



*Preserving the integrity of competition. Inspiring true sport. Protecting the rights of athletes.*

# ***ATHLETE INFORMATION***

## **INTRAVENOUS INFUSIONS (IV) ARE PROHIBITED UNDER THE WADA PROHIBITED LIST**

*\*Updated to reflect the most current Prohibited List in effect – 1/4/18*

The World Anti-Doping Agency Prohibited List (WADA Prohibited List) includes all substances and methods that are prohibited in sport, including substances and methods that are prohibited both in-competition only, as well as those that are prohibited at all times.

Below is important information about the IV rule, why IVs are prohibited, and how athletes can best protect their health and safety.

### **WHAT'S THE IV RULE?**

- All IV infusions and/or injections of more than 100mL (~6.8 tablespoons) per 12 hour period are prohibited at all times, both in- and out-of-competition, except for those legitimately received in the course of hospital admissions, surgical procedures or clinical investigations, without an approved Therapeutic Use Exemption (TUE).
- If a **prohibited substance** is administered intravenously or via injection, a TUE is necessary for this substance regardless of whether the infusion or injection is less than 100mL.
- Infusions or injections are permitted if the infused/injected substance is not on the Prohibited List, and the volume of fluid administered does not exceed 100 mL per 12 hour period.

### **WHY THE IV RULE?**

- To protect clean sport and athlete health and safety. It is a fact that IVs can be used to change blood test results (such as hematocrit where EPO or blood doping is being used), mask urine test results (by dilution) or by administering prohibited substances in a way that will more quickly be cleared from the body in order to beat an anti-doping test.

### **WHAT ARE THE HEALTH RISKS OF IVs?**

- Potential risks and complications of IV therapy, include Infection, cellulitis, inflammation of the wall of a vein with associated thrombosis, bleeding, hematoma/arterial puncture, unintended leakage of solution into the surrounding tissue, air embolism and needle stick to the provider.
- Inappropriate levels of electrolytes given by IV can also have serious cardiac, muscular and nervous system effects, even resulting in death.

---

**U.S. Anti-Doping Agency**

5555 Tech Center Drive, Suite 200, Colorado Springs, CO 80919 | Tel: 719.785.2000 | Fax: 719.785.2001

usada@usada.org | www.usada.org



*Preserving the integrity of competition. Inspiring true sport. Protecting the rights of athletes.*

## **ARE IVs BETTER THAN ORAL REHYDRATION FOR PERFORMANCE?**

- Convincing research to support IV fluid administration prior to competition for performance enhancement, rehydration, dehydration prevention, or muscle cramp prevention does not exist.
- Current studies do not support the use of IV fluids for rehydration when an athlete can tolerate oral fluids.
- American College of Sports Medicine consensus guidelines state, “IV fluids do not provide an advantage over drinking oral fluids and electrolytes.”
- IV infusions before sample collection could actually prolong the doping control sample process because it has a greater potential to produce multiple dilute samples.

## **HOW CAN I REHYDRATE AS QUICKLY AS POSSIBLE?**

- If rapid recovery from dehydration is desired, one should ingest 1.5 L (50 fluid oz.) of fluid for each kilogram (2.2lbs) of body weight lost.
- Normal rehydration can be achieved in the vast majority of individuals by drinking and eating normal beverages, such as sports drinks and water, and meals.
- Glycerol-induced hyper-hydration or rehydration is not permitted because glycerol is a prohibited substance.
- Various sports and athletic organizations such as the [American College of Sports Medicine](#) (ACSM) and the [National Athletics Trainers' Association](#) (NATA) and [others](#) have informative resources to educate on best practices for fluid replacement in athletes.

## **WHEN IS A TUE NOT REQUIRED FOR AN IV INFUSION?**

- If the athlete has an acute medical condition where an IV line was essential for treatment in a hospital admission, surgical procedure, or clinical investigation. Examples would be a severely dehydrated athlete with signs of circulatory compromise or the need for an IV line during a surgical procedure.
- Clinical investigations to diagnosis medical conditions, such a medical imaging, may also require IV administration of non-prohibited medicine which is permitted.
- In emergency circumstances, IVs may also be given by paramedical staff or physicians on the field of play, but an emergency TUE application is required as soon as reasonably possible after treatment has been received. Examples may include a semi- or unconscious athlete, an athlete who cannot tolerate oral fluids, or treatment of an acute injury.
- The following settings are **not considered hospital admissions** and an IV infusion in these settings would require an **approved TUE in advance**:
  - Home visits
  - Doctor's office visits
  - Urgent care or after-hours clinics



- Infusion centers or out-patient infusion clinics
- Boutique IV and rehydration service centers

## REFERENCES

Givan GV, Diehl JJ. [Intravenous fluid use in athletes](#). Sports Health. 2012 Jul;4(4):333-9.

van Rosendal SP, Osborne MA, Fassett RG, Lancashire B, Coombes JS. Intravenous versus oral rehydration in athletes. Sports Med. 2010 Apr 1;40(4):327-46.

[WADA TUE Physician Guidelines Medical Information to Support the Decisions of TUECs - INTRAVENOUS INFUSIONS](#), Version 4.0, February 2015.

American College of Sports Medicine Position Stand: [Exercise and Fluid Replacement](#). Medicine & Science in Sports & Exercise: February 2007; 39(2): 377-390.

National Athletic Trainers' Association Position Stand: [Fluid Replacement for Athletes](#). Journal of Athletic Training 2000;35(2):212–224.



**Preserving** the integrity of competition. **Inspiring** true sport. **Protecting** the rights of athletes.



**Preserving** the integrity of competition. **Inspiring** true sport. **Protecting** the rights of athletes.