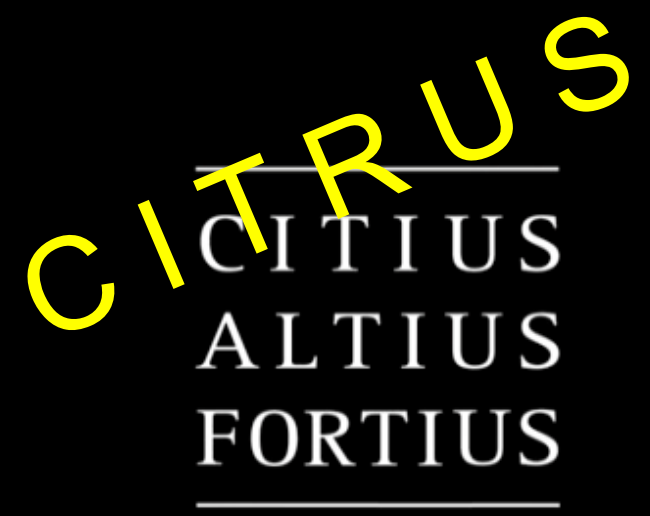


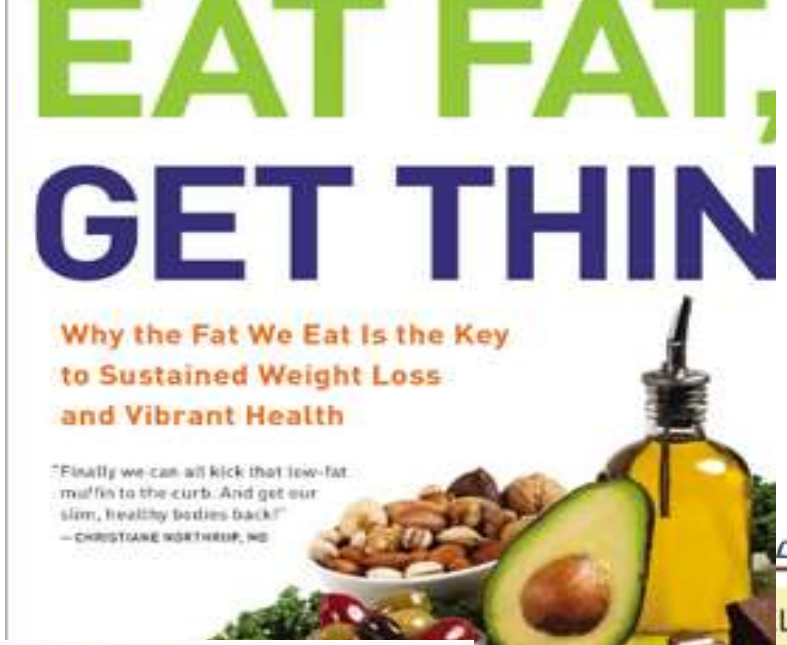
¿ Porqué consumir cítricos ?

Nut. Prof. EFI Juan Tejo Cárdenas

Centro de Alto Rendimiento

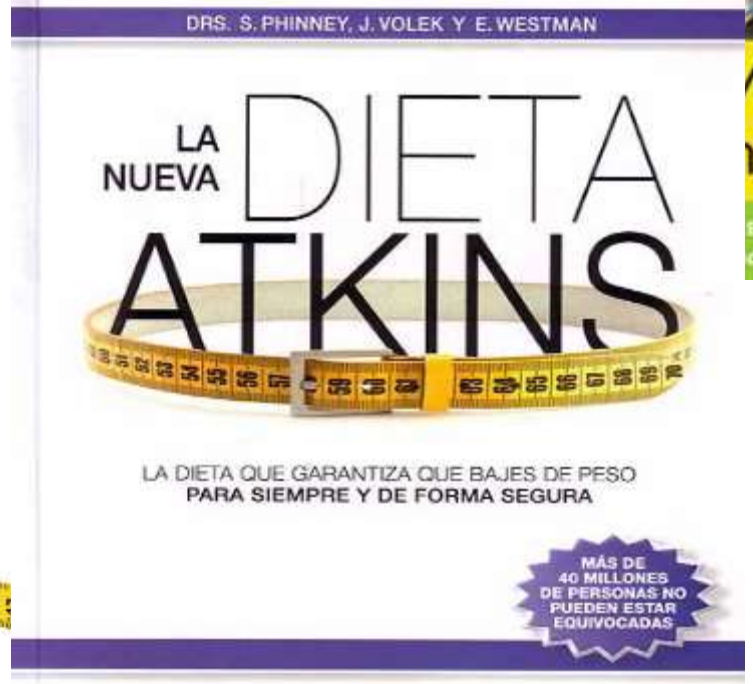
MEDS / USACH

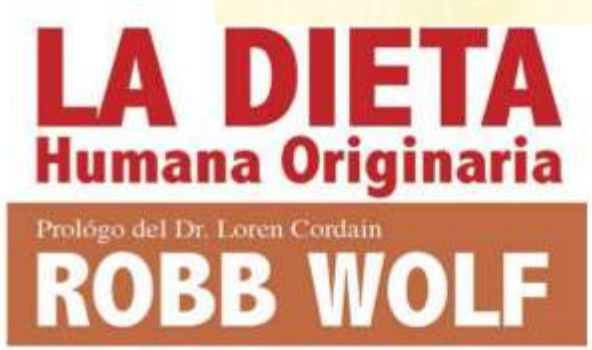
GUÍA DE LA DIETA
CETOGÉNICA:
COMO FUNCIONA, BENEFICIOS
Y LISTA DE ALIMENTOS


EAT FAT,
GET THIN
Why the Fat We Eat Is the Key
to Sustained Weight Loss
and Vibrant Health

PEDRO GREZ
LOS MITOS ME
TIENEN GORD@
Y ENFERM@
BAJAR DE PESO ES UN MITO. NECESITAS BAJAR DE
TALLA, O SEA, ELIMINAR TU EXCESO DE GRASA
CORPORAL. AQUÍ ENCONTRARÁS CÓMO HACERLO.

Dr. Manuel Jiménez Ucero
LA
DIETA
FLASH
LA ÚLTIMA
DIETA
La dieta con la que
han adelgazado más de
30 millones de personas
en todo el mundo
Planeta


DRS. S. PHINNEY, J. VOLEK Y E. WESTMAN
LA
NUEVA DIETA
ATKINS
LA DIETA QUE GARANTIZA QUE BAJES DE PESO
PARA SIEMPRE Y DE FORMA SEGURA
MÁS DE
40 MILLONES
DE PERSONAS NO
PUEDEN ESTAR
EQUIVOCADAS


LA DIETA
Humana Originaria
Prológo del Dr. Loren Cordain
ROBB WOLF

Jugador de NBA pierde 22 libras por "miedo" a la azúcar

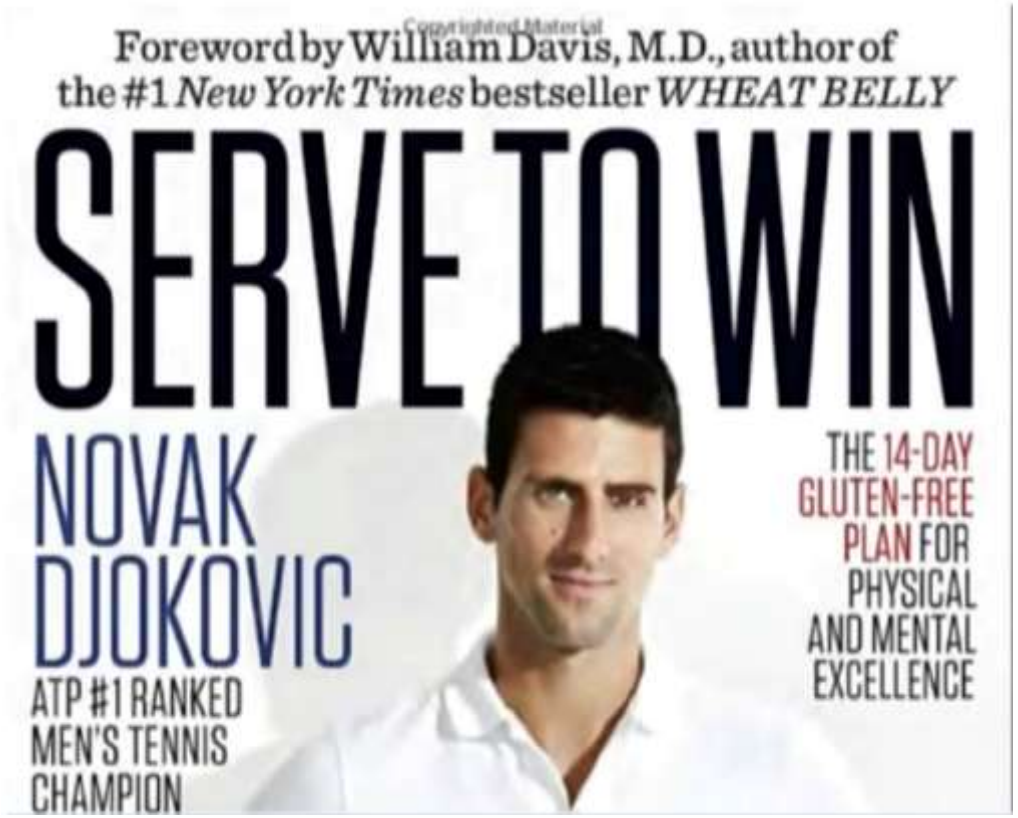
PH Por Primerahora.com
10/05/2015 |00:00 a.m.

