

ETTU COACHING CONFERENCE

NUTRITION IN TABLE TENNIS

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**KEEP
CALM
TRUST ME
I AM A
TABLE TENNIS
EXPERT**

Specifics of table tennis as an sport

- ❑ Fast, high-tech sport.
- ❑ Most participants of any sports in the world (aprox.40 mil.competitive players in the world, millions of recreative players).
- ❑ Indoor sport which is not influenced by weather conditions but is dependent on small technical details: lights (shadows, blind spots...), air flow, humidity...
- ❑ More games in a day during a tournament (more days).
- ❑ It is necessary for athletes to have balance of entire body and speed of reaction time.
- ❑ Judgment and concentration is required.
- ❑ Physical elements such as agility and dexterity are required.
- ❑ Equipment used in table tennis is light in weight and the moving range is not so wide: there are not so much requirements for the young age, specific skill or purpose for the players.
- ❑ Body contact, accidents and injury in the midst of playing are few.

Nutrition in table tennis: introduction

Estimation of energy consumption:

- Equation: 0.05 – 0.083 kCal/kg BW/min (av. 0.065 kCal/kg BW/min)
- 60 kg tennis player: $60\text{kg} \times 0.065 \text{ kCal/kg BW/min} \times 60 \text{ min} = 234 \text{ kCal}$
- Professional table tennis players consume as twice as predicted!

Heart beat average

60-min practice	Forehand	Forehand drive – counter drive	Forehand – backhand alternate	Footwork and on loop drive - smash
Male (av.)	107 +/- 8	130 +/- 8	127 +/- 13	144 +/- 14
(max.)	124 +/- 10	153 +/- 12	146 +/- 15	167 +/- 14
Female (av.)	112 +/- 10	125 +/- 12	122 +/- 12	134 +/- 16
(max.)	129 +/- 13	141 +/- 14	137 +/- 12	159 +/- 15

Quality of food

- ❑ Processed food: high in fat, sugar, salt, food preservatives and food additives.
- ❑ In most developed countries, 80% of consumed salt comes from industry-prepared food (5% come from natural salt; 15% comes from salt added during cooking or eating).
- ❑ Junk food: excess fat, carbohydrates, and processed sugar found in junk food contributes to an increased risk of obesity, cardiovascular disease, diabetes, weight gain, and many other chronic health conditions.
- ❑ There is no place for junk food in athletes!!!



Nutrition in table tennis: introduction

Why is healthy nutrition important in sports?

- Maintains appropriate hydration level
- Achieves and maintains ideal body weight and physique
- Reduces risk of injury and illness
- Provides energy and nutrients for organism
- Supports growth and development
- Supports optimal gains for training program
- Enhances recovery (training sessions, competitions...)



Nutrition in table tennis: introduction

Energy requirements of athlete depends on:

- 1) Age, height, weight
 - 2) Sport played
 - 3) Position in field
 - 4) Daily training load
 - 5) Competition schedule
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- Energy value of food:
 - 1) Protein = 4 kCal/g
 - 2) Carbs = 4 kCal/g
 - 3) Fat = 9.3 kCal/g
 - 4) Alcohol = 7 kCal/g



Daily energy requirements

- 1) BMR = 60 - 75%
- 2) Exercise: 15 - 30%
- 3) Other: 10%

Nutrition in table tennis: hydration

Hydration

- Basic water intake: 35 – 50 mL/kg BW.

Dehydration

- Deficit of total body water with disruption of metabolic processes
- Chronic dehydration is common between athletes
- Leads to:
 - 1) Elevated heart rate
 - 2) Increase in body temperature
 - 3) Increase in perceived exertion
 - 4) Fatigue, dizziness (5 – 8% loss)
 - 5) Physical and mental deterioration (over 10% loss)
 - 6) Death (15 – 25% loss)



Nutrition in table tennis: hydration

Dehydration affects:

- 1) Performance (endurance, intensity)
 - 2) Coordination and skill
 - 3) Concentration and decision making
- Negative effects in sports: loss of 2% of total body water.

