/STRESS ECG



The derivation of the electrical phenomena of the cardiac muscle (EKG) allows numerous records of the characteristics and health of the heart and is an integral part of a sports-medical examination.

DIAGNOSTIC ULTRASONOGRAPHY



Modern color Doppler sonography is used for evaluation of the various structures of the musculoskeletal system. It can be used as an effective tool to monitor healing processes after injuries.

SPARTANOVA



By means of numerous clinical and functional tests, all backed up with relevant scientific evidence, the musculoskeletal system can be evaluated and any significant risk assessed. Using these screening recommendations for an individual, a prevention strategy can be formulated and compiled.

FUNCTIONAL MOVEMENT SCREEN



The compact test battery provides a well-established scoring system to reveal functional deficits and asymmetries. The results form the basis for the creation of a corrective exercise program.

RESTING METABOLIC RATE



RMR, the rate of energy expenditure at rest, is measured by gas analysis through indirect calorimetry. Once, the RMR is known, the amount of calorie needed to keep a healthy weight and also how much extra calories needed for daily physical activities can be calculated.

HEARTH RATE VARIABILITY ANALYSIS



HRV indicates the ability of the organism to change the frequency of cardiac rhythm during physical activity. Thus, the changes of the time lag between two heartbeats are measured. HRV-measurements are increasingly implemented in training science within the scope of performance diagnostics and load control.

METABOLIC HOLTER ASSESSMENT



A series of arm/chestbands with different sensors and sophisticated software is used to assess and document daily physical activity levels and energy expenditure.

SPIROMETRY



The functional capacity of the lung is an elementary aspect of successful sport activity. Spirometry is a medical test used to determine lung/breathing volume and air velocity for the assessment of pulmonary function.

NUTRITION CONSULTATION



Athletic performance is only possible-if the organism receives the appropriate energy. SMAPC supports amateur and professional athletes by developing individual diet plans-based on health and physical activity goals.

ANTHROPOMETRIC MEASUREMENTS



Branch-specific anthropometric characteristics of the athletes are measured and documented with precision.

BOD-POD



Bod Pod® is considered as the practically Gold Standard for body composition assessment. It is the world's only Air Displacement Plethysmography system using whole body densitometric principles to measure body composition (body density, body fat and fat-free mass) in adults and children.

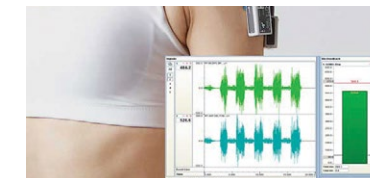
A large variety of important anthropometric, physiological, biomechanical, nutritional, talent-training and past injury-related parameters that are determining sports performance can be evaluated, monitored and improved.

TANITA – BIOELECTRICAL IMPEDANCE



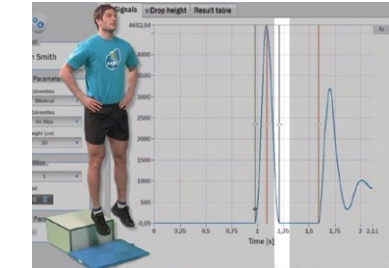
Bioelectrical Impedance Analysis (BIA) is a commonly used method for estimating body composition. Tanita has a patented way of measuring BIA that is faster, easier, less intrusive and includes a precision scale making this a simple one-step process.

16-CHANNEL WIRELESS EMG



Using surface electrodes the electrical phenomena on the skeletal muscles are measured and recorded within the scope of motion sequences. Such EMG-measurements allow documentation on the coordination of the muscles/muscle groups involved, their stress intensity and the fatigue status of the respective muscular system.

GROUND REACTION FORCE MEASUREMENT



The reactive skills- (or the functionality of 'stretching-shortening cycle') patterns identify the relevant neuromuscular/ coordinative performance level. Jump tests and sophisticated technique analyses are executed with highly sensitive Kistler force plates.