El pívot australiano Andrew Bogut eliminó el azúcar de su dieta luego de ver los efectos en un documental.

Se podría decir que un documental cambió la perspectiva del pívot de los campeones Warriors de Golden State, Andrew Bogut, sobre su alimentación y cómo la comida afecta su preparación para la temporada.

El espigado centro australiano se reportó a los entrenamientos de pretemporada de los monarcas de la NBA con 22 libras menos en su cuerpo, y todo fue producto de un cambio en su dieta en la cual eliminó por completo comidas que contienen azúcar.

Pero más impresionante aún fue que Bogut decidió cambiar su alimentación luego de ver el documental ***Is Sugar the New Fat?*** (¿Es la azúcar la nueva grasa?) en un canal australiano



THE LIVIN' LA VIDA LOW-CARB® SHOW WITH JIMMY MOORE

Y que pasa con la gran carga de oxidación?

Es la talla del pantalón lo importante?

Y el hígado graso?

Y el Cáncer?

Y que pasa con la depresión y el estado de ánimo?

Y si tengo alguna enfermedad renal?

Y la microbiota intestinal?

Y los factores inflamatorios vasculares y articulares?

- Paradigma cualitativo….nuevo
- Paradigma cuantitativo… tradicional

- De las calorías a los fito- nutrientes

Factores nutricionales y relación con la salud

	Orange	Grapefruit	Tangerine
Weight *(g)*	131	236	84
Energy *(kcal)*	62	78	37
Fibre content *(g)*	3.1	2.5	1.7
Ascorbic acid *(mg)*	70	79	26
Folate *(mcg)*	40	24	17
Potassium *(mg)*	237	350	132

Source: Gutherie and Picciano, 1995.

1 + 1 no siempre es 2

¿Qué piensa usted de uno alimento que dice lo siguiente en la etiqueta?

- **Carbohidratos de lenta absorción:** Polisacáridos
- **Vitamina C:** Absorción de hierro
- **Acido fólico:** Disminuye la anemia
- **Potasio:** Regulación de balance hidro-electrolítico y mejora la conducción nerviosa

Contiene fitoquimicos que:

- Disminuyen enfermedades cardiovasculares
- Previenen el cáncer
- Disminuyen los defectos del tubo neural
- Disminuyen la anemia
- Reducen la formación de cálculos renales
- Mejora función cognitiva

Monoterpenos
Limonoides (triterpenos)
Flavonoides
Carotenoides
Acido Hidroxicinnamico

Evidencia contradictoria con los alimentos:

- Vitamina A : Carotenos
- Omega 3 : DHA y EPA
- Vitaminas Antioxidantes

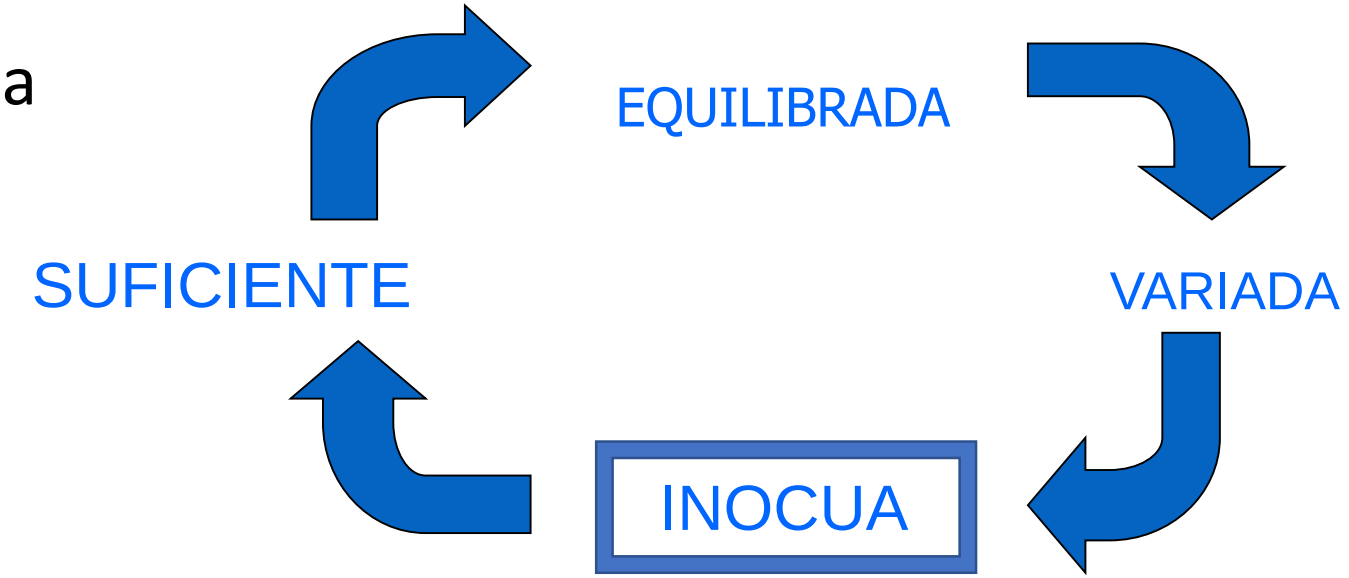
¿A quienes y en que condiciones funcionaron estos compuestos??

Isomería

¿Como entendemos los Isómeros?
Tienen la misma formula química, pero al haber cambios en su entorno se modifica la forma y función

ALIMENTACIÓN

Alimentos a incorporar



Alimentos que debemos Restringir o eliminar

Inflamación

Disminuir pro-inflamatorios

Incoporar anti-inflamatorio

Oxidación

Eliminar alimentos pro-oxidación

Incorporar anti-oxidantes

Isomerización

Seleccionar alimentos en isómero correcto

Mantener en isómero correcto

Evaluación de capacidad Antioxidante

- Índice ORAC en frutas: Oxygen Radical Absorbanse Capacity

Citricos -Berries

Ejemplo: Aporte de vitamina C

Alimentos	Porción	Vitamina C (mg)
Naranja	Fruta entera (131 g)	69,7
Pomelo blanco	media fruta (118 g)	39,3
Pomelo rosado	media fruta (123 g)	38,4
Frutillas frescas	1 taza (166 g)	97,6
Tomate fresco	entero (123 g)	16,9
Brócoli cocido	1 taza (156 g)	101,2
Brócoli crudo	1 taza (88 g)	78,5
Papa cocida c/piel	entera (136 g)	17,7

RDA de vitamina C			
Etapa de vida/ condición	**Edad** (años)	**Varones** (mg/día)	**Mujeres** (mg/día)
Niñez	1-3	15	15
Niñez	4-8	25	25
Niñez	9-13	45	45
Adolescencia	14-18	75	65
Adultez	19 o más	90	75
Fumadores	19 o más	125	110
Embarazo	18 o menos	-	80
Embarazo	19 o más	-	85
Lactancia	18 o menos	-	115
Lactancia	19 o más	-	120

Factores de disponibilidad de vitaminas antioxidantes

Estructura química de cada antioxidante

La matriz en la que se encuentra:
Fruta entera respecto al jugo, fresco respecto al liofilizado

Estado del alimento al ser consumido el alimento:
Crudo en relación al cocido, natural en relación al procesado

