ROLE OF NUTRITION IN SPORT 2.0

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NUTRITIONAL FACTORS THAT INFLUENCE SPORT PERFORMANCES

Carbohydrates

Energy Balance

Proteins

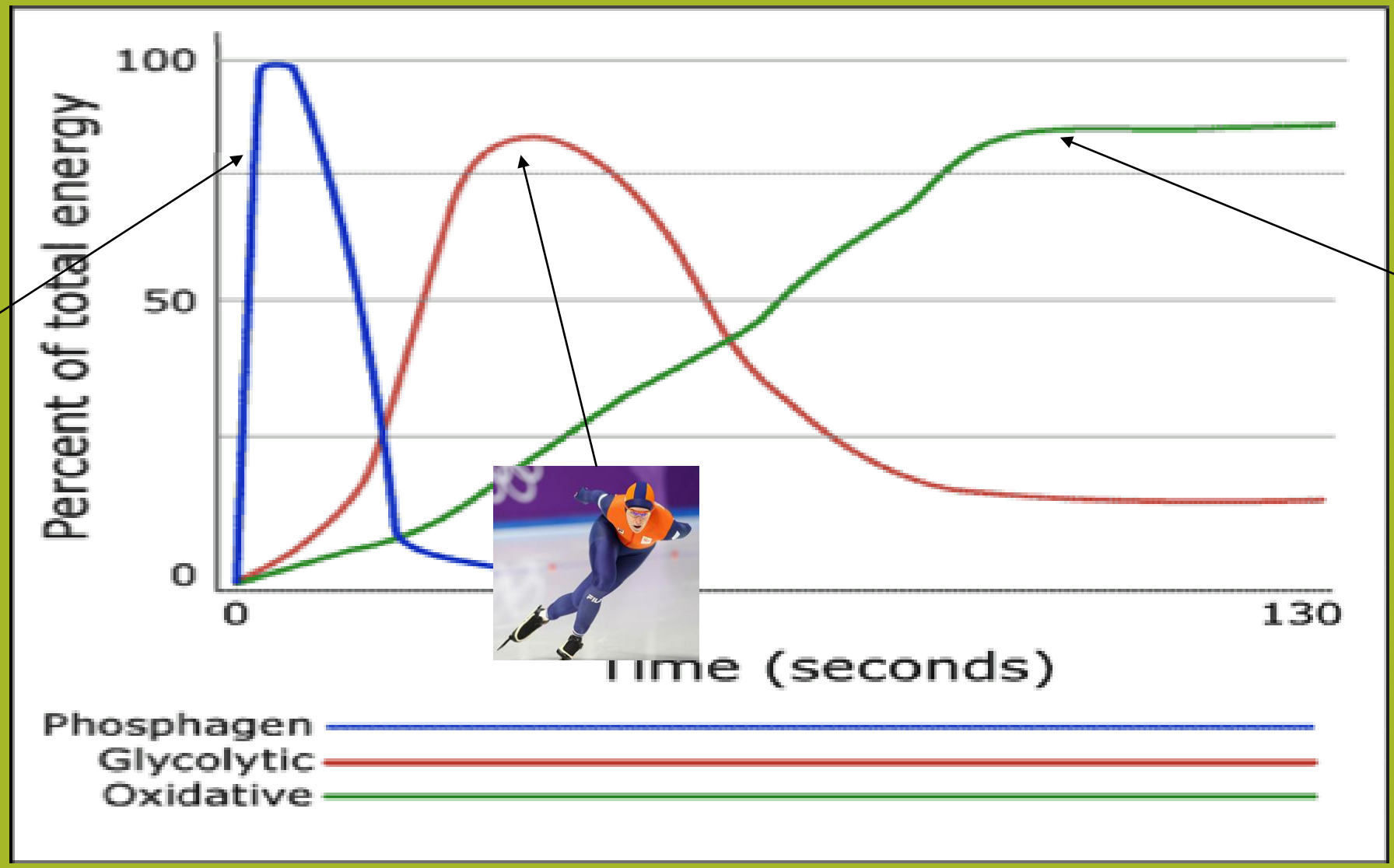
Minerals & Vitamins supplements

Sleep

Gut

WHAT TYPE OF ATHLETE ARE YOU?

