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Blood doping : infusions, erythropoietin and artificial blood.

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As science marches on, athletes and coaches march close behind. Researchers have long been interested in how red cell mass and blood volume affect exercise capacity. Interest in blood doping soared after the 1968 Mexico City Olympics. Studies in the 1970s and 1980s suggested that transfusing red cells could speed endurance performance. Diverse athletes of the time were accused of blood doping. In the late 1980s, recombinant human erythropoietin (EPO) began to supplant transfusion for doping. EPO use is a suspect in nearly 20 deaths in 4 years in European cyclists. In the 1998 Tour de France, a team was ejected for using EPO and six other teams quit the race. The beat goes on; in recent years, diverse endurance and sprint athletes have been caught or accused of using EPO. Tests to detect EPO are improving but are not yet foolproof. As EPO tests improve, blood transfusion is back in vogue and some athletes may have infused artificial blood. Tests for detecting artificial blood also exist, but it seems it will take widespread, year-round, unannounced, out-of-competition testing and stern penalties to deter blood doping.

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