Nutrientes que protegen la salud cognitiva

Nutrition Lifestyle Tips

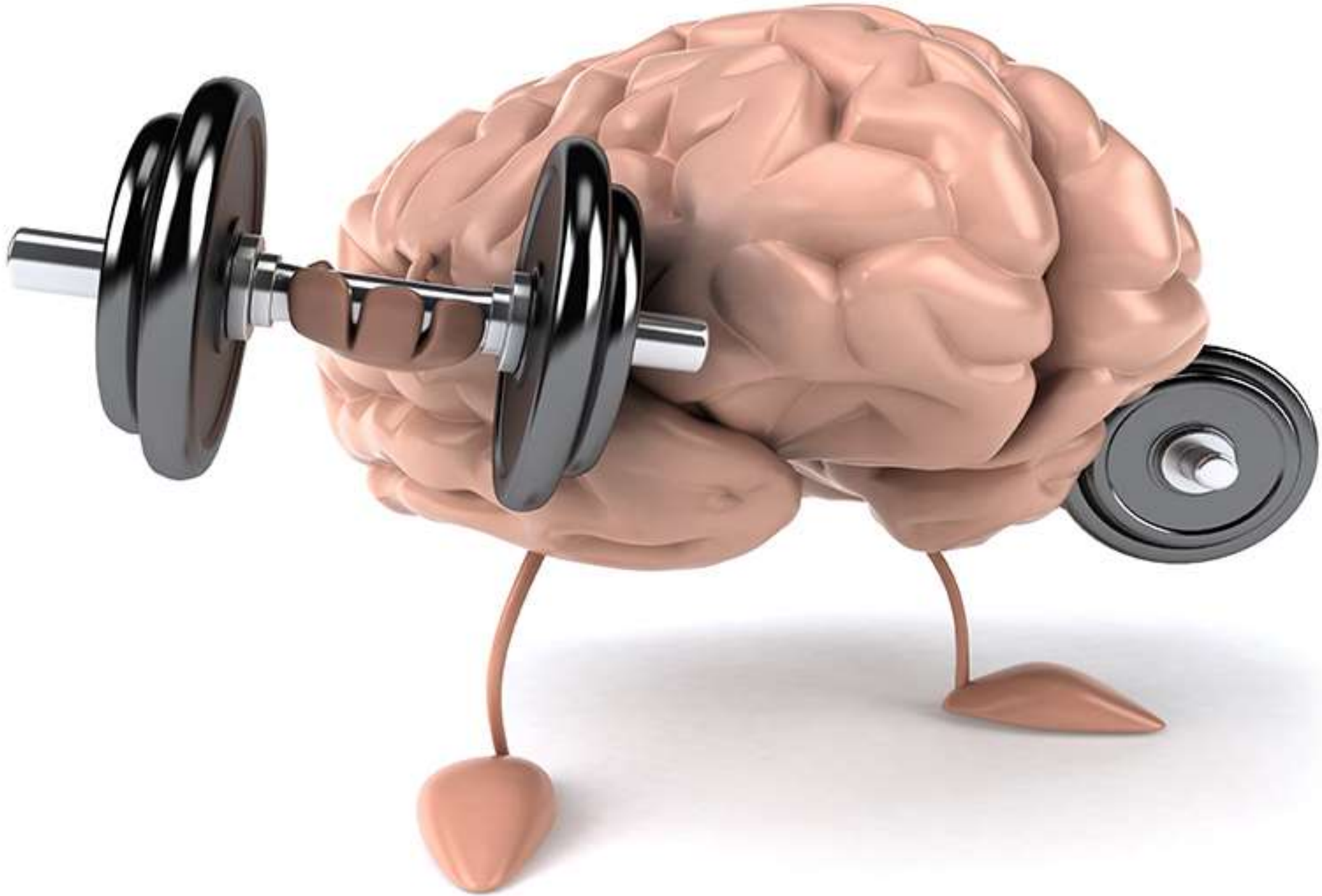
- Control caloric intake by reducing or eliminating consumption of highly processed and refined foods containing unhealthy fats, refined sugars, and chemical additives.
- Maximize antioxidant and polyphenol intake by eating at least five half-cup servings of vegetables and fruits daily, including those that are all the colors of the rainbow. The following are easy ways to enjoy more vegetables: cook, puree, and freeze vegetables, then add to soups, sauces, meatloaf, smoothies, and baked goods like muffins and pancakes.
- Incorporate whole grains as another source of antioxidants, certain B vitamins, minerals, and fiber.
- Enhance the flavors of foods with spices and herbs, many of which are potent antioxidants.
- Improve your intake of omega-3 fats (reduce the omega-6 to omega-3 ratio) by eating at least two servings per week of fatty fish like salmon. Choose grass-fed meats over those raised conventionally, and consume raw nuts, seeds, and their oils on a regular basis.
- Maximize overall nutrient intake by choosing locally grown organic meats, fruits, and vegetables.
- Balance blood sugar and neurotransmitter function by eating a balance of protein, fat, and carbohydrate at every meal and snack. For greater mental energy and alertness during the day, eat higher amounts of protein at breakfast and lunch.
- Engage in regular physical activity.

Fuente: Journal of the american society on aging. Summer 2011, vol 35, nº2

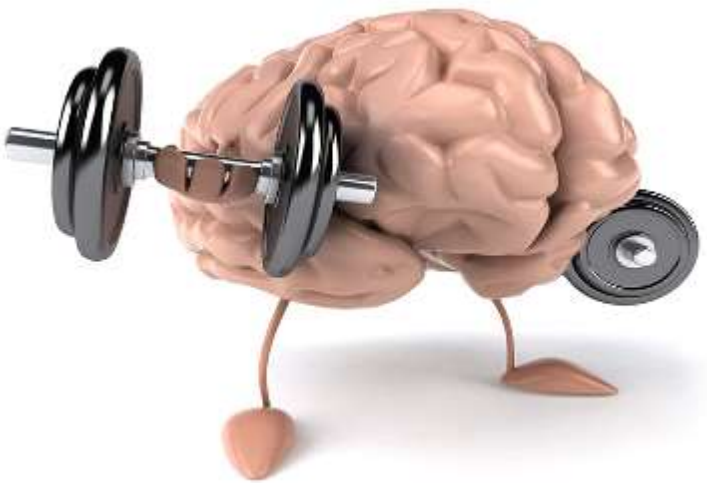
Efecto protector de la vitamina C en el tejido cerebral

Effects of mobile phone use on brain tissue from the rat and a possible protective role of vitamin C – a preliminary study

Int. J. Radiat. Biol., Vol. 86, No. 12, December 2010, pp. 1044–1049



Jugo de naranja mejora funcion cognitiva en personas de 30 a 65 años



Nutritional composition of the high-flavonoid and placebo drinks per 240 ml serving

	Flavonoid rich	Placebo
Energy (kcal)	92.8	87.7
Glucose (g)	5.1	5.36
Fructose (g)	6.12	6.38
Sucrose (g)	11.99	10.2
Fiber (g)	5.50	–
Vitamin C (mg)	80.17	–
Folate (mg)	65.28	–
Total B-carotenes (mg)	0.26	–
Hesperidin (mg)	220.46	–
Narirutin (mg)	34.54	–
Other flavonoids[a] (mg)	17.14	–
Total flavonoids (mg)	272.14	–

[a] Includes didymin, sinensetin, nobiletin, tetramethylscutellarein and tangeretin

Flavonoid-rich orange juice is associated with acute improvements in cognitive function in healthy middle-aged males

Eur J Nutr (2016) 55:2021–2029
DOI 10.1007/s00394-015-1016-9

Outcomes measure	Time point	Placebo	Flavonoid-rich orange juice
Digit Symbol Substitution Test (seconds)	Baseline	61.1 (2.3)	62.2 (2.4)
	2 h	61.7 (1.3)	62.9 (2.3)
	6 h	61.6 (2.2)	62.6 (2.2)
Serial Sevens (number correct)	Baseline	39.7 (4.4)	40.9 (4.1)
	2 h	40.1 (4.3)	42 (4.3)
	6 h	40.5 (4.5)	43.5 (4.5)
Immediate Verbal Recall (words)	Baseline	11.1 (.5)	11 (.4)
	2 h	10.2 (.3)	10.2 (.5)
	6 h	10.2 (.4)	10.4 (.5)
Delayed Verbal Recall (words)	Baseline	11 (.7)	11.3 (.6)
	2 h	9.6 (.7)	8.8 (.7)
	6 h	9.5 (.8)	9.4 (.8)
Continuous Performance Task (errors)[^,*]	Baseline	8.2 (1.3)	9.2 (1.6)
	2 h	6.4 (1.2)	7.9 (1.5)
	6 h	8.8 (1.4)	7.6 (1.5)
Simple Finger Tapping* (correct responses)	Baseline	62.1 (1.7)	60.1 (1.8)
	2 h	61.1 (1.7)	61.9 (1.7)
	6 h	61 (1.6)	60.8 (1.7)
Complex Finger Tapping (correct responses)	Baseline	35 (3)	35.7 (3.5)
	2 h	36.1 (2.8)	38 (3.9)
	6 h	33.6 (2)	37.6 (3.9)
Contrast Sensitivity[^] (Michelson Contrast)	Baseline	3 (.2)	3 (.2)
	2 h	3 (.1)	3.1 (.2)
	6 h	3 (.2)	3 (.2)
Positive Affect (mood) (PANAS scoring)	Baseline	34.1 (1.7)	33.5 (1.7)
	2 h	33.3 (1.6)	33.6 (1.6)
	6 h	31.7 (1.6)	32.5 (1.9)
Negative Affect (mood) (PANAS scoring)	Baseline	11.2 (.4)	12 (.8)
	2 h	10.7 (.3)	10.5 (.3)
	6 h	10.7 (.3)	11.1 (.4)

