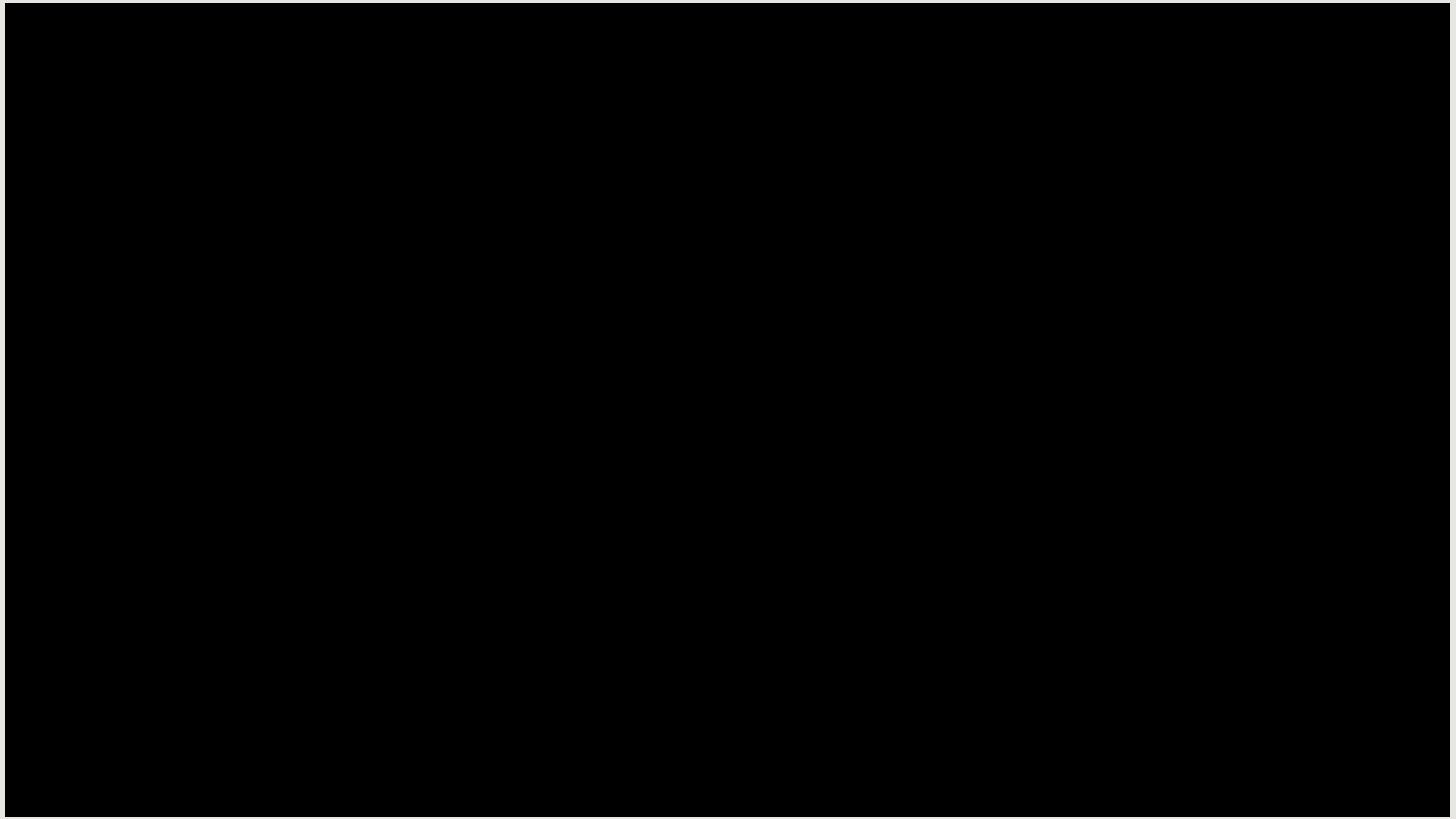
Výživa sportovců po zranění a v prevenci zranění

