



# Pioneer Water Polo

## Summer Training 2022

*Foods for improved hydration and sleep*



### ***Include these foods in your nutrition plan to stay hydrated and get efficient recovery sleep***

<b>Foods for hydration (w/electrolytes)</b>	<b>Foods for efficient sleep</b>
Spinach, kale, avocados, Broccoli, potatoes, beans, almonds, peanuts, soybeans, Tofu, strawberries, watermelon, oranges, bananas, tomatoes, milk, Buttermilk, yogurt, fish (such as flounder), turkey, chicken, veal, raisins, olives, canned foods, such as soups and vegetables	Milk, turkey, chicken, fish, eggs, pumpkin seeds, beans, peanuts, cheese, leafy green vegetables, kiwi fruits and tart cherries plus B vitamins and magnesium, tryptophan. <i>High carbohydrate meals/snacks 45 minutes before bed lead to higher REM</i>

#### **Nutritional enhancement for hydration system**

Maintaining athlete hydration during training normally includes a hydration plan of having water and/or Gatorade available during practice sessions and providing both planned hydration break and “as needed” breaks. Athletes are also encouraged to bring their own water bottles. For purposes of reducing the need for hydration breaks during training, there are several foods that can be integrated into the nutritional plan that provide hydration. The negative effects of poor hydration on training are significant. However, how the athlete hydrates matters.

The method of fluid overloading before an event “may increase the risk of hyponatremia and impact negatively on performance due to feelings of fullness and the need to urinate.” (Beck, 2015). So, while avoiding heat stroke, heat exhaustion and dehydration is critical, there should be some mitigation of the potential of taking in too many fluids just prior to and during training. “

...there is controversy over the recommendation that athletes maintain BM by fluid ingestion throughout an event” (Beck, 2015)

By integrating a nutrition plan with food containing high water content and electrolytes, proper hydration can be maintained during training while mitigating the risks of excessive fluid ingestion. In addition to high water content, foods should be selected that specifically contain these electrolytes; sodium, potassium, calcium, magnesium, chloride, phosphate, and sulphates.

Hydration foods should be integrated with meals and snack throughout the day. Samples include melons, grapes, celery, avocados, spinach, oranges, sweet potatoes, kiwi, broccoli, bananas, figs, and sweet corn. There are many more hydration foods that meet the criteria.

### **Sleep management**

Sleep is an integral part of the recovery process for athletes. Loss or lack of sleep can have significant negative impact on performance and it “...is associated with increased catabolic and reduced anabolic hormones which results in impaired muscle protein synthesis blunting training adaptations and recovery.” (Doherty, 2019)

Including the right foods can help regulate factors that affect sleep characteristics. The term “chrononutrition” refers to the relationship between nutrition (food) and the circadian system. There are two aspects to chrononutrition: “1. Timing of food intake or contributions of food components to the maintenance of health; and 2. Timing of food intake or contributions of food components to rapid changes in or resetting of a human’s system of internal clocks” (Doherty, 2019). An integrated nutrition plan will need to consider when meals and snacks are planned in relation to when sleep is planned. Research indicates high carbohydrate meals/snacks

45 minutes before bed lead to higher REM and decreased light sleep and wakefulness over low carbohydrate meals/snacks consumed at the same time before bed.

Melatonin is a hormone secreted by the pineal gland that is a natural sedative – it helps bring on sleep. Melatonin occurs naturally in milk. Tryptophan is a branch chain amino acid that acts as a precursor to serotonin and melatonin. “Dietary sources of tryptophan include milk, turkey, chicken, fish, eggs, pumpkin seeds, beans, peanuts, cheese, and leafy green vegetables.” (Doherty, 2019). Additional foods that enhance sleep are kiwi fruits and tart cherries plus B vitamins and magnesium.

## References

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