Nutrition for best performance

Badminton

BRONWEN CHARLESON
WHO WANTS TO BE A MILLIONAIRE
Which of the following is the best fuel for training?

A: Fat  
B: Protein  
C: Carbohydrate  
D: Alcohol
Which of the following is the best fuel for training?

A: Fat
B: Protein
C: Carbohydrate
D: Alcohol

Question 1
Which of the following foods are high in carbohydrates?

A: Cheese, chicken, lamb and fish
B: Tomato, Lettuce, beetroot and peppers
C: Bread, pasta, fruit and potatoes
D: Nuts, seeds, oil and butter
Which of the following foods are high in carbohydrates?

A: Cheese, chicken, lamb and fish
B: Tomato, Lettuce, beetroot and peppers
C: Bread, pasta, fruit and potatoes
D: Nuts, seeds, oil and butter
Question 3

When training twice a day should you eat extra snacks?

- A: No, your body will make its own energy
- B: Yes, food is essential for recovery, when sessions are less than 8hrs apart
- C: Yes, training more means you can eat what you like
- D: No, except if you are trying to gain weight.
Question 3

When training twice a day should you eat extra snacks?

- A: No, your body will make its own energy
- B: Yes, food is essential for recovery, when sessions are less than 8hrs apart
- C: Yes, training more means you can eat what you like
- D: No, except if you are trying to gain weight.
Which of one of these would be a good recovery snack after training?

- A: Banana and Milk
- B: Apple and Juice
- C: Cheeseburger
- D: Water
Question 4

Which of one of these would be a good recovery snack after training?

- A: Banana and Milk
- B: Apple and Juice
- C: Cheeseburger
- D: Water
After training, when is the best time to eat a recovery meal or snack?

A: Straight away while your muscles are hungry

B: Wait at least 2 hours to let your stomach settle

C: Wait 1 hour to stop your body storing fat.

D: Eat when you next feel hungry.
After training, when is the best time to eat a recovery meal or snack?

A: Straight away while your muscles are hungry

B: Wait at least 2 hours to let your stomach settle

C: Wait 1 hour to stop your body storing fat.

D: Eat when you next feel hungry.
How long before training should you eat a snack or meal?

- A: 3 hours
- B: 1.5 hours
- C: 15 minutes
- D: Directly before
How long before training should you eat a snack or meal?

- A: 3 hours
- B: 1.5 hours
- C: 15 minutes
- D: Directly before
If you had a 15 minute break between matches which of the following is the best food to eat?

- A: Chocolate bar and packet of crisps
- B: Sandwich with chicken, coleslaw and salad
- C: Left over sweet and sour chicken and rice.
- D: Banana and small cup of chocolate milk
If you had a 15 minute break between matches which of the following is the best food to eat?

- A: Chocolate bar and packet of crisps
- B: Sandwich with chicken, coleslaw and salad
- C: Left over sweet and sour chicken and rice.
- D: Banana and small cup of chocolate milk
Before starting training or competition, what is an easy way of checking your hydration?

A: Urine colour. It should be a light straw colour

B: Mouth and Lips. They should be moist.

C: Fluid intake. You will be hydrated if you have drunk more than 2Litres.

D: Trick question. There is no easy way to know if you are hydrated.
Before starting training or competition, what is an easy way of checking your hydration?

- **A:** Urine colour. It should be a light straw colour.
- **B:** Mouth and Lips. They should be moist.
- **C:** Fluid intake. You will be hydrated if you have drunk more than 2Litres.
- **D:** Trick question. There is no easy way to know if you are hydrated.
An average 60kg badminton player, training once a day needs to eat around 300g of carbohydrate (5g/kg). Which one of the following would provide 300g?

A: 1 pack cornflakes, 1 slices bread, 1 large bananas. 1/2 pint orange juice, 1 small potato, 1 large handfuls penne (cooked)

B: 2 boxes cornflakes, 2 slices bread, 2 large bananas. 1 pint orange juice, 1 large potato, 2 large handfuls penne (cooked)

C: 3 boxes cornflakes, 3 slices bread, 3 large bananas. 1 1/2 pint orange juice, 2 large potato, 3 large handfuls penne (cooked)

D: 4 boxes cornflakes, 4 slices bread, 4 large bananas. 2 pints orange juice, 3 large potato, 4 large handfuls penne (cooked)
An average 60kg badminton player, training once a day needs to around 300g of carbohydrate (5g/kg). Which one of the following would provide 300g?