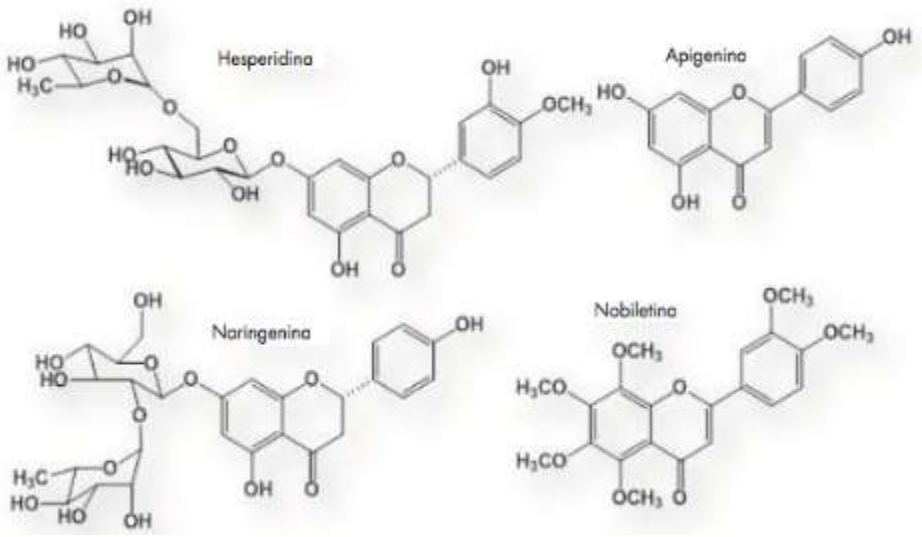
[^] Higher score indicates worse performance

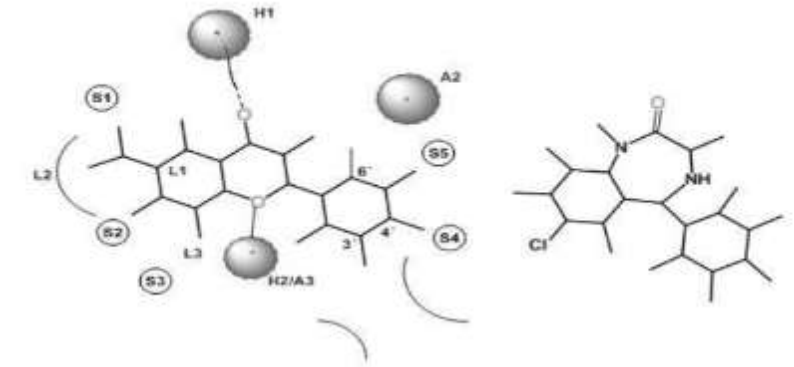
* A significant main effect of drink was observed for Simple Finger Tapping following a 2 × 2 repeated-measures ANOVA with the change from baseline data, such that performance was following the FR drink relative to the placebo ($p < 0.05$). A Drink × Time interaction was observed for CPT accuracy such that change from baseline was significantly different between the two drinks at 6 h ($p < 0.05$)

Mejor rendimiento cognitivo a las 2 y 6 hrs…
Jugo de naranja al desayuno
240 a 500 ml

Flavonoides y funcionamiento del sistema nervioso

Flavonoide	Ejemplo	Referencia
Ansiolíticos	6-metilapigenina, wogonina, luteolina, 6-bromoflavanona	51-53
Antiepilépticos o anticonvulsivos	rutina, gosipina	54,55
Sedantes o inductores del sueño	hesperidina, spinosina	56,57
Antinociceptivos	miricetrina	58
Mejoran la memoria, el aprendizaje y el funcionamiento cognitivo	rutina, nobiletina, quercetina, linarina	23, 54
Antidepresivos	quercetina, apigenina	59,60
Moduladores de la función neural	nobiletina, hesperidina	61
Anti-neuroinflamatorios	wogonina, luteolina, epicatequina, flavona	62-65
Neuroprotectores	linarina, rutina	66-68



