

## Transhumanist super athletes: CRISPR and ‘gene doping’ therapy poised to roil sports

[In the 1990s], gene therapy — defined as the technique of using and manipulating genes in order to treat or prevent diseases — wasn’t as established as it is today and wasn’t recognised as enough of a threat to be listed as a banned practice in sport. But it soon became known that gene therapies could one day be used for much more than disease.

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With the injection of external [erythropoietin, a protein that increases oxygenation], elite athletes — often cyclists — have been enhancing performance for years, but authorities have caught on. Anti-doping controls can now [detect external EPO](#) efficiently through blood and urine tests.

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Another way to dope an athlete’s genes is through CRISPR, or CRISPR-Cas9, a technique that allows geneticists to edit specific parts of a person’s genome by removing or altering sections of DNA — also known as gene editing.

The technique is rapidly developing, leading to a World Anti-Doping Agency announcement in October that it was expanding its “gene-doping” ban to “gene editing agents designed to alter genome sequences and/or the transcriptional or epigenetic regulation of gene expression.”

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Asked what it is doing to monitor and test athletes for gene doping, the International Olympic Committee did not comment directly but said, “We have nothing to add to the section on gene doping in [World Anti-Doping Agency’s] prohibited list.”

**Read full, original post:** [The new frontier of doping will modify athletes’ DNA](#)