Integral Fitness

zoom

DR. WALTER DZUROVCIN

DETERMINACIÓN DE LOS REQUERIMIENTOS NUTRICIONALES EN DEPORTISTAS DE COMBATE

nutriyejercicio

Nutri y Ejercicio

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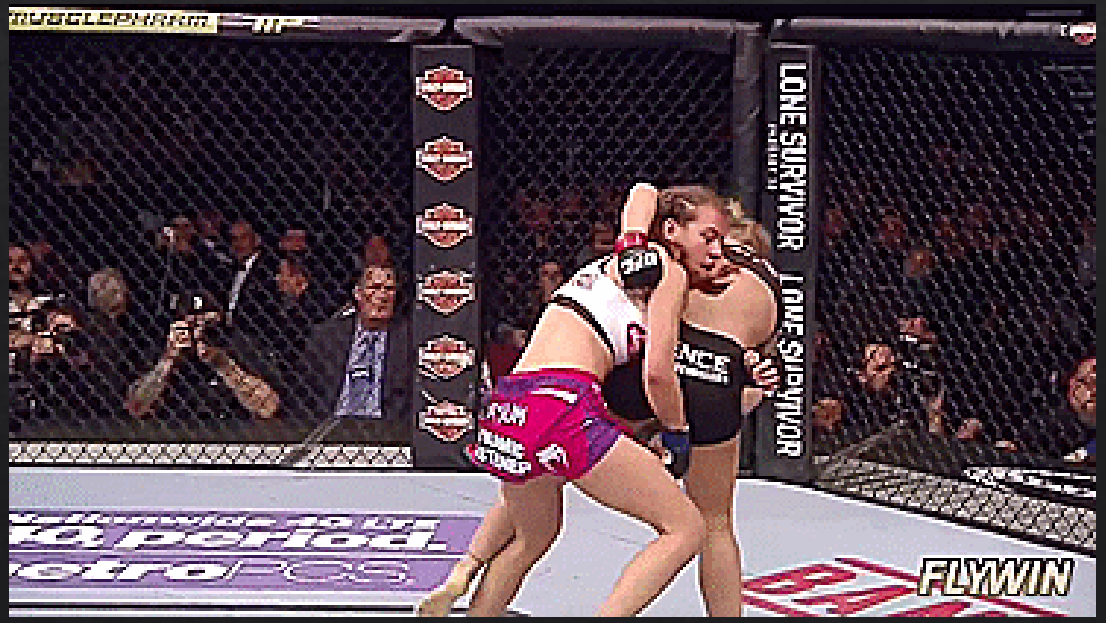

LONE SURVIVOR
FLYWIN

Participación de los sustratos energéticos en DC

Los deportes de combate se clasifican como actividades intermitentes, ya que en su desarrollo son intercaladas acciones de alta intensidad con períodos de recuperación activa y pasiva.

