

Dairy and Sport

Making your `go`
better with dairy....

Utilising dairy's unique
nutrient matrix...



How to make your go better with... good Nutrition

- Diet affects your sports performance
- The food you choose in training and competition will affect HOW well you train and play



How to make your go better with... good Nutrition

Good nutritional practice will help athletes

- ✓ train hard
- ✓ recover quickly and
- ✓ adapt more effectively with less risk of injury

Energy requirements of sportsmen vary depending on the type and duration of exercise they do



Professional athletes vs Recreational athletes



Key elements needed by the sportsman

- Carbohydrates



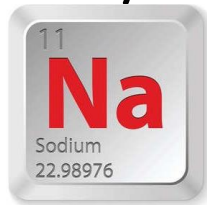
- Protein



- Water



- Electrolytes



Why carbohydrates?

- Carbohydrates are the **main source of energy** for any human being and are needed to provide energy during exercise
- Carbohydrates **supply the muscles and the brain** with the fuels needed to meet the needs caused by stress of training and competition
- Carbohydrates are stored mostly in the muscles and liver in the form of **glycogen**
- Glucose and glycogen stores are depleted during exercise **lasting longer than one hour**



Why carbohydrates?

Sportsmen need CHO for

- the provision of glucose in the bloodstream and
- rapid replenishment of glycogen stores

- Highest rate of glycogen storage recovery ➡ within the first hour post exercise
- It takes 20 – 24 hours to normalise muscle glycogen levels following depletion



Why Protein?

Protein supplies building blocks for **growth, repair and maintenance**

It also plays a vital role in **supporting the immune system**, helps to make hormones and transports nutrients



Why Protein?