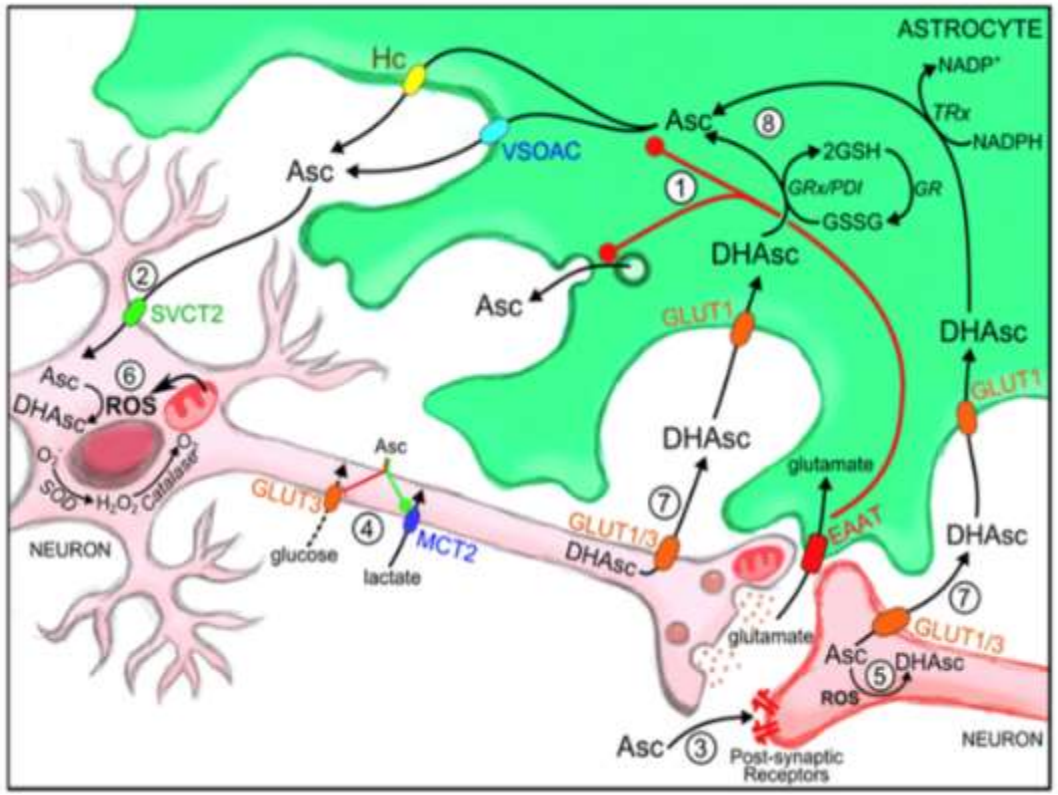


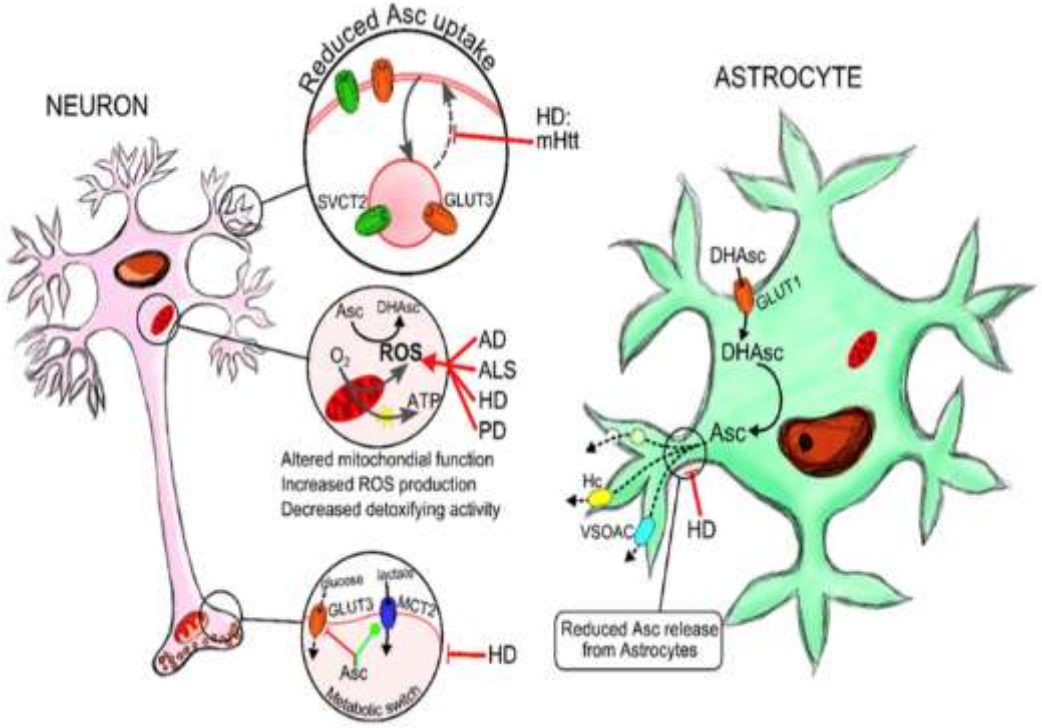
Flavonoide v/s Diazepam

Los flavonoides y el Sistema Nervioso Central

Salud Mental 2012;35:375-384

Neurodegeneración por fallas en el metabolismo del acido ascórbico: Alzheimer, Parkinson, Huntigton





Old Things New View: Ascorbic Acid Protects the Brain in Neurodegenerative Disorders

Int. J. Mol. Sci. **2015**, *16*, 28194–28217; doi:10.3390/ijms161226095

Recomendación de vitamina C para prevención de enfermedades

Infants
0-6 months 40 mg/day
7-12 months 50 mg/day
Children
1-3 years 15 mg/day
4-8 years 25 mg/day
9-13 years 45 mg/day
Adolescents 14-18 years
Males 75 mg/day Females 65 mg/day

Adults 19 years and older
Male non-smokers 90 mg/day Female non-smokers 75 mgMale smokers125 mg/day
Female smokers 110 mg/day **In pregnancy**
up to 18 years 80 mg/day
19 years or older 85 mg/day
While breast feeding
up to 18 years 115 mg/day and
19 years or older 120 mg/day

A Review and Critical Analysis of the Scientific Literature Related to 100% Fruit Juice and Human Health[1,2]

Cantidad: Entre 240 y 540 ml / Día de jugo de fruta citrica

©2015 American Society for Nutrition. Adv. Nutr. 6: 37–51, 2015; doi:10.3945/an.114.005728.

Status oxidativo

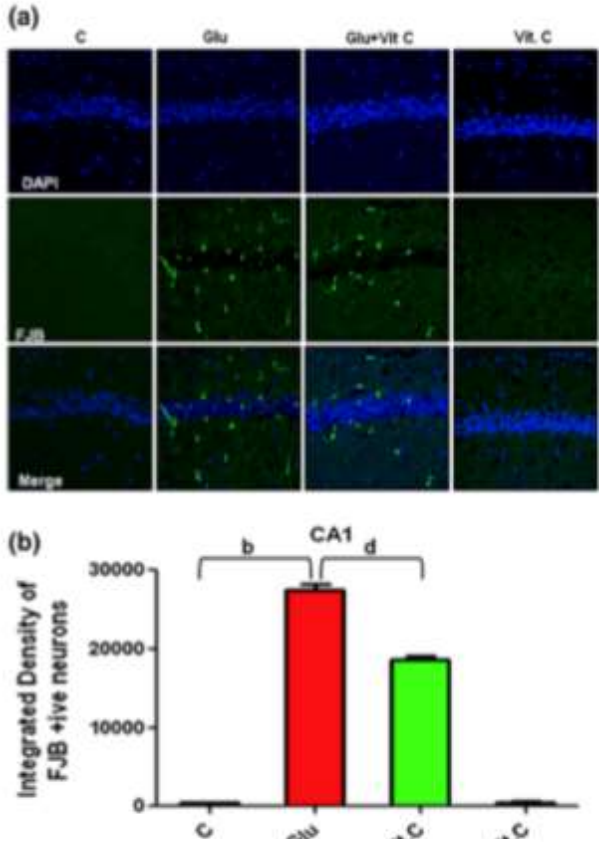
Type of juice	Subjects (healthy unless specified)[3]	Results[4]
Orange (fresh), 500 mL single dose; 500 mL/d	$n = 12$, ♀♂, 20–32 y (subset $n = 3$ smokers)	Single dose ↑ plasma vitamin C in ♂ ($P = 0.001$) and ♀ ($P = 0.009$), ↓ plasma 8-*epi*-$PGF_{2\alpha}$, in ♂, greater effects in smokers
Orange, 250 mL, 500 mL, 72 mg vitamin C	$n = 11$, ♀, 21–39 y	↑ Plasma vitamin C after 500-mL juice ($P = 0.0001$) and 72-mg vitamin C ($P = 0.001$), ↓ TBARS after 250-mL juice and vitamin C ($P = 0.01$)
Orange, 300 kcal equivalent vs. 300 kcal quantity of cream or glucose	$n = 10$/group, ♀♂, 20–40 y; $n = 12$/group, ♀♂, 25–47 y	Juice ↓ ROS generation by mononuclear cells, attenuated rise in plasma endotoxins and mRNA for TLR2, TLR4, and SOD-protein at 1, 3, 5 h vs. glucose or cream beverage, suppressed monocyte p38 MAPK protein, mRNA for/and plasma MMP-9
Mandarin, 500 mL/d	$n = 48$, hypercholesterolemic children, 8–12 y	↓ Plasma MDA, carbonyl groups ($P < 0.01$), ↑ reduced glutathione, vitamin C ($P < 0.00001$), vitamin E ($P < 0.001$)
Pomegranate vs. apple, 250 mL/d	$n = 26$, ♀♂, >60 y	Both juices ↓ plasma MDA ($P < 0.01$), pomegranate ↓ FRAP, carbonyl content, ↔ oxidation LDL, GSH
Pomegranate, 100 mL 3 × wk, during first hour of dialysis	$n = 66$ juice vs. $n = 35$ placebo, hemodialysis ♀♂, >18 y	↓ CD11b, myeloperoxidase, oxidized fibrinogen, MDA, IL-6, TNF-α ($P < 0.03$–0.001), fewer infections juice vs. placebo
Pomegranate, 50 mL/d concentrate	$n = 10$ ♂, $n = 10$ postmenopausal ♀ (age not specified)	♂ Only ↓ TBARS, AAPH-induced serum lipid peroxidation, ↑ FRAP, thiol groups, ↑ paraoxonase free and HDL-related activity (binding, catalytic), ↔ lipids, glucose, Hb A_{1c}
Pomegranate, 50 mL fresh diluted 1:5 (v/v)	$n = 10$, diabetic ♂ vs. 10 ♂, 50 ± 10 y	↓ Plasma peroxides, C-peptide, ↑ thiols, paraoxonase arylesterase activity vs. control/baseline ($P < 0.01$)

Daño vascular por reactividad e inflamación

vascular reactivity and inflammation[1]