Review

Energy System Contributions during Olympic Combat Sports: A Narrative Review

Emerson Franchini

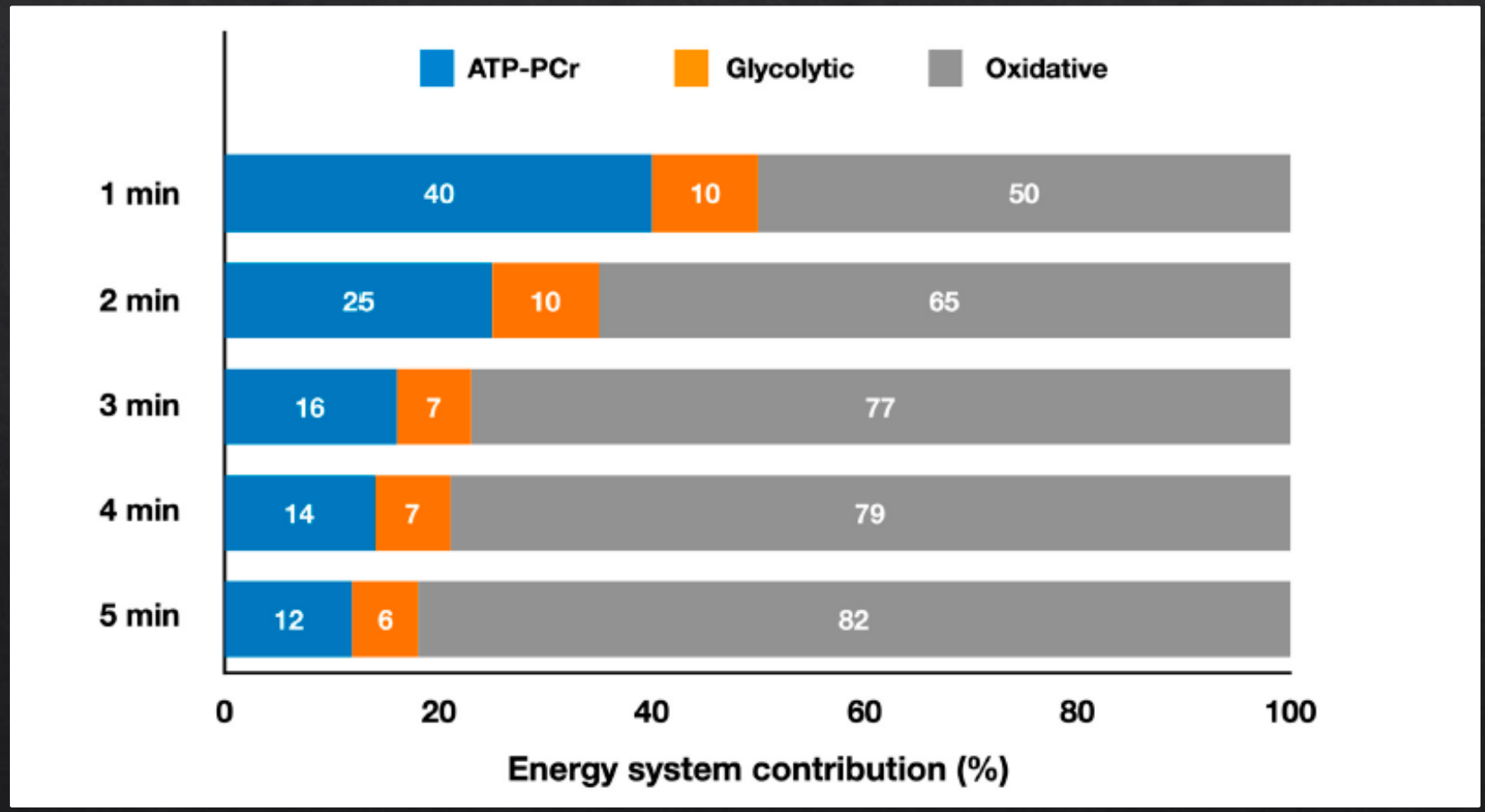
. Olympic combat sports are primarily powered by the oxidative system, but the key scoring actions are likely fueled by anaerobic pathways.

Strickers 62-86% oxidativo, 10-31 % ATP-PC, 3-21 % glucolítico (karate, TKD, boxeo)

Grappling 79% oxidativo, 14 % ATP-PC, 7 % glucolítico (solo judo)

Participación de los Sistemas energéticos en DC

JUDO



Participación de los Sistemas energéticos en los DC

TKD

Table 2 Metabolic responses of taekwondo combat simulation on the three rounds ($n = 10$)

	Round 1	Round 2	Round 3	Total
Aerobic				
W_{AER} (kJ)	98 ± 15*,†	127 ± 14	134 ± 18	120 ± 22
Relative (%)	62 ± 6	70 ± 6	67 ± 12	66 ± 6
Relative for the time (kW)	0.77 ± 0.13*,†	0.99 ± 0.16	1.02 ± 0.16	0.93 ± 0.18
Anaerobic Alactic				
W_{PCR} (kJ)	49 ± 11	49 ± 10	63 ± 32	54 ± 21
Relative (%)	31 ± 7	26 ± 5	30 ± 12	30 ± 6
Relative for the time (kW)	0.38 ± 0.07	0.38 ± 0.09	0.48 ± 0.23	0.41 ± 0.15
Anaerobic Lactic				
$W_{[La^-]}$ (kJ)	11 ± 4†	7 ± 4	6 ± 5	8 ± 5
Relative (%)	7 ± 2†	4 ± 2	3 ± 3	4 ± 2
Relative for the time (kW)	0.09 ± 0.03†	0.06 ± 0.03	0.04 ± 0.04	0.06 ± 0.04
W_{TOTAL} (kJ)	158 ± 17*,†	183 ± 17	203 ± 29	181 ± 28
W_{TOTAL} relative for the time (kW)	1.24 ± 0.14*,†	1.43 ± 0.19	1.54 ± 0.22	1.40 ± 0.22

