



## **How to Prepare for Competing at Altitude**

USA Artistic Swimming is very excited to host the 2021 Junior Olympics at the beautiful Air Force Academy campus in Colorado Springs, Colorado. While this is a perfect site for this event, we understand that there are some concerns about the potential altitude difference between your home pool and the pool at the Academy. This document will give you some tips and recommendations on what to do before you arrive at altitude and what to do once you arrive.

This document is based on research and information gathered from Dr. Andrew Subudhi, PhD, FACSM, CSCS, who is a Human Physiology and Nutrition professor at the University of Colorado Colorado Springs, and has done extensive research on the effects of altitude on an athlete's body and sport performance. In addition to facts taken from a consensus statement he helped write for the International Olympic Committee, USA Artistic Swimming was able to ask him a couple questions in person about artistic swimmers and what they should do to best prepare for a competition at the Air Force Academy. Below are some of the recommendations and tips that he shared with us on what to do before the competition, and how to properly adjust to the altitude once you get to Colorado Springs.

### **Before the Competition**

- The Air Force Academy is located at 2,212 meters above sea level, which is considered moderate altitude. At this point, mountain sickness can happen to some athletes and getting acclimated is important for performance, but there are no severe risks to athletes.
- Dr. Subudhi stated, "While it is going to be an adjustment to performing at this altitude, the Air Force Academy is at a low enough altitude that athletes' performance will not be affected in any major way. Yes, it will be a little more difficult, but it is nothing to be concerned about."
- Athletes should prepare for the altitude by increasing their iron intake before arriving, which can be found in red meats, legumes, green vegetables, and certain supplements. This will help your red blood cells carry oxygen to your lungs more efficiently, which is important in performance.

- Make sure you are drinking water and staying hydrated before traveling, as this can help minimize the effect of mountain sickness when you arrive.

### **At the Competition**

- Arrive at the competition site at least two days early if possible, in order to get adjusted to the altitude. These two days will allow athletes' bodies to adjust to the change and get prepared to compete at the higher altitude.
- Drink LOTS of water, even more than you normally would. The altitude will dehydrate athletes faster than if they were at home, so it is important to drink lots and lots of water to stay hydrated. This will also help prevent mountain sickness.
- Stick with a mostly carbohydrate-dependent diet, as this is where athletes are going to get most of their energy from when practicing and performing.
- Before the competition, do some light exercise (short walk, hike, bike, etc.). This will help athletes sleep better, as well as adjust more to the altitude.

The main point he wanted to emphasize is that while there will be an adjustment for some athletes, the Air Force Academy is at a moderate altitude, and that there is no concern for major negative effects on an athlete's performance at this elevation. If athletes follow the recommendations and tips stated above, they will be able to adjust and perform at the level they would if at home.

The Air Force Academy and the City of Colorado Springs have offered USA Artistic Swimming and our members an incredible opportunity to compete in Olympic City USA. We have been transparent that the likelihood of Junior Olympics being hosted in Colorado Springs was high. We have also solicited feedback from the membership and multiple sports scientists. It is a reality that training and competing at elevation can be challenging, but it does not put our athletes at any greater risk. That said we have prepared this informational document to help every participant educate themselves on training and competing at elevation. We can assure you that USAAS and the Air Force Academy are prepared to execute a safe, fun and exciting USA Artistic Swimming Junior Olympics 2021.

References: "International Olympic Committee consensus statement on thermoregulatory and altitude challenges for high-level athletes"