

and international competitions. This involves a multidisciplinary classification where each actor plays a similar and complementary role in the final decision.

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### Paratriathlon: Method for physical and social rehabilitation

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**Keywords:** Paratriathlon; Paralympic Games in Rio; Rehabilitation

Paratriathlon, sport consisting in swimming, cycling and running will enter the next 2016 Rio Paralympics games. To show assets of paratriathlon for rehabilitation of athlete with a disability (AWAD). To show high level paratriathlon organization (French Paratriathlon Team) and the international classifications issues. Triathlon could be seen as an elite and inaccessible sport, particularly for people with disability. Nevertheless, it could be a powerful method or approach to readapt people to sport thanks to 3 complementary activities showing progressive loads (swimming, cycling and running). Paratriathlon could be made over different distances and with several modalities (alone, by relay with valid or with other AWAD) offering the possibility to try triathlon step by step and a true way of social re-integration as well. The management of rehabilitation is multidisciplinary because associating doctors, sport coaches, physiotherapists and Orthostist. The image of high-level practice also contributes to develop the paratriathlon as a method to readapt to effort. After the French medals won at the last world paratriathlon championship, the goal to win medals at the next Paralympics games in Rio make development and accessibility of paratriathlon one of the most important challenge of the next years.

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### Physical activity, a health factor: Evidences, interest, education and prescription

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**Keywords:** Physical activity; Exercise; Health; Prevention; Medical prescription; Sport professional

There is scientific evidence that physical activity is beneficial to health as well in primary prevention as in tertiary prevention, in opposition to sedentarily. For tertiary prevention of chronic diseases, physical activities or sport practice must be prescribed by physicians and is performed by professionals who are used to this type of subjects. The French State acted early at the initial stage training of these health and sport professionals. A national convention was signed on October 2012 by group of the deans of the medical schools and group of the deans of the sport science schools to encourage partnership and exchanges in the field of theoretical and practical education and research in the field of physical activity as a health factor. Ten pilot-universities were chosen to initiate and performed this convention on a regional scale. This convention and the current practices of some of those universities are described as well as the education in this field in medical schools and in sport science schools. These improvements of skills are important to create outside hospitals regional networks of “health-sport”.

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### Adapted physical activity during pulmonary rehabilitation

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Chronic obstructive pulmonary disease (COPD) is a respiratory disease with systemic abnormalities. Specifically, muscle dysfunction is of prime importance because of its impact on dyspnea, quality of life and survival rates. Thus, COPD management requires to deal with the primary (bronchial obstruction) and the secondary pathology (muscle dysfunction). Adapted physical activity (APA) is thus a major item to take into account in respiratory rehabilitation, because the improvement of muscle function will have major effects on COPD health status. The conference will be focused on presentation of APA concept and its application on pulmonary rehabilitation. The main objectives are to show how it was possible to accept the idea of exercise as a main component of rehabilitation and why it is now so well accepted. The academic trainings of APA teachers will be presented to show the importance of a strong knowledge on pathophysiological and psychopathological of physical activity to be able to correctly manage the interface between exercise and disease. Last, the impact of published articles from APA scientists and the legal texts allowing APA teachers to work on rehabilitation centers will show the importance to build relevant approaches from scientific works and to obtain legal recognition of these professionals.

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### Perceived exertion at exercise: Stress and inflammation's part. About the commando walk

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**Keywords:** Borg; Cortisol; Interleukin-1 beta; Perceived exertion; Strenuous physical exercise

**Objectives.**– To show a correlation, during a strenuous exercise, between perceived exertion, measured by the Borg's scale, and salivary cortisol and interleukin-1 beta, both resulting from mechanisms of stress and inflammatory level.

**Methods.**– Subjects of this prospective monocentric study, without any intercurrent pathologies, ran 8 kms with military fatigue, combat boots and a 11 kg rucksack. Heart rate, salivary cortisol and IL-1β were collected at departure and arrival, whereas Borg's scale was completed, and performance recorded.

**Results.**– Sixty-one subjects had been enrolled. Borg's scale was related to no other measured variable. Two kinetic profiles of salivary levels have been identified: some showed an increase during exercise, others started with high rates, which secondarily decreased. The cortisol profiles were correlated to performance.

**Discussion.**– Cortisol and IL-1β salivary rates are not correlated to Borg's scale. They cannot be identified as objective markers of painfulness, with limitations of subjective marker's using. New kinetic profiles of cortisol and IL-1β should be explored to understand their origins, roles and consequences during effort and accident.

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### Nutrition best practices of endurance sportsmen: Myth and reality

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