A: 1 pack cornflakes, 1 slices bread, 1 large bananas. 1/2 pint orange juice, 1 small potato, 1 large handfuls penne (cooked)

B: 2 boxes cornflakes, 2 slices bread, 2 large bananas. 1 pint orange juice, 1 large potato, 2 large handfuls penne (cooked)

C: 3 boxes cornflakes, 3 slices bread, 3 large bananas. 11/2 pint orange juice, 2 large potato, 3 large handfuls penne (cooked)

D: 4 boxes cornflakes, 4 slices bread, 4 large bananas. 2 pints orange juice, 3 large potato, 4 large handfuls penne (cooked)
How much protein does an average 60kg badminton player, training once a day, need?

A: 0.5g/kg – 1 small chicken breast

B: 3g/kg – 1 Pint milk, 1 egg, 1 tin tuna, 2 large chicken breasts, 200g yoghurt

C: 1.5g/kg – 1 Pint milk, 1 small egg, ½ tin tuna, 1 small chicken breast, 200g yoghurt

D: 2g/kg: 1 Pint milk, 1 small egg, ½ tin tuna, 2 small chicken breasts, 200g yoghurt
How much protein does an average 60kg badminton player, training once a day, need?

**Question 10**

- **A:** 0.5g/kg – 1 small chicken breast
- **B:** 3g/kg – 1 Pint milk, 1 egg, 1 tin tuna, 2 large chicken breasts, 200g yoghurt
- **C:** 1.5g/kg – 1 Pint milk, 1 small egg, ½ tin tuna, 1 small chicken breast, 200g yoghurt
- **D:** 2g/kg: 1 Pint milk, 1 small egg, ½ tin tuna, 2 small chicken breasts, 200g yoghurt
WHO WANTS TO BE A MILLIONAIRE
1. What should you eat/drink?

2. When should you eat?

3. How much should you eat?
1. What should you eat/drink?

2. When should you eat?

3. How much should you eat?
What should you eat?

High Carbohydrate
Glucose is the only source of energy the muscle can use at high intensity
Store about 2 hours of energy

Good Hydration
Dehydration increased fatigue and muscle damage.
What should you eat?

![Bar chart showing protein, carbohydrate, and fat consumption for Light/Moderate, High Intensity Sprint, and High Intensity Endurance activities.]

- **Protein**
  - Light/Moderate: Low
  - High Intensity Sprint: High
  - High Intensity Endurance: Medium

- **Carbohydrate**
  - Light/Moderate: High
  - High Intensity Sprint: Very High
  - High Intensity Endurance: Medium

- **Fat**
  - Light/Moderate: Low
  - High Intensity Sprint: Low
  - High Intensity Endurance: High

**Legend:**
- Light/Moderate
- High Intensity Sprint
- High Intensity Endurance
- Protein
- Carbohydrate
- Fat
What should you eat?

Strength

Moderate Protein
- Helps muscle repair and growth
- Immune system function

Good Hydration
- For every 1% you drop in body weight you get a 5% drop in performance

Moderate Carbohydrate
- Produces insulin – important for anabolism/growth
What should you eat?

High Carbohydrate!
• 60-70% energy should come from carbohydrates
• Include carbohydrates at each meal and snack

High Protein!
• Include protein at each meal.
• Include protein in snack foods
Fat and carbs:
- Look at per 100g
- Fat: less than 10g
- Carbohydrates: More than 20g

Protein:
- Look at per serve
- Protein: 10g per amount eaten
What should you eat?

Brain function

Serotonin (5-HT)
- Role in sleep
- Fatigue
- Lethargy
- Drowsiness
- Dec. Motivation

Dopamine (DA) and Noradrenaline (NA)
- Motivation
- Reward
- Memory
- Attention

What should you eat?