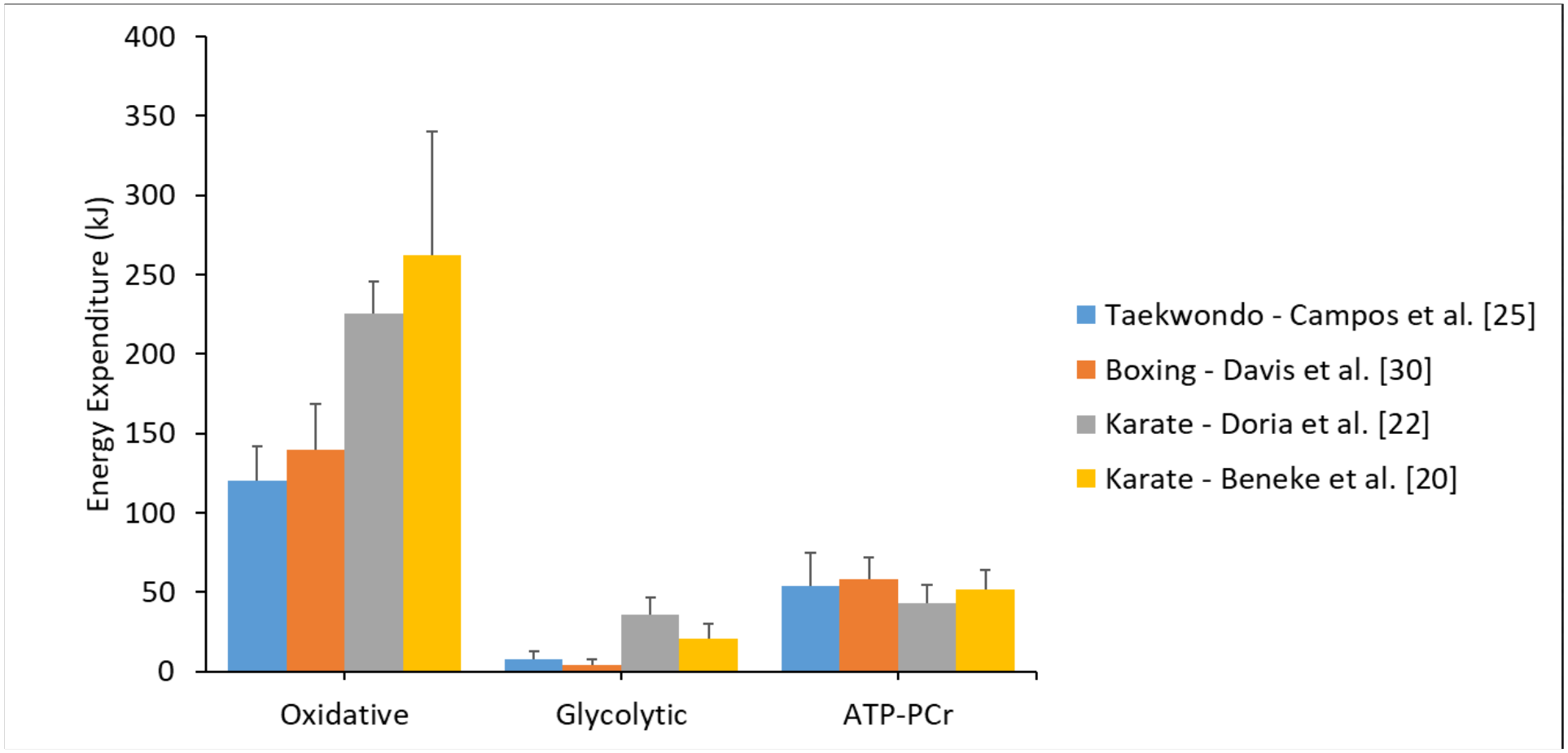
Data are reported as mean and standard deviation