BALANCE – COORDINATION – PROPRIOCEPTION



Dynamic platform allows qualitative and quantitative evaluation of the ability of the musculoskeletal system of individual athletes to stabilize the mechanical axis on unstable ground/conditions. The results identify individual deficiencies.

WINGATE ANAEROBIC CAPACITY TEST



The Wingate Test is a standard test method to determine anaerobic capacity, implemented as an ergometer test with short-time maximum load.

VO2max TEST



The maximum oxygen uptake (VO2max) measured by breath-by-breath gas analysis can be used as a criterion for evaluating the stamina of an athlete. It is defined as "gross criterion" of the motoric endurance.

LACTATE ANALYSIS



It determines the individual anaerobic threshold level (maximum effort levels under lactate-steady-state conditions) and the aerobic threshold level by measuring during and after-effort lactate values. The threshold levels allow the exact intensity of a target-oriented endurance training.

OPTOJUMP – SPRINT & GAIT ANALYSIS SYSTEM



A 30-meter optical measurement system consisting of a transmitting and receiving bars detects any interruptions in communication between the bars and calculates their duration. This makes it possible to measure flight/contact times and all other important parameters during running or some other specific athletic movements.

FITLIGHT



The Fitlights are used as targets for the athletes to deactivate as per training routine. Various tests can be captured for immediate feedback in relation to the athlete's performance.

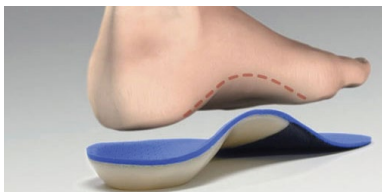
FOOTSCAN – GAIT ANALYSIS



Precise plantar pressure measurements allows a complete clinical gait analysis which reveals the risk of injury and running efficiency.

SMAPC offers a comprehensive range of sports medicine services emphasizing the prevention, treatment, physiotherapy and rehabilitation of sports-related injuries of elite, amateur and recreational athletes. SMAPC provides health services not only to athletes, but also to patients of all ages and physical activity levels who can benefit from unique combination of the services.

CUSTOM MADE INSOLES



To correct foot disorders, custom-made insoles can be produced on CNC laser equipment by using the data of FootScan gait analysis.

HILTHERAPIA



For many overload, traumatic or degenerative pathologies, high intensity laser, Hilterapia® produces important therapeutic effects by triggering a series of biological signals that contribute to the tissue mending and regeneration processes; moreover, it activates lymphatic drainage and microcirculation.

PRP (Platelet-Rich Plasma)



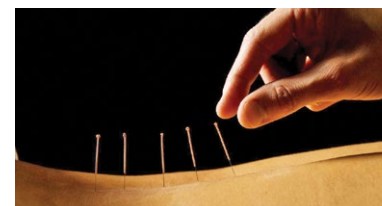
Platelet activation plays a key role in the process of wound and soft tissue healing. The use of platelet rich plasma (PRP), a portion of the patient's own blood having a platelet concentration above baseline, to promote healing of injured tendons, ligaments, muscles, and joints, can be applied to various musculoskeletal problems.

MANUEL THERAPY



"More than a massage" - Osteopath, Chiropractor and Sports Physiotherapist professions assess, treat and rehabilitate musculoskeletal injuries using manual therapy.

DRY NEEDLING



Sports Acupuncture & Trigger Point Dry Needling helps athletes of all ages achieve their best performance. It is one of the most effective hands-on tools for releasing chronic tension and restoring healthy, pain free mobility.

TAPING TECHNIQUES



Taping, Kinesio Taping, Dynamic Taping, and McConnell Taping Technique and others to help pain management, swelling control, tissue healing, functional improvement and injury prevention.

WIRELESS ELECTROSTIMULATION



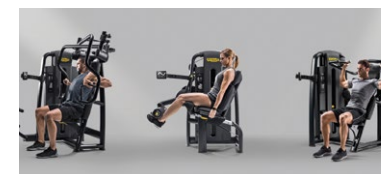
Electrostimulation is an integral part of physiotherapy and pain management protocols, and also used in training programs to prevent injuries. By the help of wireless electrostimulation, muscular excitation occurs directly on the motor nerve using electrical pulses perfectly controlled to guarantee effectiveness, safety and comfort in use.

