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Biochemistry, physiology, and complications of blood doping: facts and speculation.

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Competition is a natural part of human nature. Techniques and substances employed to enhance athletic performance and to achieve unfair success in sport have a long history, and there has been little knowledge or acceptance of potential harmful effects. Among doping practices, blood doping has become an integral part of endurance sport disciplines over the past decade. The definition of blood doping includes methods or substances administered for non-medical reasons to healthy athletes for improving aerobic performance. It includes all means aimed at producing an increased or more efficient mechanism of oxygen transport and delivery to peripheral tissues and muscles. The aim of this review is to discuss the biochemistry, physiology, and complications of blood doping and to provide an update on current antidoping policies.

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