W_{AER} aerobic energy, W_{PCR} anaerobic alactic energy, $W_{[La^-]}$ anaerobic lactic energy, W_{TOTAL} total metabolic work ($W_{AER} + W_{PCR} + W_{[La^-]}$)

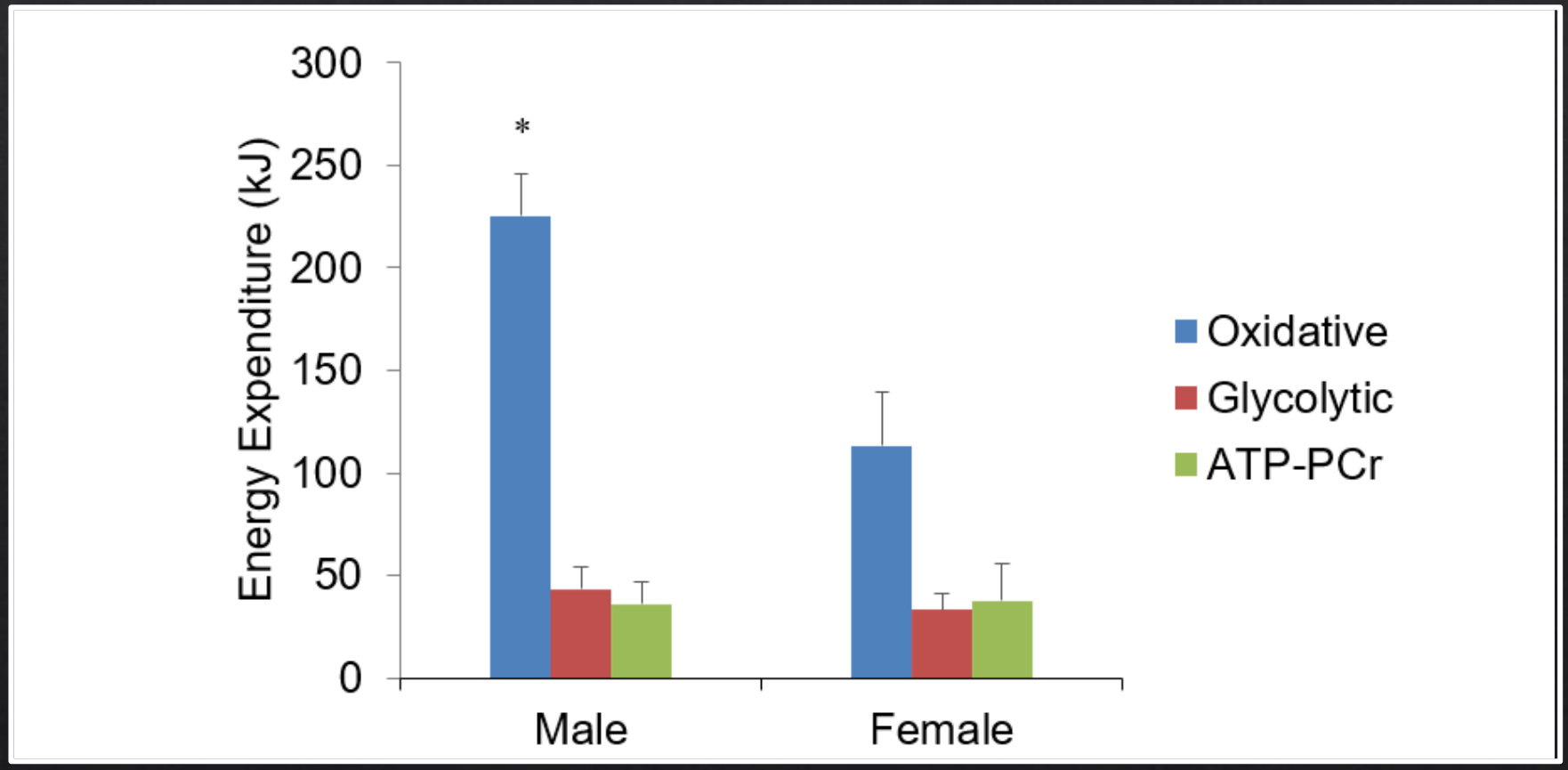
* Different from the *round* 2 ($P < 0.05$)