VERTIMAX



Cutting-edge training tools helps to improve vertical jump, speed and explosive power and acceleration at virtually any position.

MEDICALLY SAFE STRENGTH TRAINING

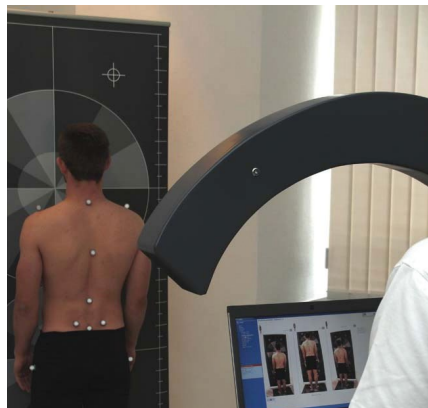


A specially designed and medically approved series of fitness equipment provides safer strength training during rehabilitation.

CONTEMPLAS

...develops innovative solutions for the analysis of motion

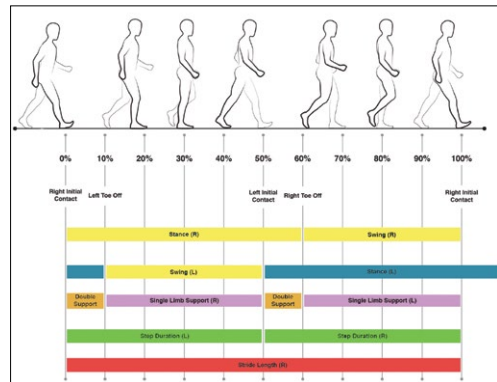
With Templo Motion Analysis Software, CONTEMPLAS provides individual solutions tailored to everyday problems and allows multi camera capture for 2-3 dimensional posture, gait, swimming and sport specific technical analysis.



2D-3D POSTURE ANALYSIS

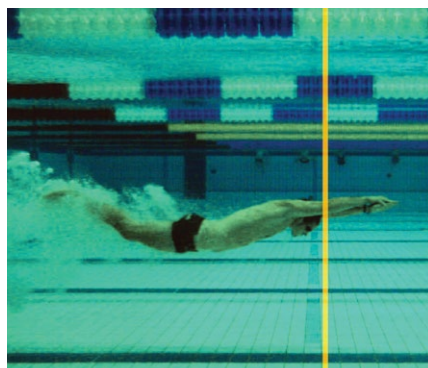
...fast and easy analyses of human posture. It can be used in diagnosis and documentation for:

- Pre and postoperative analyses
- Recognition of posture deficits of children and young people
- Constitutional exploration of athletes
- Documentation of therapy progress in rehabilitation
- Preventive activities



GAIT ANALYSIS

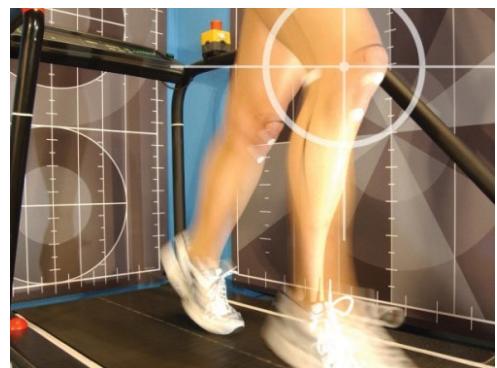
...used to assess, plan, and treat individuals with conditions affecting their ability to walk and run. It is also used in sports biomechanics to help athletes run more efficiently and to identify posture-related or movement-related problems in people with injuries.



UNDERWATER VIDEO ANALYSIS

...complete solution for analyzing the biomechanics of swimming movements and performance relevant parameters divided in specific workflows:

Start Analysis - Turn Analysis - Timing Analysis - Competition Analysis - Qualitative Motion & Technique Analysis.



