



**Summer School “Safety in the
Food Chain”
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Nutrition of physically active people

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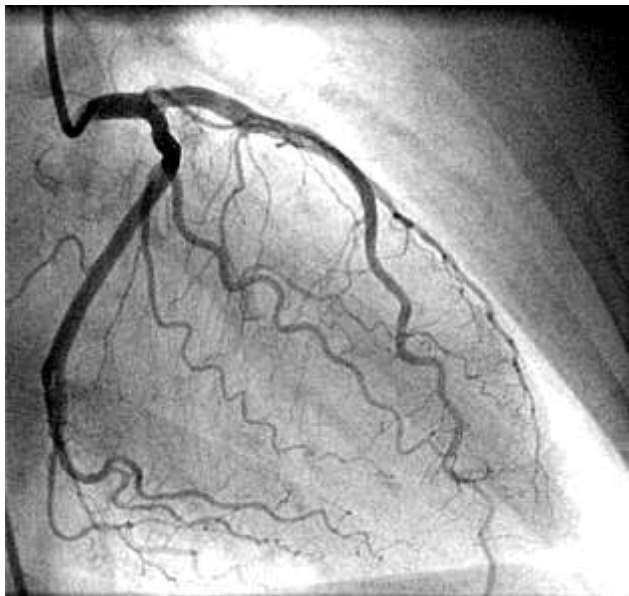
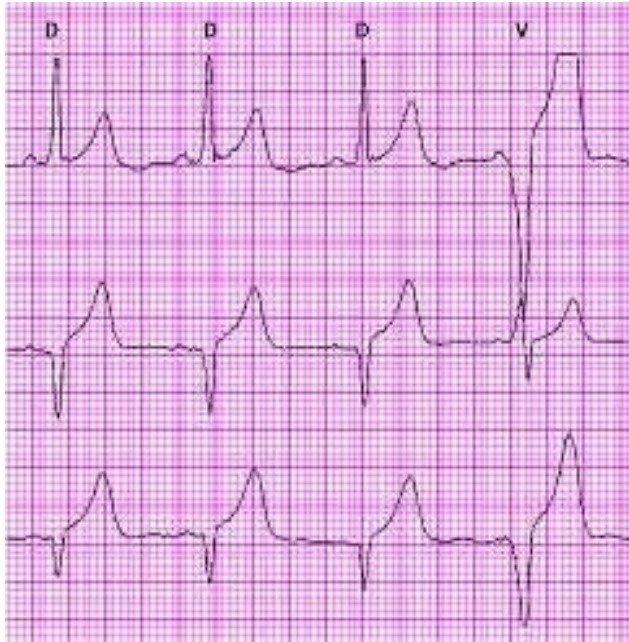


General Tests for Determination of Physical Condition 😊

- How many pull-ups can you do?
- How many abs can you do?
- Can you bow down and reach your toes?
- How many push-ups can you do?



Clinical Examinations and Tests



Somatometric Evaluation



What Are the Causes of Civilization Diseases?



"EVOLUTION"

© 2004 CAROL LAY



How To Decrease IG of Meals ?

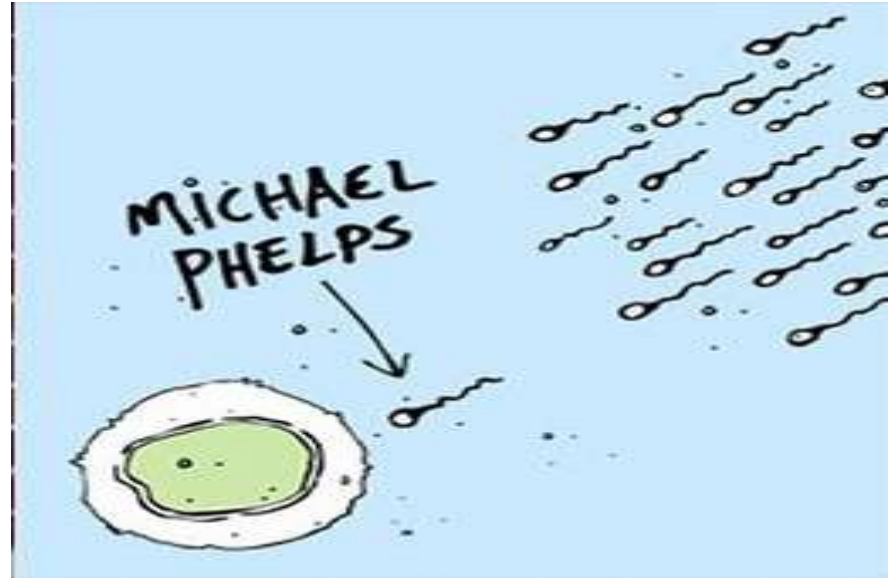
- It is important not to have those as separate meal
- Match them with foods containing proteins (meat, milk) as they have lower IG value
- Vinegar or lemon juice can delay stomach emptying and retard sugar absorption as a result
- The fiber presence (not heat treated!)
- The high IG products should be substituted with low IG products (swap regular flour for wholemeal flour or bran)



A Basic Protein Sources in Diet



Watch Out For Soy Protein !



