IN SEARCH OF BETTER FOOTBALL MEDICINE

– Written by Michel d'Hooghe, Belgium

During a recent speech, former Prime Minister of Belgium, Mr Mark Eyskens stated that: "*the human society of tomorrow faces a BINC revolution*".

What did he mean by this?

B for biotechnology
I for informatics and artificial intelligence
N for nanotechnology
C for cognitive sciences.

This is indeed a realistic project for society as a whole, but it already poses a concrete and immediate challenge for the world of sports medicine!

These four letters B – I – N – C constitute precisely the most important medical fields for the further development of football medicine. Conscious of the fact that years of intense scientific work in prevention, diagnostics, conservative and surgical treatments, rehabilitation and considerations around return to play have hardly resulted in a significant decrease of the number of injuries, we must direct some of our efforts to these new, sometimes revolutionary, fields.

On one hand we are aware of the fact that medical advice has not always been followed by coaches and players, but on the other, we must admit that many sports – and certainly football – have undergone a spectacular evolution: heavier calendars, more intense training methods, evolution in tactics – resulting in new injuries, frequently the result of increased cumulative stresses placed on the joints, muscles and tendons. Multiple cartilage lesions are a good example of this.

The question remains: has football medicine kept pace with this rapid evolution?

Of course, as football has changed, the medical world around football has changed. At the start of my own career in football medicine, some 45 years ago, as a young team doctor, football medicine concerned almost exclusively the treatment of injuries.

Progressively, from a musculoskeletal perspective, elements such as prevention, clinical and radiological diagnosis and rehabilitation became important newcomers.

As the physical condition of the players, rather than just their technical skills and the tactical strategy, became a more relevant factor in winning games, physiological factors came to the forefront. Psychological factors also garnered more attention in the search for an adequate balance between motivation, concentration and relaxation. Pharmacology brought supplementary advantages, but also raised questions around the use and abuse of analgesics and non-steroidal anti-inflammatory drugs. As in other sports, the fight against doping became a priority.

Add to this elements of nutrition, hydration and hygiene and you will appreciate how the function of team doctor became a complex, but exciting challenge. The worldwide globalisation of football created new medical challenges: adaptation to jetlag, adaptation to altitude, sport in extreme climatic conditions and pollution, among others.

The most spectacular part of the evolution of football during recent years is, undoubtedly, the important development of female football. Interest in women's football is quickly growing, both in terms of players and spectators. The large audiences for the World Cup and the advent of professional football in some countries illustrate this increasing popularity. Since the first international women's competition, in 1988, it is undeniable that the standard of women's football has improved dramatically. Consequently, the scientific and medical interest around women's football has also increased.

We have become increasingly aware of the specific athletic, technical and tactical demands of women's football, as well as the profile of injuries; important examples include the higher incidence of anterior cruciate ligament, and head and neck injuries in the women's game – both of which have led to specific preventive programmes.

However, the future medical guidance of female football remains an exciting challenge, with many questions and few adequate answers.

All the while, biotechnology, informatics, artificial intelligence, nanotechnology and cognitive sciences will be important instruments in our ongoing search for better football medicine.

Baron Dr Michel D'Hooghe
Chairman, FIFA Medical Commission