† Different from the *round* 3 ($P < 0.05$)

Metabolismo aeróbico es la principal fuente de obtención de energía en DC



Diferencias metabólicas entre géneros



Demandas Energético/nutricionales

- Metodología de los entrenamientos/ competencia
- Sistemas energéticos involucrados
- Dedicación
- Condición física
- Intensidad / duración de las sesiones

Journal of Sport and Health Research 2018, 10(1):1-12

Mata-Ordoñez, F.; Sanchez-Oliver, A.; Domínguez, R. (2018). Importancia de la nutrición en las estrategias de perdida de pérdida de peso en deportes de combate. *Journal of Sport and Health Research. 10*(1): 1-12.

Review

IMPORTANCIA DE LA NUTRICIÓN EN LAS ESTRATEGIAS DE PÉRDIDA DE PESO EN DEPORTES DE COMBATE

- El aumento del trabajo físico incrementa las demandas energéticas totales.
- Necesidades entre 35-50 kcal/ kg/ d.
- En contextos de déficit energético, el cuerpo no prioriza la mejora del RD

Nutrition, supplementation and weight reduction in combat sports: a review

Article *in* AIMS Public Health · June 2021

DOI: 10.3934/publichealth.2021038

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2. Energy and carbohydrates

The primary component to optimize sports performance in combat sports is ensuring an adequate energy intake. The caloric needs for athletes training with moderate or high intensity may approach 40–70 kcals/kg/day depending on the intensity and frequency of trainings. For elite athletes the recommended energy intake may further exceed these levels [5]. It has to be mentioned that the fundamental factor of sports nutrition is nutrient timing and it refers to the time when the body is able to use macronutrients most effectiv
protein synthesis, recovery and tissue rep

The primary source of energy for at
can be oxidized via aerobic metabolism (
and electron transport chain) or convert
glycolysis. As a result, adenosine triphosp
maintain exercise is connected with mus
level of carbohydrates in a diet is conne
Glycogen is a fuel source of glucose, stor
of glycogen and liver cells include 5–6%
liver decrease during physical activity. T
overall reduction of glycogen stores [8]. T
related to the type and intensity of traini
mass. High intensity, endurance sports a

3. Protein

The important macronutrient in combat sports is protein. The recommended intake in an athlete's diet is higher in comparison to non-training people in order to ensure regular muscle protein synthesis. Muscle mass loss can have a negative effect on strength, power and performance [20]. The current protein recommendations for athletes is to gain 1.2–2 g/kg of body mass [21]. It has been proved that the requirements for athletes who are reducing weight can be higher and the recommended level of protein intake can gain 1.8–2.7 g/kg of body mass in order to prevent muscle mass loss during energy deficiency. Consumption of an appropriate amount of essential amino acids, particularly leucine, leads to muscle mass synthesis [22]. Essential amino acids cannot be synthetized de novo by the organism and must be supplied by the diet. Ingestion of essential amino acids in free form or as part of a protein bolus of 20–40 g after the exercise is known to stimulate muscle protein synthesis and could increase strength and improve body composition by increasing lean body mass [23]. A proven effect on stimulating muscle protein synthesis consumed after an exercise session refers to, for instance, milk: whey, casein, and soy protein [20,24]. Each high-quality protein elicits different digestibility,

4. Fat

The recommended level of fat in athletes' diet is 25–30% of energy intake and the most preferable sources of fat are unsaturated fatty acids, particularly omega-3 polyunsaturated fatty acids [9,26]. Omega-3 PUFAS are known to reduce oxidative stress and inflammation, lower the risk of cardiovascular disease, reduce muscle soreness and increase muscle protein synthesis [27]. The study by Smith et al. [20] has shown that 8-weeks omega-3 supplementation including 1.86 g EPA and 1.5 g DHA/day increased muscle protein anabolic response to hyperinsulinemia–hyperaminoacidaemia in healthy young adults. Excessive consumption of trans and saturated fatty acids is connected with health implications and should be reduced in dietary intake. The nutritional

Resumiendo:

- Hc entre 4-8 gr/ kg/día
- Prot entre 1,4-2 gr/ kg/día
- Grasas entre 0,8-1,2 gr/kg/día
- Hidratación según aporte energético y condiciones medioambientales