- It is reported that small amounts of soy protein eaten regularly can deteriorate semen quality
- Soy isoflavonoids can disrupt hormonal balance leading to mood swings
- Soy contains enzymes having ability to convert androgens into estrogens. Obese men are subjected more to that since they are able to produce more estrogens than thin guys

Other high protein products



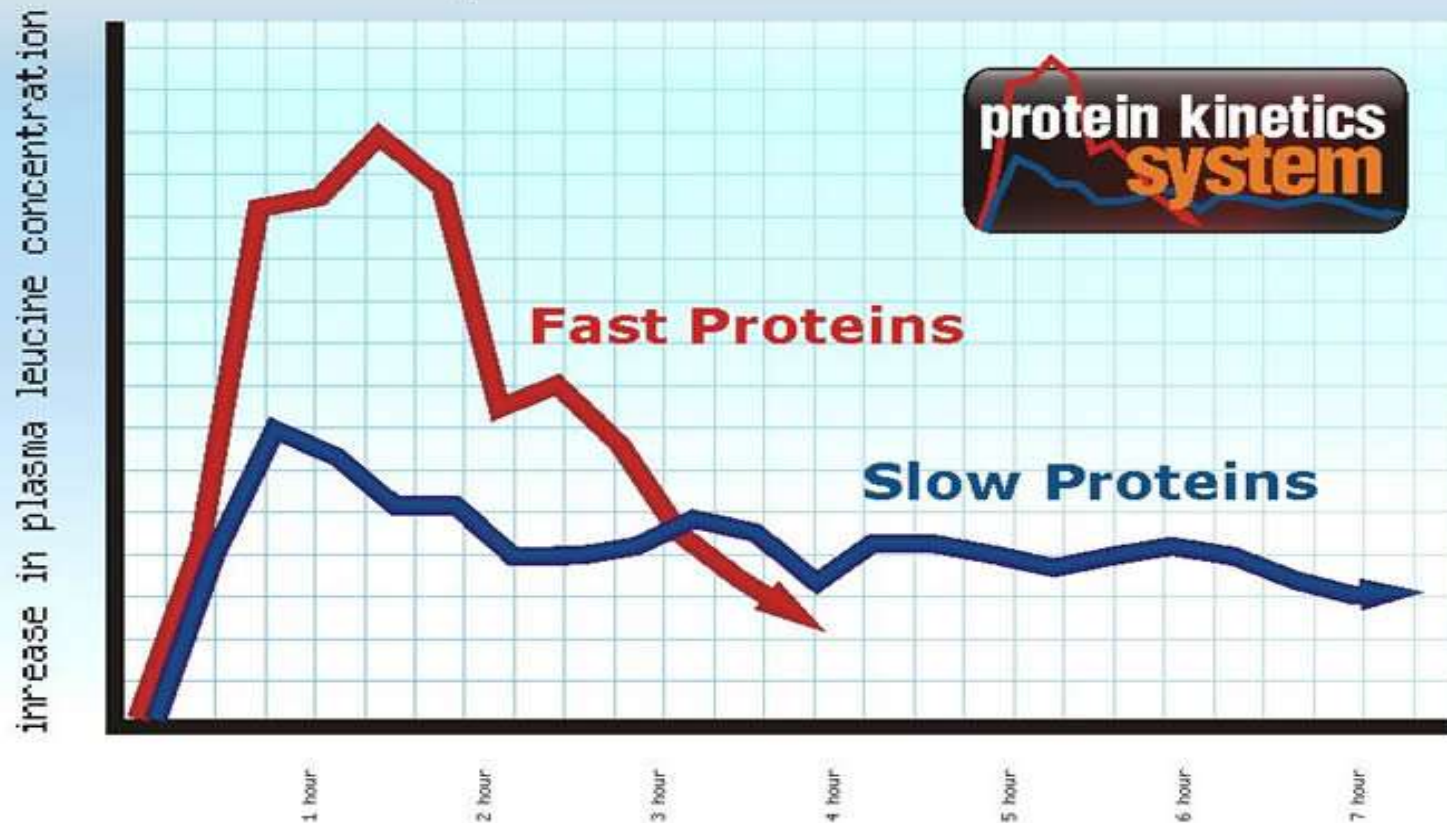
Why whey protein shake???😊

- **Anabolic effect – 2 g / 1 kg bodymass**
- Covering the daily protein requirement with meat products is not easy and it may be ballasting for digestive system. This is why protein shakes are coming in handy
- Perfect meal supplement or meal replacement
- Protein portion (30-40 g) is dissolved in milk or water and consumed as a cocktail or shake
- Tasty, nutritious and very easy to prepare