Type of juice	Subjects (healthy unless specified)[3]	Results[4]
Grape (Concord), 7.7 mL/kg	n = 15 (12 ♂), CAD/hypertension, dyslipidemia, 63 ± 13 y	↑ FMD brachial artery (P = 0.003) (juice dose consumed 2 h prior)
Grape (Concord), 2 doses: 8 mL/kg (high), 4 mL/kg (low); 400 IU vitamin E (added to each after 4 wk)	n = 11 high dose, n = 11 low dose, CAD on medication, mild hypertension ♂, 64 ± 10 y	↑ FMD brachial artery vs. baseline both high and low dose (P = 0.04), no additional benefit with vitamin E, ↔ plasma lipids, glucose, insulin, oxidation of LDL cholesterol
Grape (purple), 500 mL/d	n = 16, ♀♂, hypercholesterolemia, 52 ± 8 y	↑ FMD brachial artery vs. baseline, ↓ ICAM-1, ↔ mean brachial diameter or NMD, ↔ plasma lipids, glucose, platelet aggregation, or VCAM-1
Pomegranate, 240 mL/d or grape, 18 mL/kg per day	n = 30, metabolic syndrome, adolescents, 13 ± 1 y, (gender not specified)	Pomegranate and grape ↑ FMD and NMD brachial artery at 4 h and 4 wk vs. baseline, grape ↑ brachial diameter 4 wk, pomegranate and grape ↓ IL-6, E-selectin 4 wk, pomegranate ↓ VCAM-1 at 4 wk, pomegranate ↓ IL-6, E-selectin, VCAM-1 at 4 h, ↔ bodyweight
Orange vs. control beverage + placebo vs. control beverage containing hesperidin	n = 23, overweight, 33% hypertensive ♂, 50–65 y	↑ EDR 6 h after consumption correlated with plasma hesperetin (r = 0.434, P = 004), ↓ BP orange vs. placebo (P = 0023), ↔ bodyweight, FRAP, urinary-8-isoprostane, insulin, lipid, inflammatory markers
Orange (composite 3 varietals, Tarocco, Sanguinello, Moro), 500 mL/d	n = 19, ≥2 criteria for metabolic syndrome, ♀♂, 27–56 y vs. 12 healthy controls ♀♂	Juice normalized FMD in brachial artery in subjects (P < 0.005), ↓ blood concentrations hsCRP, IL-6, TNFα (P < 0.001), ↔ plasma protein carbonyls, bodyweight, fasting postprandial glucose
Pomegranate, 240 mL/d	n = 146, ≥1 risk factor for CVD, ♀♂, 61 ± 7 y vs.143 matched controls, 61 ± 8 y	↔ Plasma lipids, inflammatory or oxidative markers, 12-mo carotid ultrasound. Group with highest lipids had reduced measures of intimal thickening in anterior wall (P < 0.001–0.03)

Vitamina C y calidad cerebral en recién nacidos. Disminuye la neurodegeneración



Vitamin C Neuroprotection Against Dose-Dependent Glutamate-Induced Neurodegeneration in the Postnatal Brain

Neurochem Res (2015) 40:875–884
DOI 10.1007/s11064-015-1540-2

¿Y para relajarse?

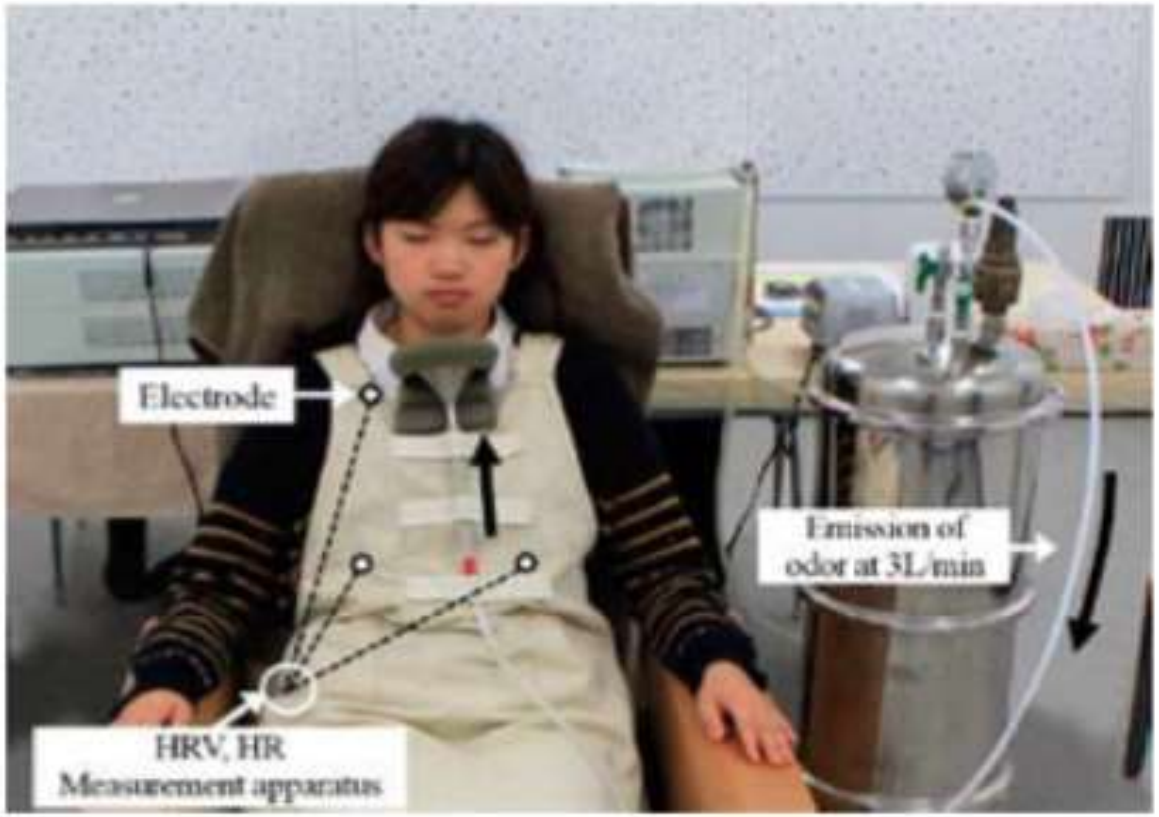
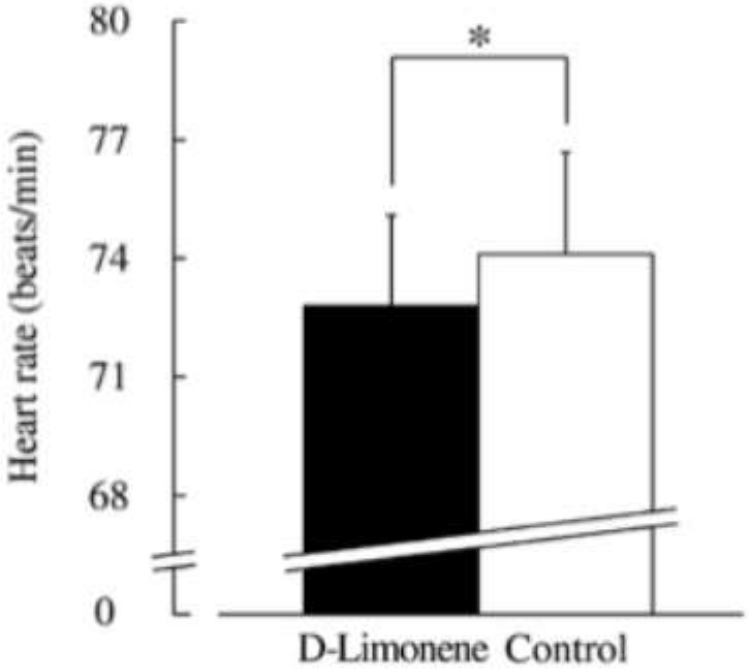


Fig. 1 - Olfactory stimulation setup.

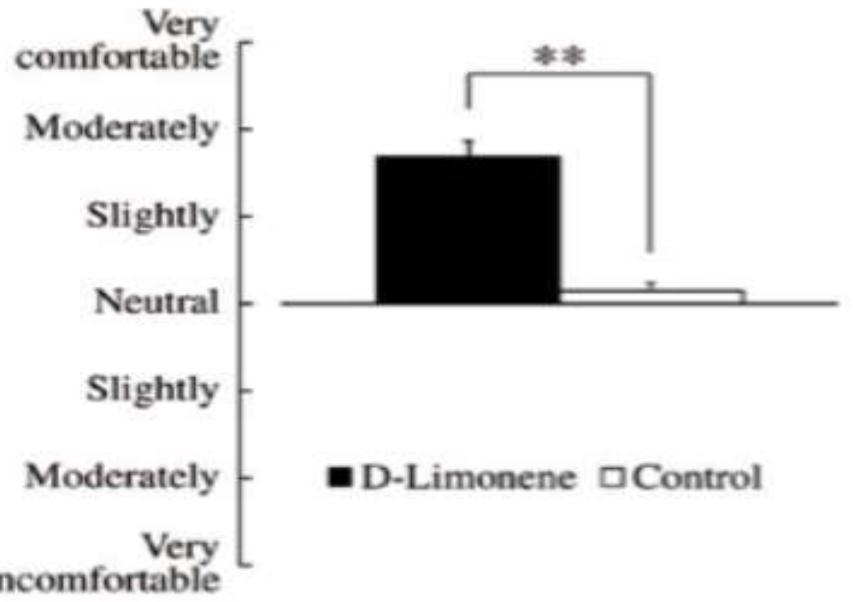
Physiological and psychological effects of olfactory stimulation with D-Limonene

