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Gene doping.

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Together with the rapidly increasing knowledge on genetic therapies as a promising new branch of regular medicine, the issue has arisen whether these techniques might be abused in the field of sports. Previous experiences have shown that drugs that are still in the experimental phases of research may find their way into the athletic world. Both the World Anti-Doping Agency (WADA) and the International Olympic Committee (IOC) have expressed concerns about this possibility. As a result, the method of gene doping has been included in the list of prohibited classes of substances and prohibited methods. This review addresses the possible ways in which knowledge gained in the field of genetic therapies may be misused in elite sports. Many genes are readily available which may potentially have an effect on athletic performance. The sporting world will eventually be faced with the phenomena of gene doping to improve athletic performance. A combination of developing detection methods based on gene arrays or proteomics and a clear education program on the associated risks seems to be the most promising preventive method to counteract the possible application of gene doping.

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