Average sportsman needs 1.2 – 2.0g PRT/kg/day
repair and growth of muscle

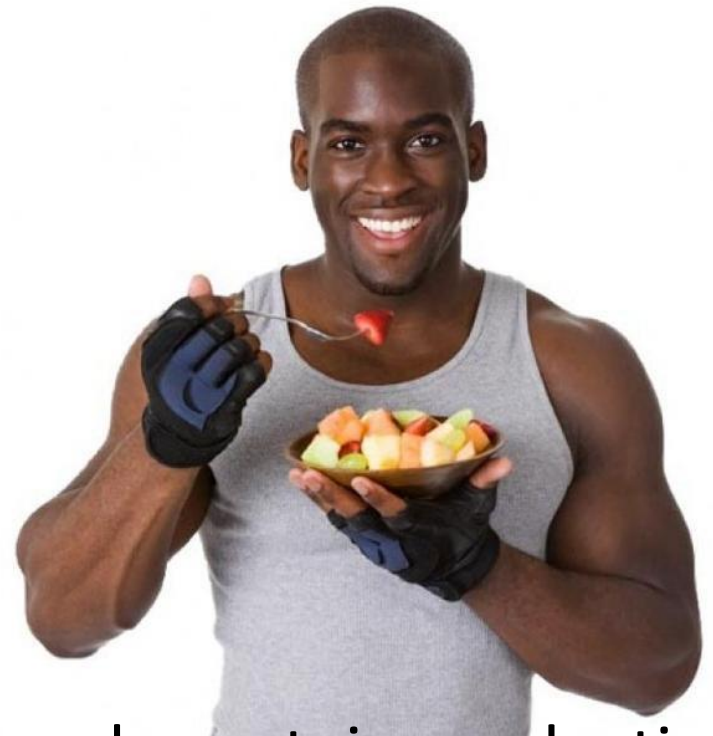
- **PRT immediately after exercise**

- ✓ **↑** muscle protein production
- ✓ improves lean mass gain

- **PRT together with CHO**

- ✓ **↓** muscle protein breakdown

- PRT pre-resistance training **→** muscle protein production

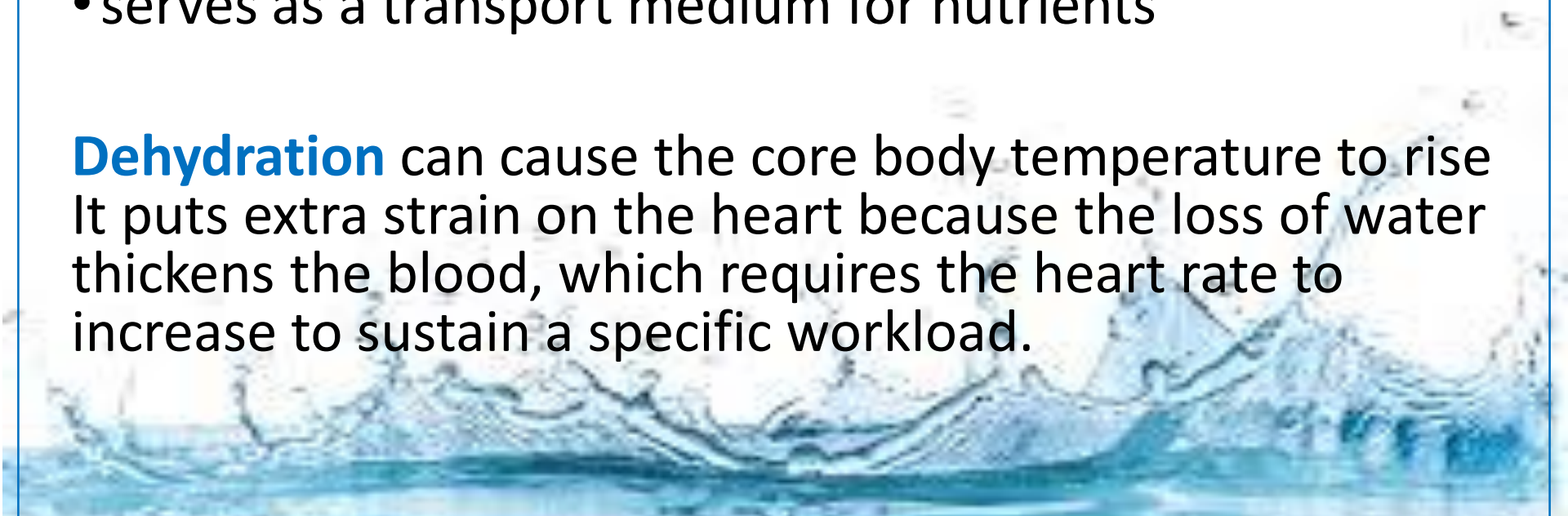


Hydration

Water serves as

- the medium in which all chemical reactions in the body take place
- it makes up an essential part of e cell fluid
- helps control the electrolyte balance in the body
- provides protection to key tissues
- serves as a transport medium for nutrients

Dehydration can cause the core body temperature to rise. It puts extra strain on the heart because the loss of water thickens the blood, which requires the heart rate to increase to sustain a specific workload.



Hydration

All sportsmen should aim to

- Restore fluid balances after each training session
- Replacing electrolytes lost through sweat



Good Sport Nutrition

Research has shown that consuming PRT and CHO
before
during
after
resistance training may reduce muscle damage and
reduce recovery time between bouts of exercise



Tendency amongst athletes

- Supplements



- Nutrients in readily available foods



Food versus Supplement

AMINO ACID CONTENT COMPARISON

AMINO ACIDS		AVERAGE SUPPLEMENT*	2 BOILED EGGS** EXAMPLE (1 suggested serving)	1 CUP (250 ml) MILK**
L-Alanine	mg	630	670	295
L-Arginine	mg	330	800	308
L-Aspartic Acid	mg	1 300	1 030	615
L-Cysteine	mg	320	480	94
L-Glutamic Acid	mg	2 100	1 520	1 740
L-Glycine	mg	240	420	176
L-Histidine	mg	250	290	233
L-Isoleucine	mg	640	510	433
L-Leucine	mg	1 420	990	763
L-Lysine	mg	1 120	780	658
L-Methionine	mg	300	490	219
L-Phenylalanine	mg	420	630	420
L-Proline	mg	630	510	763
L-Serine	mg	640	960	468
L-Threonine	mg	790	560	390
L-Tryptophan	mg	240	220	94
L-Tyrosine	mg	390	460	383
L-Valine	mg	610	680	495

* Specific product nutrition information

** Wolmarans P. et al. 2010. *Condensed Food Composition Tables for South Africa*. Medical Research Council, Cape Town.

Good nutrition can do it all

- The **food** you eat will be sufficient to
- Support the athletes
body weight
body composition
power to weight ratio
 - Contributes to hydration
 - Serves as ergogenic aid or supplement



Why Dairy can make your `go` better...

DAIRY - diverse and nutrient dense food containing

- Carbohydrates
- Protein
- Fat
- Vitamins and minerals
- Water
- Electrolytes

Support the nutritional requirements of sport performers



Milk + flavoured milk as a sports drink



What is **Flavoured Milk**?

Encyclopaedia definition

Flavoured milk is a sweetened dairy drink made with milk, sugar, colourings and artificial or natural flavourings

National Dairy Council definition

Flavoured milk is cow's milk with added flavouring and sweetener. It provides **the same 9 essential nutrients**: calcium, potassium, phosphorus, protein, vitamins A and B12, B2 and zinc – found in white/unflavoured milk. It's available in chocolate, strawberry and vanilla flavours in low-fat and fat-free varieties.