Signs of dehydration:

- 1) Dark coloured urine
- 2) Smaller urin volume
- 3) Headache
- 4) Fatigue
- 5) Dry skin



Monitoring fluid loss and intake

Pre training weight	60 kg
Post training weight	58 kg
Change in body mass	- 2 kg
Fluid intake	750 ml (0.75 kg)
Urine loss	-----
Total sweat loss	2.75 kg (2.75 L)
Change in body weight (%)	-5.0%

How much and when?

Before	During	After
<ul style="list-style-type: none">-Adequate (“normal”) till 2 – 4 hours before training/game-“Sipping” until just before strting	<ul style="list-style-type: none">- Small amounts at regular intervals during warm up (make use of formal and informall stoppages)	<ul style="list-style-type: none">- Aim to replace 150% of loss in next 2 – 3 hours (variety of fluids to encourage intake!)

Nutrition in table tennis: hydration

- Water:
 - a) during and after easy training/game sessions, especially if they are less than 60 minutes
 - b) During day.

- Sports drinks:
 - a) During and after hard prolonged trainings or games (60 – 90 minutes)
 - b) Where fluid loss is estimated to be high.



Carbs – which ones?

- WHO recommendations: the proportion of carbohydrates in the daily diet of an adult should constitute no more than 60% of the daily intake of energy - from 5 to 15 % percent of the carbohydrates can be in the form of mono- and disaccharides , in particular from fruit, vegetables and dairy .
- Most of the daily energy introduced in the form of carbohydrates should be with complex sugars - polysaccharides (they can be found in unprocessed vegetable sources, eg . Wholegrain cereal products, in legumes , fruits and vegetables).

Healthy Carbs

Vegetables



Fruits



Whole Grains



Seeds



Nuts



Beans



When, how much?

- Daily intake of carbs should reflect demands of training!

a) Exercise of low intensity b) < 1 hour of moderate to high intensity training	5 – 7 g/kg BW
1 – 3 hours of moderate to high intensity training	7 – 10 g/kg BW
> 4 hours of moderate to high intensity training	10 – 12+ g/kg BW

Proteins - why?

- Important for growth and development
- Needed to repair damaged muscle and enhance recovery
- Muscle growth
- Needs are easily met through a balanced diet

Which ones?

Sources of quality proteins:

- 1) Fish, chicken, turkey, lean meat.
 - 2) Milk, cheese, yoghurt
 - 3) Lentils, legumes, nuts
 - 4) Wholegrain cereals
- The protein in the food should have a high biological value, which means that they contain a sufficiently high proportion of the essential amino acids.



Nutrition in table tennis: proteins

How much?

Inactive/recreational	0.8 – 1 g/kg BW
Endurance	1.2 – 1.6 g/kg BW
Resistance	1.2 – 1.7 g/kg BW

Nutrition in table tennis: fats and oils

- They are not preferred fuel source of our organism
- More difficult to control body fat levels when eating high fat diet???
- Decrease speed, agility and endurance???
- High fat diet can lead to long term health problems???
- Can take place of carbohydrates (keto diet)
- Preferred: monosaturated, omega 3



Nutrition in table tennis: fruit and vegetables

Benefits:

- 1) They provide wide range of essential vitamins and minerals.
- 2) Low energy foods.
- 3) Nutrient dense foods.

Goals:

- a) 2 – 3 pieces of fresh fruit every day (different)
- b) Include vegetables in lunch and dinner



Conclusion:

- 1) Carbs are a base for main meals (60 – 70% of day energy input)
- 2) Include lean meat in main meals (proteins: 10 – 20%)
- 3) Fats? (20 – 25%)
- 4) Vegetables, fruits
- 5) Hydration!!!

Nutrition in table tennis

ATHLETES EAT AND TRAIN



THEY DON'T DIET AND EXERCISE!