bp1819 Základy sportovní výživy

Top 3 tipy pro zraněného sportovce z pohledu výživy

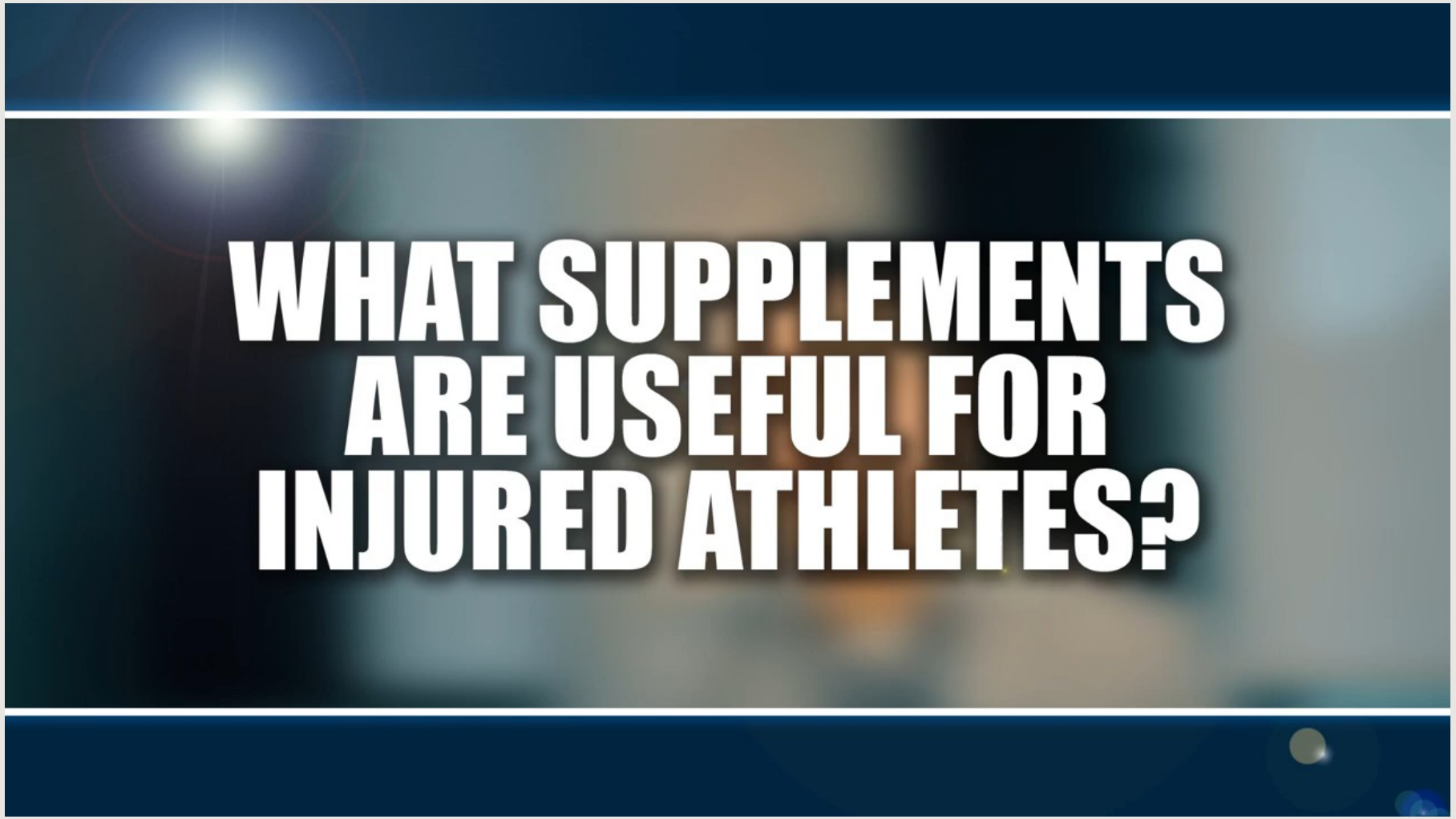
Zdroj: https://www.youtube.com/watch?v=smmGmFG7DfA

Je možné snížit úbytek svalové tkáně u zraněného sportovce?