Composition of water, commercial sports drink and milk

Comparison of the typical composition of water, commercial sports drink, fat-free milk and low-fat milk

Nutrients per Litre (L)	WATER	SPORTS DRINK	FAT-FREE MILK	LOW-FAT MILK
Carbohydrates (g/L)	0	60	48.5	46.8
Fat (g/L)	0	0	1.8	20.1
Protein (g/L)	0	0	34	33
Energy density (kJ/L)	0	1 020	1 460	2 080
Sodium (mmol/L)	0.3	23.0 ± 0.7	38.6 ± 1.7	20.2 ± 1.7
Potassium (mmol/L)	0.5	2.0 ± 0.0	45.2 ± 1.7	39 ± 1.7
Chloride (mmol/L)	0.0	1 ± 0	35 ± 1	32 ± 1
Osmolality (mosmol/kg)	0.0	283 ± 2	299 ± 3	271 ± 3

Difference between white and **Flavoured Milk**

Nutrient per 100g	Fresh fat-free milk	Fresh low-fat milk	Flavoured milk
Energy (kJ)	144	208	304
Protein (g)	3.4	3.4	3.4
Carbohydrates (g)	4.8	4.8	11
Fat (g)	0.5	2	2
Calcium (mg)	123	122	118
Vitamin A (μg)	1	24	25
Zinc (mg)	0.4	0.4	0.5

Composition of some **Flavoured Milk** in SA

Per 100g	Parmalat		Clover	Woolworths	Pick n Pay	Fair Cape
	Steri-Stumpie	Yumchums	Super M	House brand	House brand	Barbie Spiderman
Energy (kJ)	264	289	256	352	345	366
Protein (g)	3.3	3.19	3.2	5	3.3	3.3
Carbohydrate (g)	10	12.81	8	12	11.9	11
Fat (g)	1.9	2.024	2	1.8	2.3	3.3
Sodium (mg)	50	51.05	39	61	47	69
Calcium (mg)	125.6	117	128	101.3	120	99

Comparison of SA Flavoured Milk to the rest of the world

Per 100g	South Africa	USA	UK	Australia
Energy (kJ)	305	218	285	376
Protein (g)	3.4	3.5	3.5	3.5
Carbohydrate (g)	11	8.8	9.9	11
Fat (g)	2.0	<0.5	1.5	3.4
Sodium (mg)	47	<50	54	50
Calcium (mg)	118	125	124	115

White versus Flavoured Milk

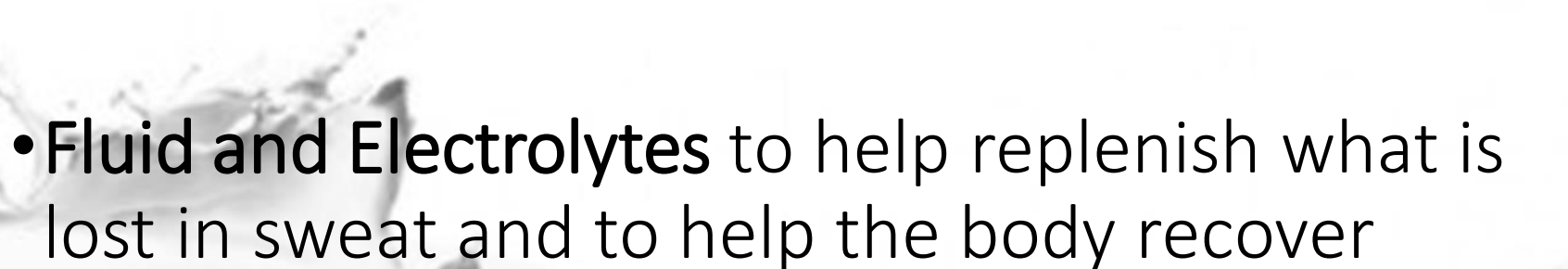
- Flavoured milk is a nutrient-dense beverage providing the **same nine essential nutrient** as white milk
- The only difference between flavoured milk and white milk is the energy and carbohydrate content due to the relatively **small amount of added sucrose**
- Both white and flavoured milk is the number one **food source of 3 of the 4 nutrients** both children and adults need to consume more of

WHY Milk can make you 'go` better

- Natural product and safe to use
- Cost effective and accessible
- Various health benefits



Milk's nutrient-rich package gives you go

- **Carbohydrates** to help refuel muscles and energy stores
 - **High-quality complete protein** to promote overall muscle recovery by building new muscle and helping reduce muscle breakdown
 - **Fluid and Electrolytes** to help replenish what is lost in sweat and to help the body recover
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Why milk gives you go!

- Drinking **MILK** as a **post-workout beverage** can increase the body's ability to make new muscle and may help improve body composition over time



Why Milk gives you go!


Drinking milk has been shown to be an excellent way to **replace fluid** that is lost during exercise



Why Milk gives you go!

Drinking milk after a workout may help **reduce muscle damage** and **improve recovery**, which in turn may help the body **perform better** during the next workout



A close-up photograph of a glass being poured into a bowl. The liquid is white and creamy, likely milk or a milk-based beverage. The background is a soft, out-of-focus light color.

Making your GO better with Dairy

A nutrient rich food and **DAIRY** approach for sportsmen can help athletes build and enjoy healthier diets by getting the most nutrition from their KJ's and at the same time **stay healthy with GO!**

**Milk and flavoured milk
your sports drink of choice!**

Thank you for your attention

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