Ejemplos

- Mujer 55 kg

- HC (220- 440 gr)
- Prot (77-110 grs)
- Gr (44 – 66grs)

- Kcal 1925-2750

Ejemplos

- Varón 75 kg

- HC (300-600 grs)
- Prot (105-140 grs)
- Gr (60- 90 grs)

- Kcal 2625- 3750

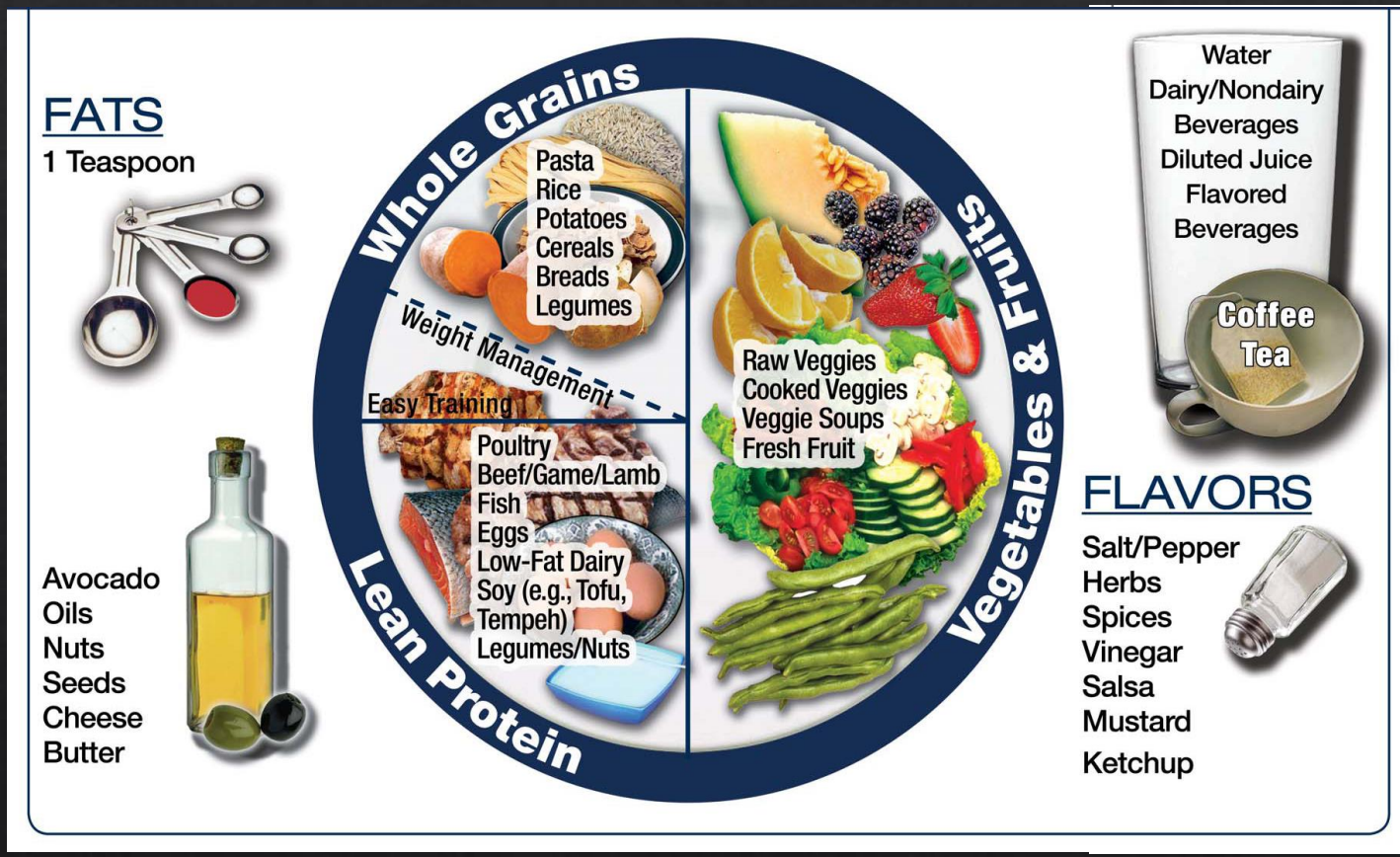
¿De qué dependen las calorías?