Zdroj: https://www.youtube.com/watch?v=e4musRHVZkc

Jaké používat suplementy u zraněného sportovce?



Zdroj: https://www.youtube.com/watch?v=IrjKZ62pgSE

Nutrition recommendations to minimise muscle loss when injured

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1. First and foremost, avoid nutrient deficiencies (including energy)
2. **Maintain energy balance**
3. Maintain a higher protein intake
4. Aim for 2.0-2.5 g protein/d/kg body mass

5. There is evidence for the efficacy of some nutraceuticals, e.g. omega-3 fatty acids

Energy balance plays an important role in the recovery process

Energy balance and injury

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Negative balance
(Eating too little)

Positive balance
(Eating too much)

Decreased protein synthesis

Muscle mass loss

Increased fat mass

Increased body weight

Muscle mass loss

Nutrition for recovery from muscle injury

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Protein intake
20g of high quality protein (0.3 g/kg/meal) maximally stimulates muscle protein synthesis – aim for this at EVERY meal

Exercise the muscle as early as possible in the rehab process
(pool-work and electrical stimulation of the muscle)

Based on presentations by
Kevin Tipton
Stuart Phillips
Keith Baar

Other nutrition
Creatine may help 10g/d for 3 weeks then 2 g/d beyond

HMB?
Omega 3 fatty acids?

Energy balance
Avoid both negative as well as positive energy balance

Nutrition for recovery from tendon injury

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Protein intake
20g of high quality protein (0.3 g/kg/meal) maximally stimulates muscle protein synthesis – aim for this at EVERY meal

Rehab exercises 3 x 10 min with 6h of rest
(3 times per day). Start from walk, progress to run.

Based on presentations by
Kevin Tipton
Stuart Phillips
Keith Baar

Gelatin
5 g gelatin with 500mg Vitamin C 30-60 min before activity

Energy balance
Avoid both negative as well as positive energy balance

How to use gelatin to promote collagen synthesis

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Gelatin: a food source with similar amino acids found in collagen.