HIGH SPEED VIDEO ANALYSIS

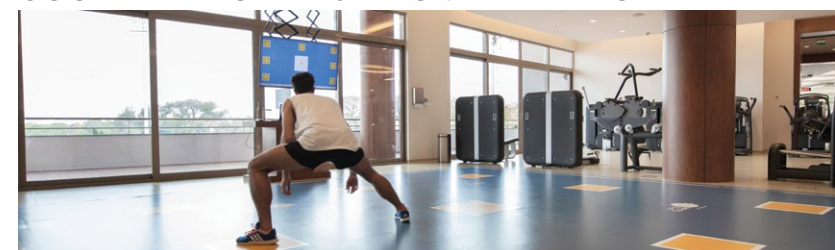
TEMPLO Sport analysis involves the evaluation of specific sports related movements. Through the use of multiple synchronized capture perspectives and useful analysis tools, coaches and athletes alike are able to determine critical weaknesses in form and are thus able to enable the immediate correction of said weaknesses.

ISOKINETIC TESTING & TRAINING – ISOMED 2000



Isokinetic test and training systems allow the exact evaluation of muscular power during static isometric contractions and dynamic movement patterns with constant motion speed and concentric and/or eccentric muscle activity. With single joint force measurement, the turning time moment of the synergic and antagonistic muscles is measured joint-specifically. With multiple joint force measurement of the extremities the force-time-curve of the synergic and/or antagonistic muscle chains can be determined.

SPEEDCOURT – SPEED, AGILITY & COORDINATION TESTING & TRAINING



The SpeedCourt is a multifunctional training and measurement system for speed and agility, coordination, visual and cognitive perception and end stage rehabilitation. On a sports floor field of 50m², 12 sensor fields are embedded, connected and steered by highly sophisticated software. Variations of fundamental, motion, explosiveness and reactive speed, acceleration and agility, power, and injury prevention can be created by the coach and be visualized on a large screen for the athlete.

ICELAB -110 °C – WHOLE BODY CRYOTHERAPY



RECOVER FASTER

- More effective than traditional ice therapy
- Speeds up recovery after hard training sessions

IMPROVE IMMUNE SYSTEM

- Decreases the occurrence rate of cold and other health problems

DESCREASE THE RISK OF INJURY

- Increases range of motion

INCREASE ENDORPHIN LEVEL

- Feel more energetic
- Increases serotonin level and helps to overcome depression

INCREASE COLLAGEN PRODUCTION

- Helps you to look more younger by tightening the skin

REDUCE PAIN

- Reduces inflammation
- Lowers chronic pain

INCREASE METABOLIC RATE

- 3 Minutes WBC is effective as 1 hour exercise
- Burns approximately 500 calories in 1 session

