

Nutrition & Hydration Summary

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	Pre Match/Training	During Match/Training	Post Match/Training
General Goals and principles	<p>*Just as you should not cram for an exam, your body cannot cram for competition. Be sure to have a regular routine so fluids and nutrients are well stocked the day before a tournament and in general.</p> <p>*The closer to a match/intense train one gets, the body cannot tolerate as much carbohydrates, protein or fats.</p> <p>*Consume enough nutrients to prevent fatigue and blood sugar level dropping.</p>	<p>Hydration goal is to keep weight constant throughout the match. A 1-2% max drop in body weight is tolerable but signs of demising performance (cognitive, leg power, etc) appear at 2.5% and clearly at 4%. Drop in fluids, affects blood content, oxygen capacity and core temperature.</p>	<p>Muscle carbohydrate storage is primary fuel and 1st area of depletion. This muscle glycogen needs resynthesis within 30 min of activity stopping. Tennis is a catabolic activity (tears down) and needs to be changed to anabolic (building up). Get Carbs, Proteins, fluids, into system along with cool down.</p>
Hydration	<p>2-3 hours prior to match you should drink 16oz fluids. Not guzzling it down but drinking regularly. 1 hour prior it is good to have 8oz more. 15 min prior sipping a bit more (1 cup or less)</p>	<p>During changeovers take 4-12 sips (oz) of water or sport drink and be sure to have sodium replenished if you leave salt sweat marks. Tip: get salt packet from restaurant and put in flavored drink. FYI</p>	<p>Goal is to not lose greater than 1% of body weight in fluids but tough to prevent so for every lb lost drink 20-24 oz within the first hour.</p>
Nutrients	<p>*While individuals vary a general rule of thumb is 1g carbohydrate per 1kg body weight times the number of hours prior to competition. 150lb player (70kg) x 3 hours is 210 g Carbohydrates (a whole grain bagel, small piece of cheese, and some fruit is about right). Some small amount of protein is fine.</p>	<p>A good rule of thumb is 4:1 Carb: Protein snack during the match. Carbohydrates are the most important thing though small amounts of Protein are ok. 30-60g Carb per hour (about 120-240 cal from Carbs) is a granola bar etc.</p>	<p>Consume 30-60g Carb and 6-20g Protein within 30 min (this could be a raisin bagel). Quality protein is important: High Luecin (e.g. of the 20g 4g are luecin). Ex. Chicken, peanuts, soybeans. Whey is good.</p>
	<p>**M. Kovacs, PhD Big Tip: Avoid eating anything within 45 min playing if possible but rather have a high glycemic snack during warmup (e.g. gel pack, honey stick, etc) as you walk up to warm up or between the warm up and play. You will not have a crash prior to playing this way.</p>	<p>Difficult to achieve, goal is not to "starve" after a match or training session. While this does happens, it usually means pre and during match nutrition was insufficient. Some athletes do not like eating a lot so gauge this or use gels, fluid carbs, etc..</p>	<p>Ex of weights and consuming: 100lb (45kg)->67g Carb/16g Pro is about 1 sports bar. 190lb (86kg)->129gCarb/32gPro is about 2-3 sports bars. (396 cal) or nice recovery shake, bagel, etc.</p>
comment	<p>Be fully hydrated the night before a competition. I.e. do not go to bed dehydrated.</p>	<p>Pedialyte is a great carb/electrolyte source. FYI, Gatorade is NOT a good sodium source (but you can put 1/2 salt packet in it.</p>	<p>Cool down instead of immediate ice allows for great fluid circulation and nutrients getting to muscles, etc. Foam rollers increase circulation also.</p>

- Individuals vary so take caution in copying what others do. It is not one size fits all. General principles however are fairly transferable, just how they are implemented can vary. Ex. For one player having a high glycemic carbohydrate like a small donut hole might be great for a mid set pick me up but for another person that is too difficult for the stomach to handle. Also, who would have thought a donut hole is good for you. It is not just what you eat but when you eat it that matters. We may need high glycemic foods (very fast energy in the blood stream) so white bread is fine if needed to boost energy in a competition, but not as a late nigh snack when you are just sitting around.
- M. Kovacs, PhD Big Tip: When trying these changes, practice them during a training session and not a match day.
- Special thanks to Mark Kovacs, PhD for his expertise and sources that provide some of this information.