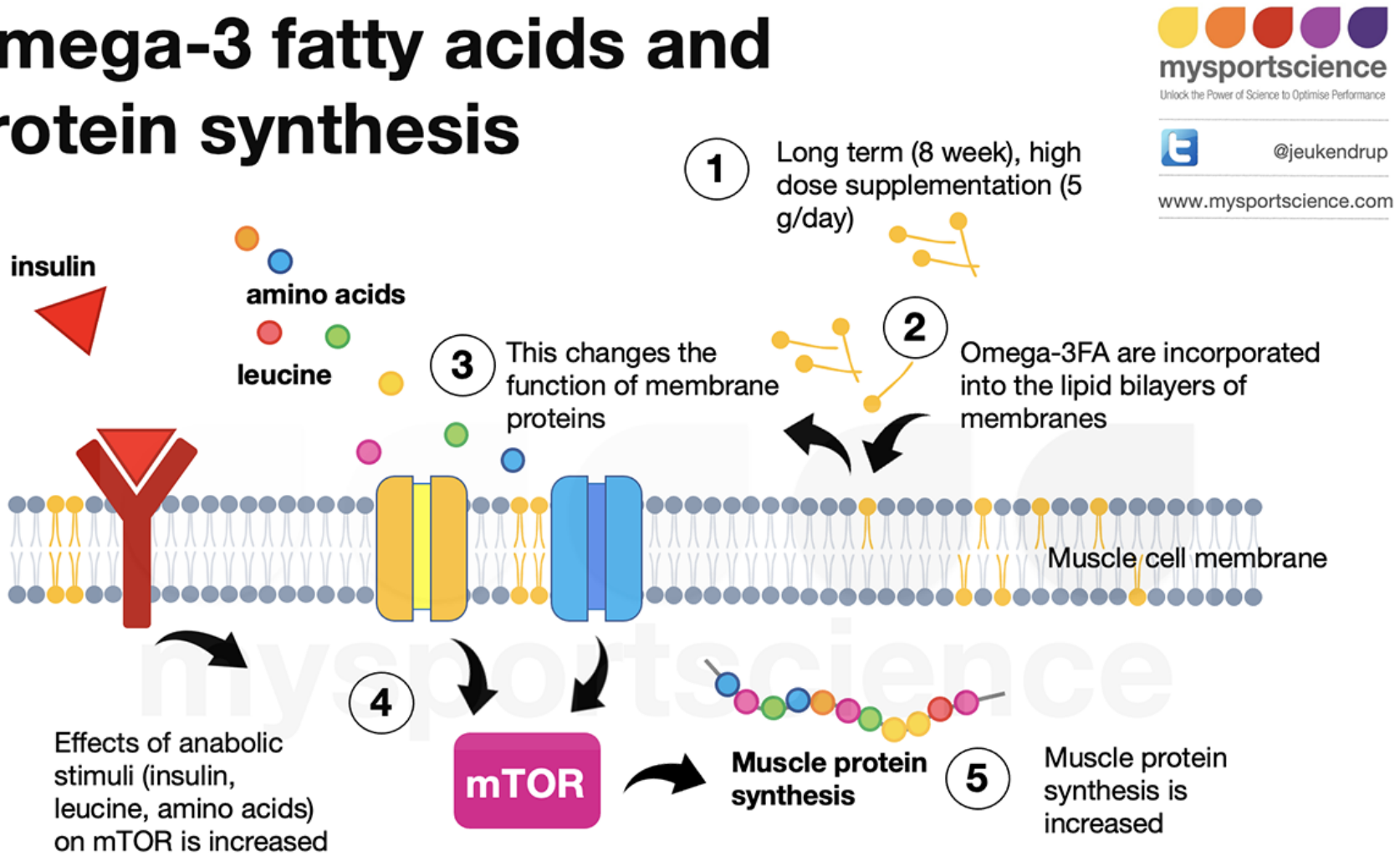
Consuming **15 grams of gelatin** one hour before 6 minutes of jump rope resulted in a 2-fold greater increase in collagen synthesis than intermittent exercise for 6 minutes on its own.

Ingest gelatin **1 hour before** 5-6 minute protective session

At least 6 hours before or after other training

Jumping rope for 6 min with gelatin resulted in 2-fold greater increase in collagen synthesis than jumping only.