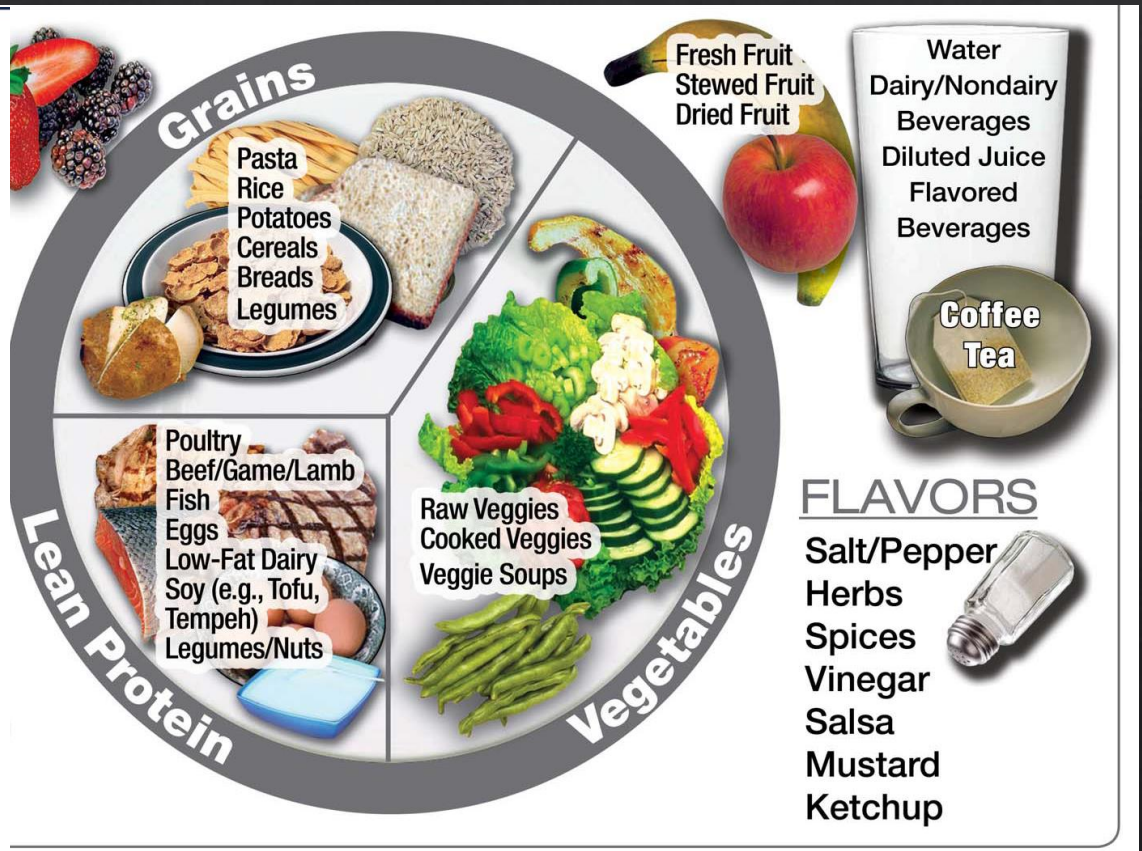
LOS ALIMENTOS QUE SE ELIGEN

LAS FORMAS DE PREPARACIÓN

LAS CANTIDADES

¿De qué dependen las calorías?





Ejemplos

3000 KCAL

40% HC = 300g
30% PR = 225g
30% GR = 100g

2000 KCAL

40% HC = 200g
30% PR = 150g
30% GR = 66g

1000 KCAL

40% HC = 100g
30% PR = 75g
30% GR = 33g

Todo esto me hace pensar que debo cuidar un poco más lo que como…..

Prioridades nutricionales

Contexto

Momento biológico

Nivel de dedicación

Objetivos deportivos

Conclusiones

Cada vez los deportes se realizan a mayor intensidad y tienden a ser más explosivos

Una alimentación adecuada a las demandas, nivel, dedicación y al tipo de DC permite optimizar los efectos de la carga y mejorar el RD

Mejorar la calidad, formas de preparación y distribución asociadas a la carga

Poner foco en cantidades y en la EAN

¡Muchas gracias por su atención!

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