Adv. Hort. Sci., 2014 28(2): 90-94

Conclusión : Baja la percepción del estrés



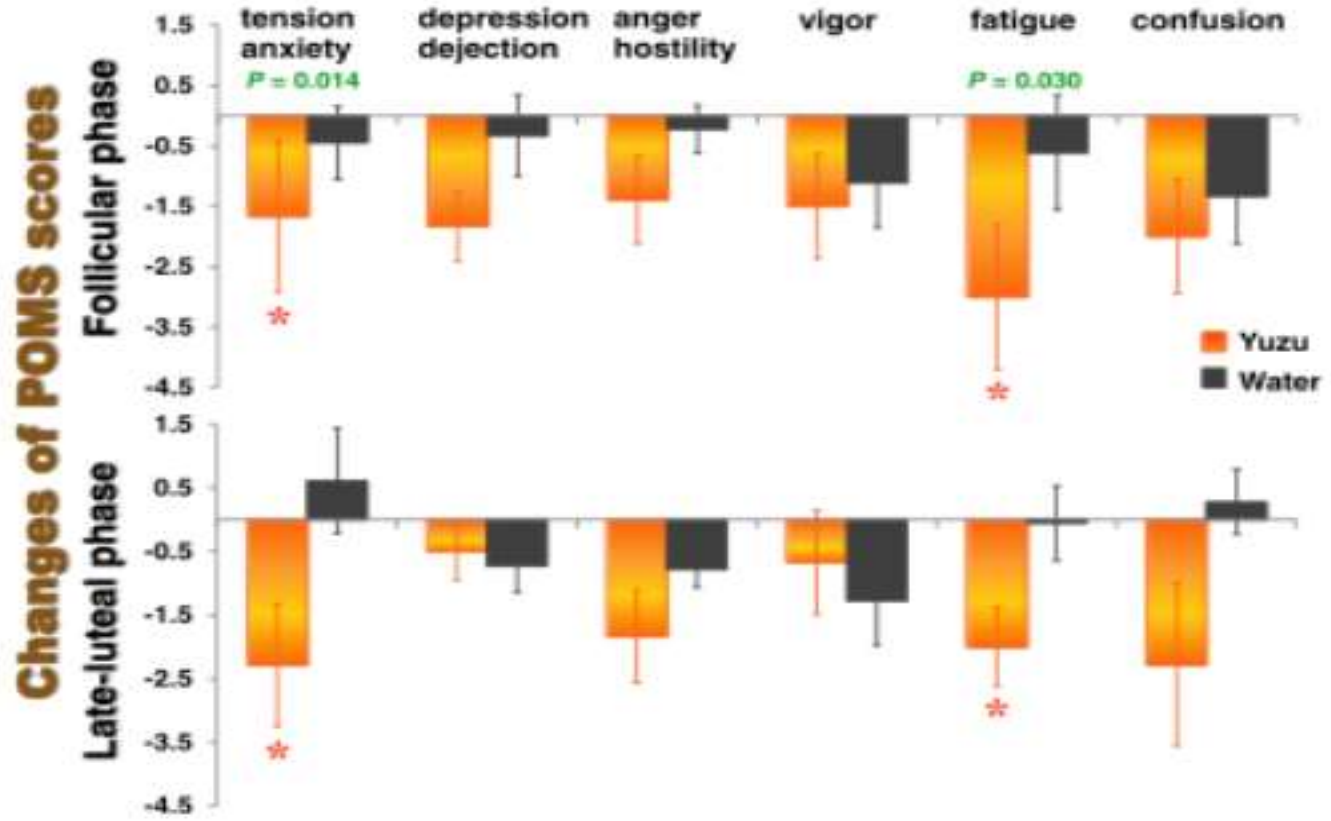
g. 3 - Comparison of the heart rate during olfactory stimulation with D-Limonene or control (air). Data are expressed as mean ± SE; n = 13. *$P < 0.05$ by paired *t*-test.



ig. 4 - Subjective evaluation of "comfortable" measured by a modified semantic differential questionnaire after olfactory stimulation with D-Limonene or control (air). Data are expressed as mean ± SE; n = 13. **$P < 0.01$ by Wilcoxon signed-rank test.

Adv. Hort. Sci., 2014 28(2): 90-94

…Y también durante el ciclo menstrual…



Matsumoto *et al. BioPsychoSocial Medicine* (2016) 10:11
DOI 10.1186/s13030-016-0063-7

Aromatic effects of a Japanese citrus fruit—yuzu (*Citrus junos* Sieb. ex Tanaka)—on psychoemotional states and autonomic nervous system activity during the menstrual cycle: a single-blind randomized controlled crossover study

Mejora la calidad de los tejidos: Piel y ligamentos

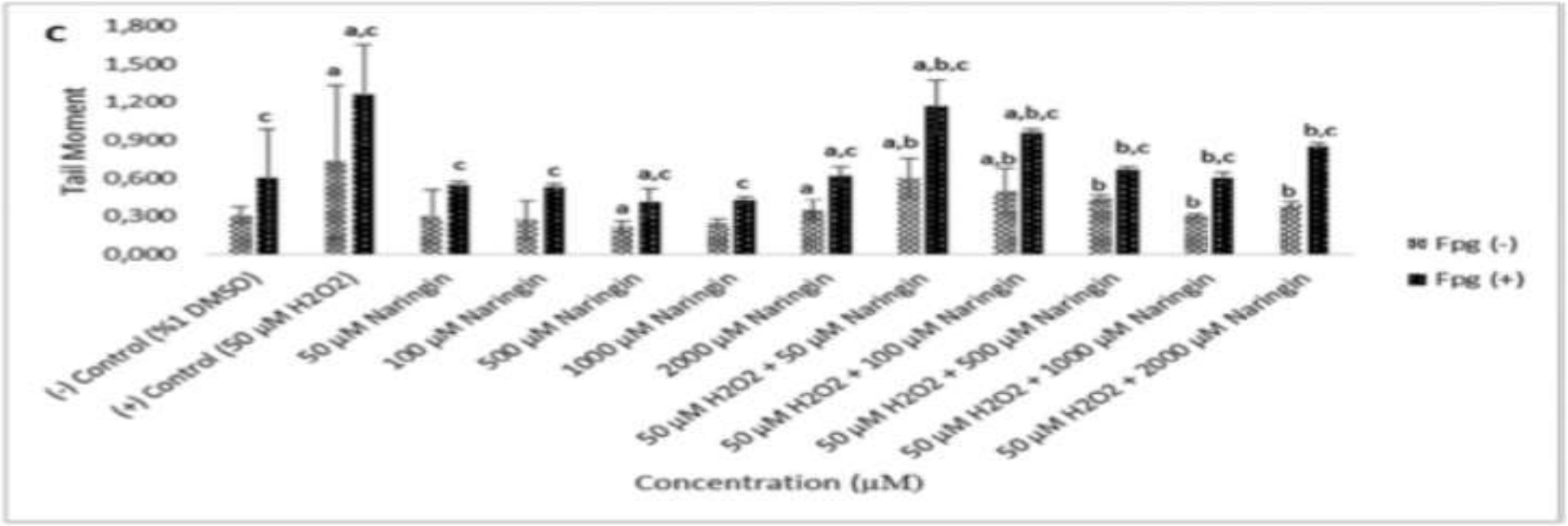


Fig. 4. DNA damages expressed as tail length (A), tail intensity (B), and tail moment (C) in the human lymphocytes treated with naringin and naringin with H_2O_2. Values are given as mean ± standard deviation. [a] $p < 0.05$, statistically different from negative control (%1 DMSO). [b] $p < 0.05$, statistically different from positive control (50 µm H_2O_2). [c] $p < 0.05$, statistically different from Fpg (–) group.