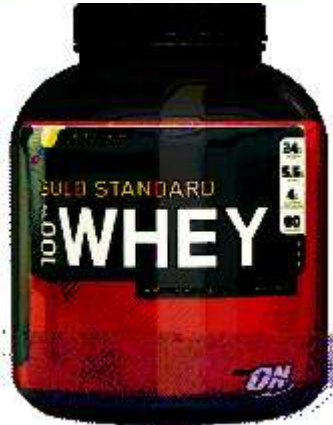


Whey proteins are the fastest absorbed/digested protein of all

PLASMA AMINO ACID RESPONSE
to different proteins



Whey proteins amongst others



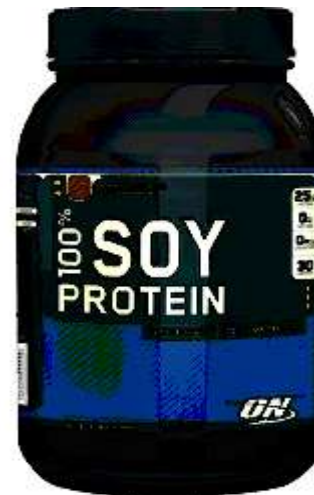
BV=159



BV=100



BV=77



BV=74

When is the Best Time to Have a Protein Shot ? 😊

- In the morning
- In between the meals
- Before bedtime
- Never before and directly after workout



The Reasons to Increase Protein Consumption

- Proteins during their digestion require more energy input than other food compounds. It leads to higher calorie consumption, which favors fat burning process
- High proof proteins (milk or egg) protect lean muscle tissue by intensification of fat burning process. If we are not provided with required amount of essential amino acids, our system will start to take them from the muscles
- Portion of protein retards bloodstream glucose absorption. It reduces hunger by insulin secretion lowering and facilitates fat burning process



- Proteins are the stodgiest compounds of all
- Higher protein consumption intensifies the leucocyte (white blood cells) production, that enhance our immune ability
- **Proteins speed up body regeneration processes (wound healing, bone fractures, etc.)**
- Protein consumption causes the blood pressure decrease

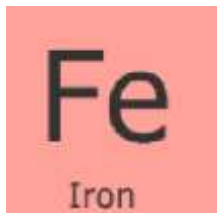
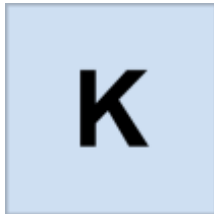
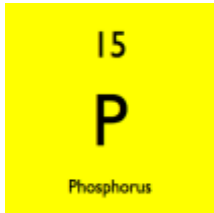
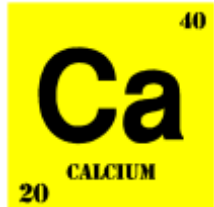


Water

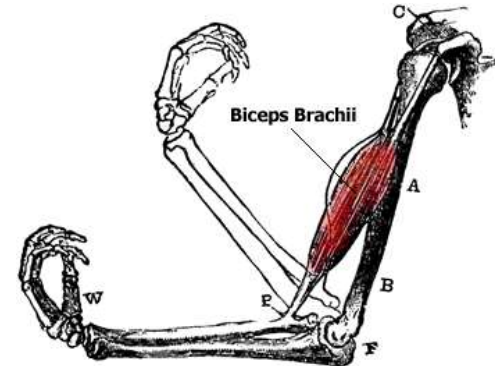
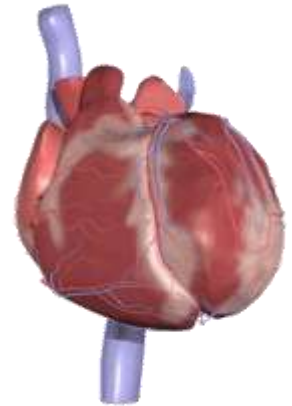
- The human body is about 70 % water
- Every 24 hours human's body loses 2-2,5 l of water – and the same amount should be delivered back to the system
- **Water dosage = 30 ml/kg/24hours**
- 5 % water loss = decreased body efficiency up to 30 %
- Thirst symptoms are associated with hunger (headaches, apathy, fatigue, concentration loss, drowsiness)



Minerals



- necessary for proper functioning of circular, neurotic and muscular system, sedative agent
- prevents muscle cramps
- strenghtens osseous system, promotes regeneration processes
- neccesary for proper heartwork, reduces blood pressure
- hemoglobin producing agent, oxide transporter, improves body shape



Vitamins

- Vitamins contain no useful energy for the body, but they do link and regulate the sequence of metabolic reactions that release energy within the food we consume
- Vitamins cannot be made in the body and must be obtained in our diet



Glycogen

Muscle glycogen – 400 g

Liver glycogen - 250 g

2600 kcal

Fat tissue has no limitations in ability to store carbohydrates !!!

