Progress in the field of tissue engineering in the past decade has allowed the development of new types of treatment also in the Sports Traumatology sector. These new treatments include the use of growth factors and stem cells. It has now been widely shown that the growth factors contained in the PRP (platelet rich plasma) obtained through centrifugation of autologous blood, applied onto the site of tissue damage, give rise to the activation and acceleration of the tissue healing physiological processes. We are using this technique in the treatment of lesions of the shoulder rotator cuff, in subcutaneous lesions of the Achilles tendon and we are also experimenting the use of this membrane in the reconstruction of the anterior cruciate ligament with artificial ligament. As far as stem cells are concerned, their use is limited almost exclusively to the treatment of cartilaginous lesions. Adult mesenchymal stem cells are obtained by aspiration of bone marrow during surgery. There are numerous sites from which it is appropriate to remove the bone marrow, but usually the iliac crest is chosen, by aspiration with a suitable device. Following removal, the stem cells are placed on a hyaluronic acid scaffold and applied onto the site of cartilaginous lesion. The cells obtained from the bone marrow can thus constitute a valid alternative in the treatment of chondral lesions smaller than 2 centimeters. To conclude, tissue engineering and gene therapy currently enjoy a considerable appeal in the scientific community and will certainly represent the future. In our experience, we are highly motivated to pursue research and experimentation in this fascinating field, while bearing in mind the potential risks associated with this type of engineering.

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Welcome to the latest edition of the Italian Journal of Sports Rehabilitation and Posturology. Within the pages of our journal comes to life a nascent, yet flourishing journal that brings together a fascinating array of topics that fall within the realm of sports medicine. We have worked diligently to merge the worlds of orthopaedics, physiotherapy, osteopathy, kinesiology and more under a unifying umbrella that explores the world of medicine in sport.

We aspire to develop a journal that encourages the free flow of ideas and research, promoting an interdisciplinary approach to the diagnosis and treatment of sports injuries. We have incorporated original research, as well as case studies from Europe and the Americas, encompassing a variety of topics, in multiple disciplines, covering an assortment of athletic events.

As a sports medicine physician, having lectured for the American Osteopathic Academy of Sports Medicine and the European College of Sports and Exercise Physicians, I would like to initiate discussion through the pages of our journal, focusing on a topic I am very passionate about: Concussion in Sport. This is a topic that gained worldwide media attention over the past couple years, peaking during the 2014 FIFA World Cup in Brazil. There was much needed focus in the news media, regarding head injuries in football and the need for the development of protocol in dealing with head injuries during competitive matches. The focus being on increasing the safety of participating athletes.

It is our duty as health practitioners to advocate for the safety of our players. This duty starts with advocating for access to baseline computerized neurocognitive testing (CNT) for all athletes. Computerized programs such as ImPACT and CNS Vital Signs (CNSVS) should be made available to all competitive athletes for baseline testing, allowing for follow up testing following a concussive episode.
These are useful tools in evaluating our athletes and are available in a significant number of languages, allowing for testing in an athlete's native language. Computerized neurocognitive testing should become standard of care through all levels of competitive athletic participation worldwide.

Much progress has certainly been made in diagnosing and treating sports related concussion over the last decade, however there is much still that remains to be learned. The importance of the complete health care team has been emphasized with the development of different modalities of treatment in sports concussion. Physicians work hand in hand with their treating therapists in directing an athlete's care through a concussion rehab protocol that often encompasses vestibular therapy, ocular therapy, memory therapy, as well as neuropsychological evaluation and treatment. Medications are successfully being used to help speed recovery.

With all the progress that has been made, there is much work still to be done. Research continues with the focus being placed on improving our clinical examination, developing concussive biomarkers, as well as the use of functional MRI in imaging athletes that suffer a head injury. In the meantime, the world's premier athletic organizations, led by FIFA, the IOC and the IIHF have taken the necessary steps to bring together the world's foremost concussion experts in developing the Consensus Statement on Concussion in Sport, from the 4th International conference in Zurich.

It should be our goal, as well as our duty, as the members of the health care team to educate our teams' staff and advocate for our players in enforcing the standards outlined by the Zurich statement. In so doing, we will increase the safety of athletes under our care, while we continue to pursue knowledge and enlightenment in the realm of sports related concussion.

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