Athlete type	Duration activity and intensity	Energy source
Weight lifters, body builders and weight throwers.	Exercise duration from 2 to 5 seconds. Very high intensity bouts.	Calcium and Creatine (protein) present in our muscles (phosphagen).
Runner or skater sprinters, crossfit and skipping rope.	Exercise duration from 10 seconds to 5 minutes. High intensity bouts.	Carbohydrates in anaerobic situation, without the use of oxygen (glycolytic).
Long distance athletes as marathon runners or cyclists.	Exercise duration from 10 minutes to few hours. Low intensity bouts.	Carbohydrates and Fats in aerobic situation, with the use of oxygen (oxidative).


100
50
0
Percent of total energy
0
130
Time (seconds)
Phosphagen
Glycolytic
Oxidative

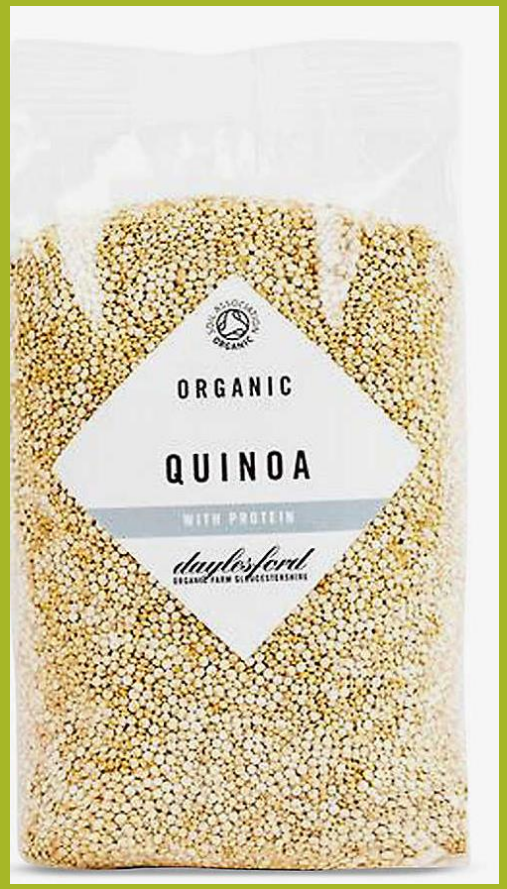
…AND GAME SPORT ATHLETES?

All game sport athletes use a mix of the energy sources described previously. They may change in base of sport type and the role of the athletes.

SOME DAYLESFORD PRODUCTS USEFULL IN SPORT

EXAMPLES OF GLUTEN-FREE CARBOHYDRATES SOURCES

Gluten is a group of seed storage proteins found in certain cereal grains. Gluten can trigger adverse inflammatory, immunological and autoimmune reactions in some people (celiac disease) or for some people could be difficult to digest it.



BENEFITS:

- Easier to digest.
- Low caloric.
- Good source of fibers, minerals (iron, zinc, and magnesium) and protein.
- The United Nations General Assembly declared 2013 as the "International Year of Quinoa“.

GLYCEMIC INDEX

- **Glycemia** is blood glucose levels.
- After a meal, our **Glycemia** rises while after some physical activity the **Glycemia** drops. Normal fasting values **60-110 mg/dL.**
- The **Glycemic Index** (**GI**) is a relative ranking of carbohydrate in foods according to how they affect blood glucose levels.

HIGH BLOOD GLUCOSE LEVELS:

- Fat tissues synthesis.
- Acidosis in our blood.
- Risk of diabetes type 2.

LOW BLOOD GLUCOSE LEVELS:

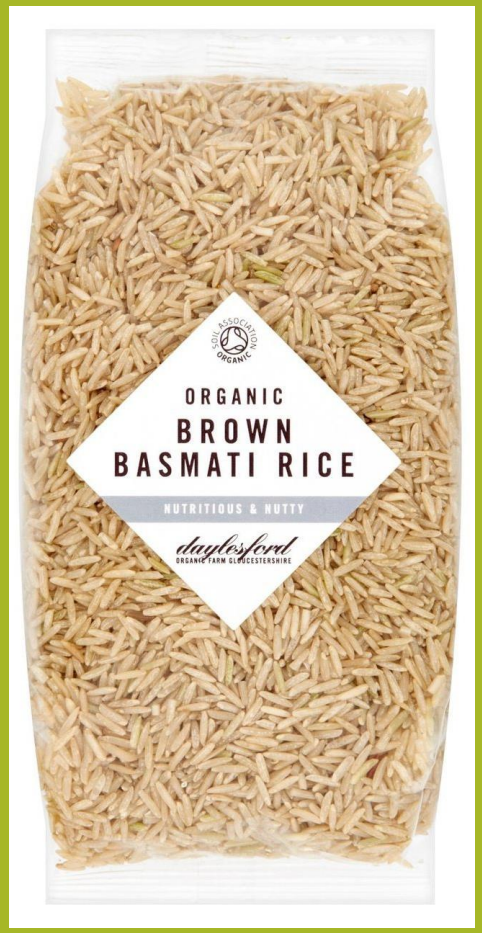
- Tiredness
- Faint felling.

Glycemic Index

Low GI (<55), Medium GI (56-69) and High GI (70>)

Grains / Starchs		Vegetables		Fruits		Dairy		Proteins	
Rice Bran	27	Asparagus	15	Grapefruit	25	Low-Fat Yogurt	14	Peanuts	21
Bran Cereal	42	Broccoli	15	Apple	38	Plain Yogurt	14	Beans, Dried	40
Spaghetti	42	Celery	15	Peach	42	Whole Milk	27	Lentils	41
Corn, sweet	54	Cucumber	15	Orange	44	Soy Milk	30	Kidney Beans	41
Wild Rice	57	Lettuce	15	Grape	46	Fat-Free Milk	32	Split Peas	45
Sweet Potatoes	61	Peppers	15	Banana	54	Skim Milk	32	Lima Beans	46
White Rice	64	Spinach	15	Mango	56	Chocolate Milk	35	Chickpeas	47
Cous Cous	65	Tomatoes	15	Pineapple	66	Fruit Yogurt	36	Pinto Beans	55
Whole Wheat Bread	71	Chickpeas	33	Watermelon	72	Ice Cream	61	Black-Eyed Beans	59
Muesli	80	Cooked Carrots	39						
Baked Potatoes	85								
Oatmeal	87								
Taco Shells	97								
White Bread	100								

MEDIUM AND LOW GLYCEMIC INDEX CARBOYDRATE PRODUCTS



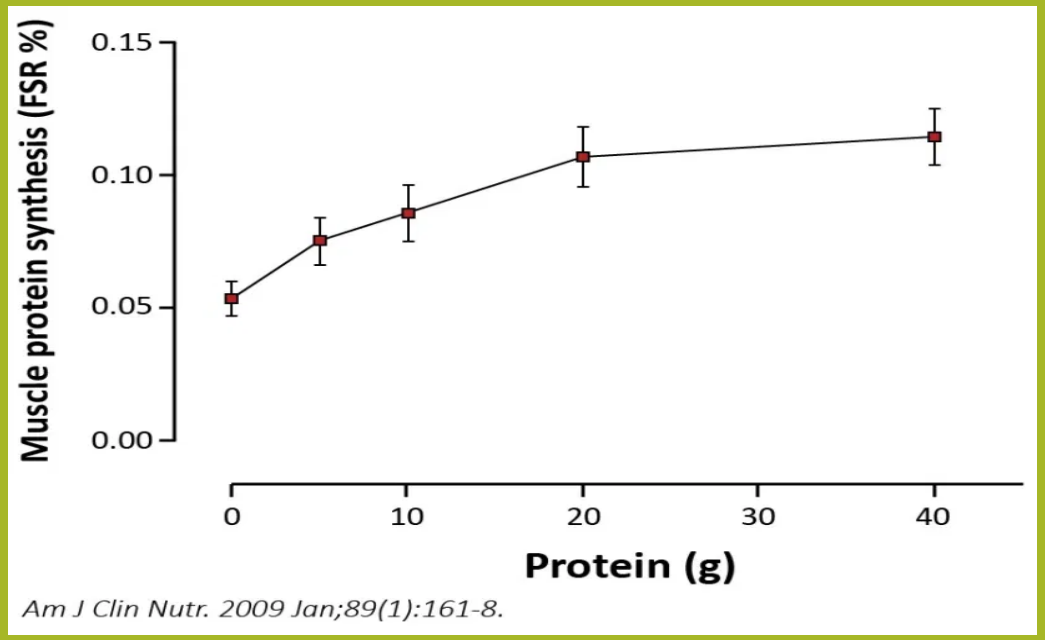
SUGGESTIONS TO DECREASE GI:

- Wholewheat has higher fibber level that lowers G.I..
- Do not overcook pasta because it realises more carbohydrates increasing GI:
- Mix always with vegetables.
- Eat slowly.

