NUTRITION IN TABLE TENNIS

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KEEP CALM
TRUST ME
I AM A TABLE TENNIS EXPERT
Nutrition in table tennis: introduction

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 recreational 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: 60kg x 0.065 kCal/kg BW/min x 60 min = 234 kCal
- Professional table tennis players consume as twice as predicted!

Heart beat average

<table>
<thead>
<tr>
<th>60-min practice</th>
<th>Forehand</th>
<th>Forehand drive – counter drive</th>
<th>Forehand – backhand alternate</th>
<th>Footwork and on loop drive - smash</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male (av.) (max.)</td>
<td>107 +/- 8 124 +/- 10</td>
<td>130 +/- 8 153 +/- 12</td>
<td>127 +/- 13 146 +/- 15</td>
<td>144 +/- 14 167 +/- 14</td>
</tr>
<tr>
<td>Female (av.) (max.)</td>
<td>112 +/- 10 129 +/- 13</td>
<td>125 +/- 12 141 +/- 14</td>
<td>122 +/- 12 137 +/- 12</td>
<td>134 +/- 16 159 +/- 15</td>
</tr>
</tbody>
</table>
Nutrition in table tennis: introduction

Quality of food

- **Processed food**: high in fat, sugar, salt, foof preservatives and food aditivess.

- 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…)

- Fruit and vegetables images
Nutrition in table tennis: introduction

Energy requirements of athlete depend on:

1) Age, height, weight
2) Sport played
3) Position in field
4) Daily training load
5) Competition schedule

- 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
Nutrition in table tennis: introduction

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
### Nutrition in table tennis: hydration

#### Monitoring fluid loss and intake

<table>
<thead>
<tr>
<th>Pre training weight</th>
<th>60 kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post training weight</td>
<td>58 kg</td>
</tr>
<tr>
<td>Change in body mass</td>
<td>-2 kg</td>
</tr>
<tr>
<td>Fluid intake</td>
<td>750 ml (0.75 kg)</td>
</tr>
<tr>
<td>Urine loss</td>
<td>------</td>
</tr>
<tr>
<td>Total sweat loss</td>
<td>2.75 kg (2.75 L)</td>
</tr>
<tr>
<td>Change in body weight (%)</td>
<td>-5.0%</td>
</tr>
</tbody>
</table>
## Nutrition in table tennis: hydration

### How much and when?

<table>
<thead>
<tr>
<th><strong>Before</strong></th>
<th><strong>During</strong></th>
<th><strong>After</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Adequate (“normal”) till 2 – 4 hours before training/game</td>
<td>- Small amounts at regular intervals during warm up (make use of formal and informal stoppages)</td>
<td>- Aim to replace 150% of loss in next 2 – 3 hours (variety of fluids to encourage intake!)</td>
</tr>
<tr>
<td>- “Sipping” until just before starting</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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.
Nutrition in table tennis: hydration

**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, e.g., wholegrain cereal products, legumes, fruits, and vegetables).
Nutrition in table tennis: carbs

When, how much?

- Daily intake of carbs should reflect demands of training!

<table>
<thead>
<tr>
<th>Exercise</th>
<th>Carbohydrates (g/kg BW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Exercise of low intensity</td>
<td>5 – 7</td>
</tr>
<tr>
<td>b) &lt; 1 hour of moderate to high intensity training</td>
<td></td>
</tr>
<tr>
<td>1 – 3 hours of moderate to high intensity training</td>
<td>7 – 10</td>
</tr>
<tr>
<td>&gt; 4 hours of moderate to high intensity training</td>
<td>10 – 12+</td>
</tr>
</tbody>
</table>
Nutrition in table tennis: proteins

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
Nutrition in table tennis: proteins

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?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inactive/recreational</strong></td>
<td><strong>0.8 – 1 g/kg BW</strong></td>
</tr>
<tr>
<td>Endurance</td>
<td>1.2 – 1.6 g/kg BW</td>
</tr>
<tr>
<td>Resistance</td>
<td>1.2 – 1.7 g/kg BW</td>
</tr>
</tbody>
</table>
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 (ketosis 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!