Omega-3 fatty acids and protein synthesis



Omega 3 fatty acids

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ALA

Alpha linolenic acid

↓ ↓ ↓

Nuts (walnuts) and seeds (flaxseeds, chia seeds), as well as meat

EPA

Eicosapentaenoic acid

↓ ↓

DHA

Docosahexaenoic acid

Salmon, sardines, mackerel, cod liver oil, herring, tuna, anchovies

Evidence for fish oil for athletes

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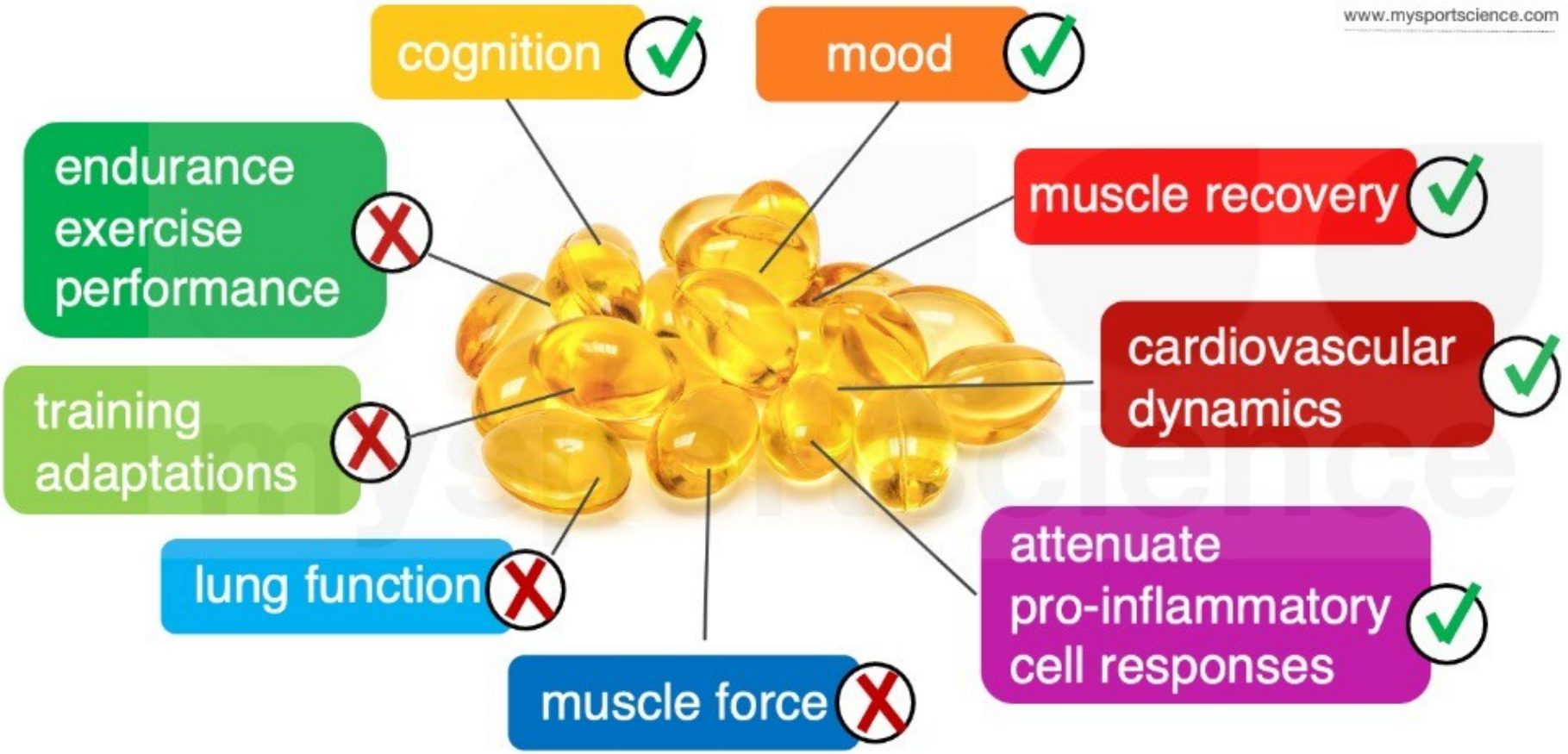
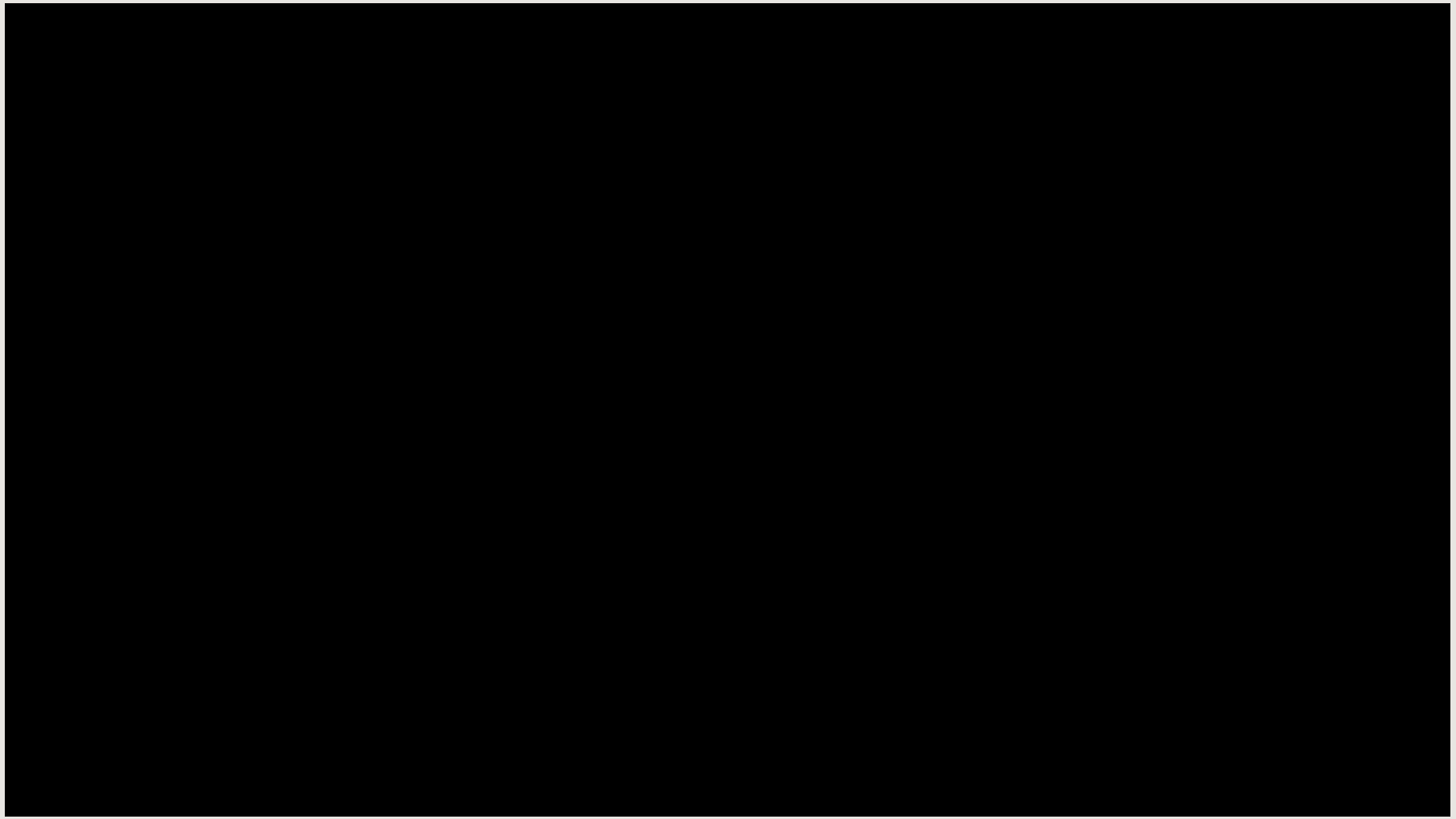


Shrnutí

1. Energetická bilance – kalkulace pro základní EV.
2. Pravidelný a adekvátní příjem bílkovin – v doporučené dávce alespoň 1,6 g/kg TH, ale ideálně až 2-2,5 g/kg TH rozložené do 3-5 jídel/den.
3. Aktivace sportovce v co nejkratší možné době – v závislosti na zranění.
4. Podpora suplementací – omega-3 MK (rybí olej), kolagen (želatina) + vit. C, proteinové přípravky a další suplementy s obsahem energie v podpoře vyrovnané EB.

Zánět – *„friend or foe“*?



Zdroj: https://www.youtube.com/watch?v=tjXPFiPu5T0