INCREASE TESTESTERONE LEVEL

- Increases libido

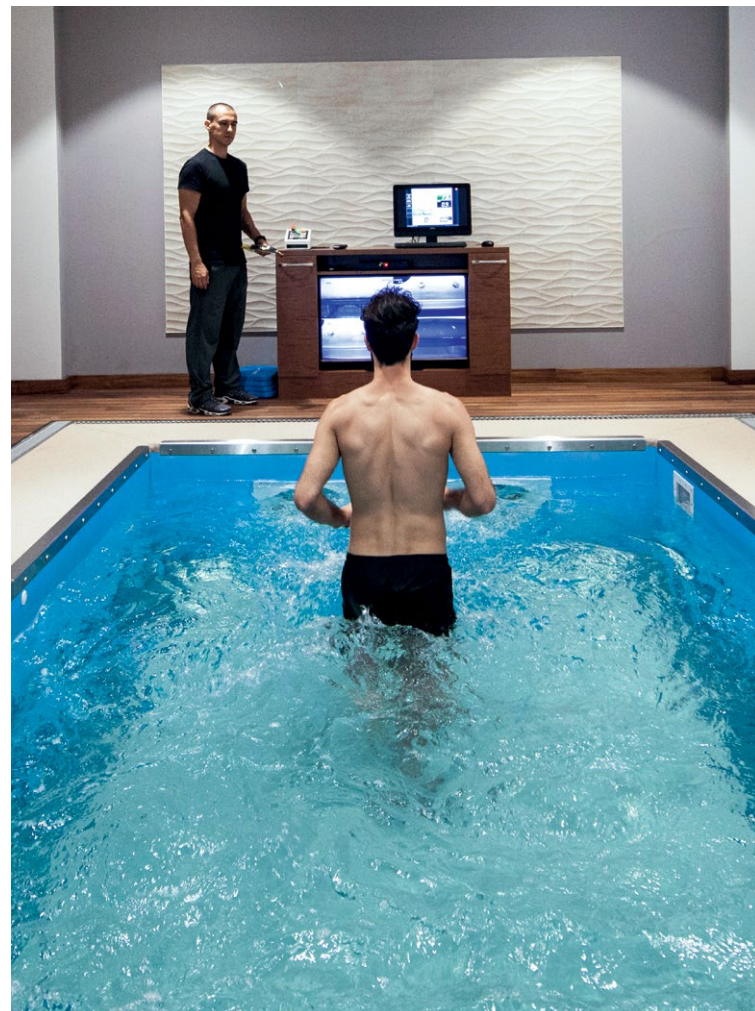
UNDERWATER TREADMILL

Adjustable water depth (hydraulic lifting floor)

Adjustable resistance (counterflow jets)

Regular biofeedback (permanent installed underwater cameras)

- Targeted reduction of joint stress realized by changing the water depth.
- Hydrostatic pressure on the corresponding biologic structures to reduce posttraumatic swelling effects.
- Special characteristics of the water resistance allow the training intensity of the exercises to be exactly regulated by the athlete/patient within actual pain free range (fast speed movements create high training resistance, slow movements create low training intensities).
- A peripheral pressure on the skin-/soft tissue structures, which has equivalent effects of a massage.
- Water resistance creates higher muscular training intensity on the skeletal muscles, while at the same time the joint stress during the exercises is significantly reduced and thus overuse phenomena is prevented.
- Caused by increased training intensities of all integrated muscle groups the training stimulus for the cardiovascular system is consequently increased and creates optimized training adaptations to the involved biological structures.



PHYSIOTHERAPY EQUIPMENT

Zimmer MedizinSysteme

With more than 40 years experience Zimmer MedizinSysteme is the distinguished supplier of system solutions in medical technics.

With 40 years in the market of technical medicine, Zimmer MedizinSysteme is one of the leading European manufacturers of physiotherapy equipment. GSA has three therapy rooms, equipped with the newest Zimmer therapy devices. Our experienced team of sports scientists, physiotherapists and trainers is led by our specialist for sports medicine. Our goal is to bring you back into sports or daily life as fast as possible and without any pain.

Cryo6

Contrary to other cooling methods such as contact cooling, cryogenic spray or ice packs, the Cryo6 cools the skin temperature much faster with less danger of acid burns. It holds a constant dosage during the whole treatment.



OptonPro

This highly effective laser gives off up to 7 watts of power on two wavelengths at the same time via an ergonomically shaped applicator thus providing a broad spectrum of therapies. The High Power Laser OptonPro is ideal for the treatment of: musculoskeletal diseases, tendinopathies, myofascial pain syndrome, painful trigger-points, neuralgia and skin disorders.



enPuls Version 2.0

With the help of an accelerated projectile in the handpiece a mechanical shock wave is created and transmitted onto the human body via an applicator button, also stretching out to the tissue.



PhySys SD

Device for electrostimulation, ultrasonic therapy and combined therapy.



Soleo SonoStim

SonoStim has multifrequencyultrasonic buttons, enabling the simultaneous transmission of two frequencies.



Thermo TK

This provides deep heat via high frequency electrotherapy. Thermo TK can be applied for all acute and chronic pain in the musculoskeletal area. The patient receives high frequency electricity which cannot be felt and which creates a soothing effect at a deep level.

