



## Editorial

# The reduction of sport-related fatal incidents is an ongoing task for sport physicians

Tim Meyer

Editor in Chief

The survived cardiac arrest of Christian Eriksen during the European Football Championships 2020 (postponed to 2021 due to the pandemic) has shown once again that even the seemingly healthiest athletes who perform at the highest level are not immune to cardiac disease and even sudden cardiac death. Although fortunately rare, such cases are always threatening and have the potential to impair the reputation of sport despite "contradictory" findings like the ones from Orchard et al.<sup>4</sup> in this issue who report a reduced death rate compared to the general population even in a contact sport like Australian Rules Football when played on elite level. In accordance with other studies<sup>3,6</sup>, this means that the beneficial effects of (even elite) sport not only outweigh its risks but that they prevail. It is possible that in elite athletes a favorable genetic make-up is responsible for parts of this positive effect. However, large-scale studies in the general population confirm these findings<sup>5,8</sup>. Statistically, this means that even the occurrence of sport-related deaths (as sad as each individual case is) is more than compensated for by the preventive effects of regular sport.

Obviously, this does not relieve sport physicians from their permanent task to reduce the number of sport-related incidents as far as possible. During recent congresses a discussion arose about the specificity of screening examinations and the question if "it is worth spending so much money into the detection of very few cases". Such debate leads into the calculation of indicators like "money spent per saved life". Such considerations are only in borderline agreement with ethical requirements of our profession but they may remind us to rethink the most adequate make-up of screening examinations and their most appropriate distribution among active individuals. There are indications that disease patterns may differ between continents or even countries. Also, certain parts of our population, e. g. younger individuals or women, are less likely to be affected by (sport-related) sudden deaths. This means that screening strategies can be more targeted than they currently are. Such refinement may refer to a more extensive inclusion of groups at particular risk (e. g. competitively active older males) or to different examination programmes for different target groups. Definitely, the peculiarities of the population-to-screen have to be taken into account. This can at least include age and sex but can well be extended to ethnic mix and known disease patterns. At least, a clever distribution of the available money for screening should result in the most effective prevention of sudden death although some individuals may receive less care than they would when a one-size-fits-all approach was applied.

So what can the scientific community do to support such procedures? Of course, screening programmes can be evaluated but this is very laborious and, therefore, seldomly done<sup>1</sup>. Another approach are registries of events which collect as much information about underlying diseases/causes as possible. The output of such registries is usually of descriptive nature only and very much dependent on legal requirements for autopsies as well as on religious and cultural attitudes in the participating countries. As in other research fields, Europe, North America, Australia and typical "Western" societies are overrepresented within studies about sport-related sudden death. Therefore, a contribution like the one from Suzuki-Yamanaka et al.<sup>7</sup> in this issue is very welcome. The number of 55 events (of which 25 were survived) is a bit lower than in other registries. However, they report relatively detailed background information from a country that has not been researched well in this regard.

## The swimmer's shoulder

Another article that shall be highlighted is the one from Holt et al.<sup>2</sup> It is another example of descriptive studies which are frequently underestimated. They typically have too few "selling points" for reviewers of grant-providing organisations and even scientific journals. However, the study in this issue has some unique features which give it additional value. Firstly, subscapularis tendinopathy is documented in a considerably large sample of 60 really elite Australian swimmers. And secondly, the gold standard examination (MRI) for this purpose has been applied. The results are particularly striking when compared to numbers within an age- and gender-matched control group which showed hardly any pathological findings. In that sense, this study has provided a very detailed description of the "swimmer's shoulder", almost something like an industrial disease. To elucidate the appropriateness of assignment to such a category, however, long-term studies would be needed including years after the career.

## References

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