PROTEIN'S INTAKE

Proteins are like the " building blocks " of our body, especially our muscles, but they can also be used as a form of energy. The ideal quantity to consume them daily is linked to the body weight of a single individual and his physical activity; the higher they are, the higher the need for protein.

Sedentary people 0,8 g per kg/day.
Athletes 1,2-1,4g per kg/day.
Professional Athletes 1,6-1,7 g per kg/day.



The optimal protein amount in a meal or in a pre-workout snack is about 20-25 grams. Higher intakes do not give extra benefits, but some cases may cause adverse effects.

IDEAS OF POST-WORKOUT SNACKS

BEETROOT JUICE

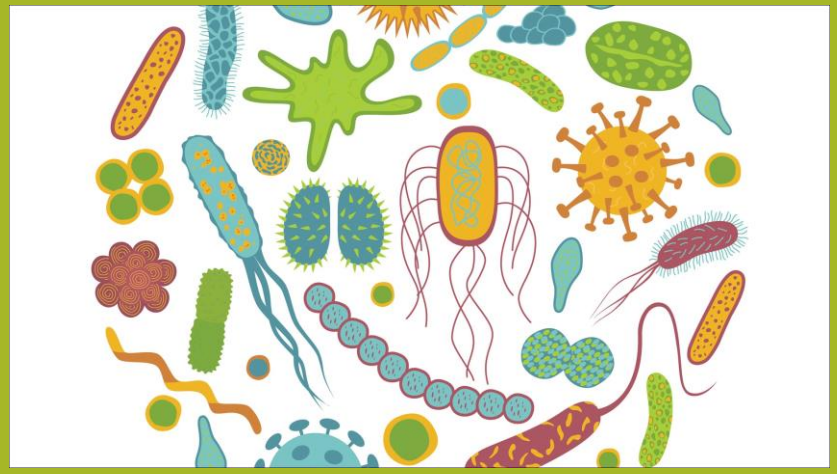
BENEFITS:

- Increase blood flow and oxygen exchange.
- In the energy release and its efficiencies.
- Strengthening of muscle contraction.
- Suitable for short and high intensive workouts as crossfit or skipping rope.

GUT MICROBIOME

The gut microbiome consists of the collective genome of microbes inhabiting the gut (symbiotic and pathogenic) including bacteria, archaea, viruses, and fungi.

- Control digestion.
- Benefits in the immune system
- May contribute to prevent weight gain, high blood sugar, high cholesterol and other disorders.
- Protects pathogen bacteria.
- Synthesis of K group vitamins.



"There are more bacteria than cells in our body."

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PREBIOTIC VS PROBIOTIC

PREBIOTIC are compounds in food that induce the growth or activity of beneficial microorganisms. THEY <u>DO NOT</u> CONTAIN MICRORGANISMS.

PROBIOTIC are foods that contain live microorganisms, used to improving or restoring the gut flora.

IDEAS FOR FUTURE PRODUCTS

SHIRATAKI PASTA

Shirataki are translucent, gelatinous traditional Japanese noodles made from the konjac yam. Easy to digest, low calories, low G.I. and facilitates intestinal transit.

In an interview former Manchester United and Chelsea striker, Romelu Lukaku admitted he found his best physical shape in Italy when he was followed by a nutritionist. In the interview mentioned the Shirataki pasta.

TEMPEH

- Product of Indonesian origin that comes from the fermentation of soy.
- The fermentation process and subsequently the cooking allows a high digestibility compared to other soy products.
- 100 g of Tempeh provide about 166 kcal, contain 20.7 g of protein, 6.4 g of lipids, 6.4 g of carbohydrates and 4.1 g of fiber.
- Excellent to eat with grilled vegetables, sweet and sour sauce or to put in risotto.

THANK YOU FOR YOUR ATTENTION