Brain function

Serotonin (5-HT)
- Role in sleep
- Fatigue
- Lethargy
- Drowsiness
- Dec. Motivation

Dopamine (DA) and Noradrenaline (NA)
- Motivation
- Reward
- Memory
- Attention
What should you eat?

Brain function

High Carbohydrate
Glucose is the ONLY source of energy the brain can USE - Provide constant fuel source
Increase dopamine

Low fat
Fat as a fuel source increase the production of serotonin

Good Hydration
For every 1% you drop in body weight you get a 5% drop in performance
What should you eat?

Fat

Low Fat
What should you eat?

Low Fat
What should you eat?

Low Fat
1. What should you eat/drink?

2. When should you eat?

3. How much should you eat?
What should you drink?

- **SEVERE DEHYDRATION**: >1.031
- **EXTREME DEHYDRATION**: <1.028 - 1.031
- **VERY HIGH DEHYDRATION**: <1.026 - 1.027
- **HIGH DEHYDRATION**: <1.024 - 1.025
- **MODERATE DEHYDRATION**: <1.021 - 1.023
- **LOW DEHYDRATION**: <1.011 - 1.020
- **HYDRATED**: <1.010

5 days
What should you drink?

<table>
<thead>
<tr>
<th>Do</th>
<th>Don’t</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Drink water</td>
<td>• Drink alcohol when dehydrated</td>
</tr>
<tr>
<td>• Choose a variety of different fluids</td>
<td>• Use sports drinks for short or low intensity training/matches</td>
</tr>
<tr>
<td>• Consider sports drinks for long intense training/competition days (1.5-2hrs)</td>
<td>• Rely on tea and coffee for hydration</td>
</tr>
<tr>
<td>• Take a water bottle when travelling and sip regularly</td>
<td>Overdrink - you cannot store fluid!</td>
</tr>
</tbody>
</table>
1. What should you eat/drink?

2. When should you eat?

3. How much should you eat?
**When should you eat?**

**BEFORE**
- 1.5hr before meal or snack
- high carbohydrate,
- moderate protein
- Fluids!

**DURING**
- Carbohydrate
  (>1-5-2hrs)
- Fluids

**AFTER**
- Within 30mins
- Protein and carbohydrates
3. When should you eat?

1 Session

- Wake up
- Bed time

- Burrito
- Rice
- Banana

Sports Institute
Northern Ireland
3. When should you eat? - 2 sessions

- Wake up
- Bed time

Examples:
- Water
- Yogurt with berries
- Sandwich
- Trail mix in a banana
3. When should you eat?

Competition

**BEFORE - Breakfast**

- 1.5hr before meal or snack
- High carbohydrate,
- Moderate protein
- Fluids!

**DURING – Lunch and Snacks**

- Carbohydrate
  (>1-5-2hrs)
- Fluids

**AFTER**

- Within 30mins
- Protein and carbohydrates
1. What should you eat/drink?

2. When should you eat?

3. How much should you eat?
### Everyday needs
- Breakfast, Lunch, Dinner

### Training once each day
- 2hr court session

### Training twice a day
- Gym session – 1hr
- 2hr court session

### Competition
- 5 matches (~30mins)
Everyday needs

Breakfast, Lunch, Dinner

- Protein: 1.5g/kg – 1 Pint milk, 1 small egg, ½ tin tuna, 1 small chicken breast, 200g yoghurt

- Carbohydrates 5g/kg: 2 cups cornflakes, 2 slices bread, 2 large bananas. 1 pint orange juice, 1 large potato, 2 large handfuls penne (cooked)
Training once each day
(2hr court session)

Additional: Before training, during training, after training
Training twice a day

Gym session – 1hr
2hr court session

Additional: Before training, during training, after training
Competition

5 matches (~30mins)

Breakfast, Snacks, Dinner
Summary

1. What should you eat?
2. When should you eat?
3. How much should you eat?

Factsheets:
• Snack ideas
• Homemade recovery drinks
• Recovery factsheet
Original location:


provided here for posterity since the original is off the air as of 2020