The antioxidant and antigenotoxic properties of citrus phenolics limonene and naringin

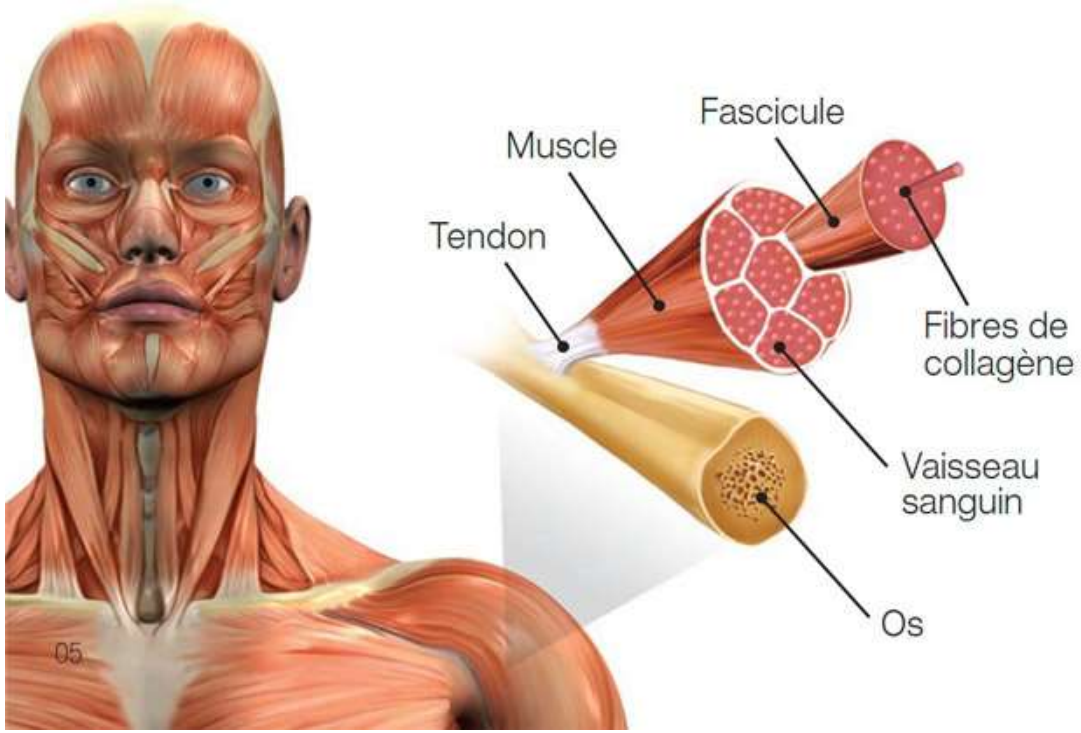
Frutas. Cítricas ricas en vitaminas y antioxidantes.
Ej. kiwi, naranja, mandarina, pomelo.

Limón:

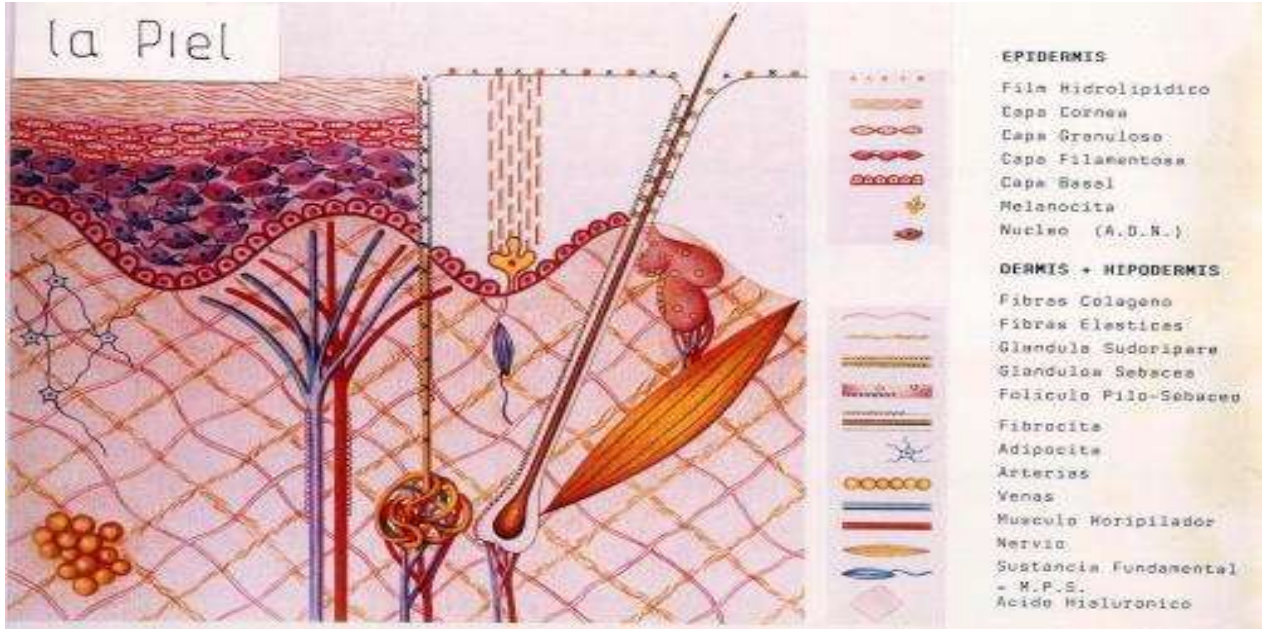
Gran eliminador de toxinas y poderoso bactericida, por lo que es ideal para desintoxicar el cuerpo y curar infecciones.
Rico en vitamina C
Favorecer la absorción del hierro.

Puede ser utilizado como:
Condimento de ensaladas y carnes como pollo y pescados
En limonada e infusiones o saborizando preparaciones.

Colágeno


Fascicule
Muscle
Tendon
Fibres de collagène
Vaisseau sanguin
Os
05

Colágeno… Mejora la calidad de la piel



La vitamina C estimula la síntesis de colágeno
Fuentes de vit C: naranja/Pomelo/kiwi/limón

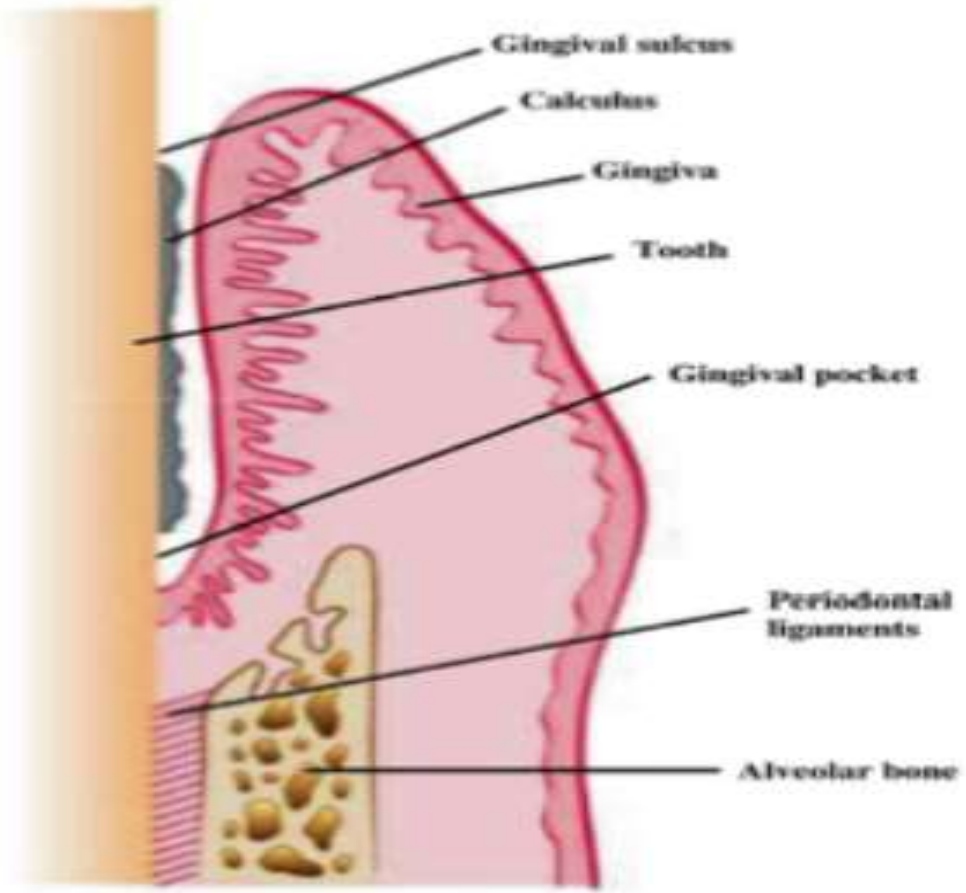
Jugos para una piel mas joven…

Fumar favorecer el prolapso de órganos de la pelvis

Systemic markers of collagen metabolism and vitamin C in smokers and non-smokers with pelvic organ prolapse☆

M.V. Estanol et al. / European Journal of Obstetrics & Gynecology and Reproductive Biology 184 (2015) 58–64

Salud Dental: Los cítricos disminuyen la gingivitis

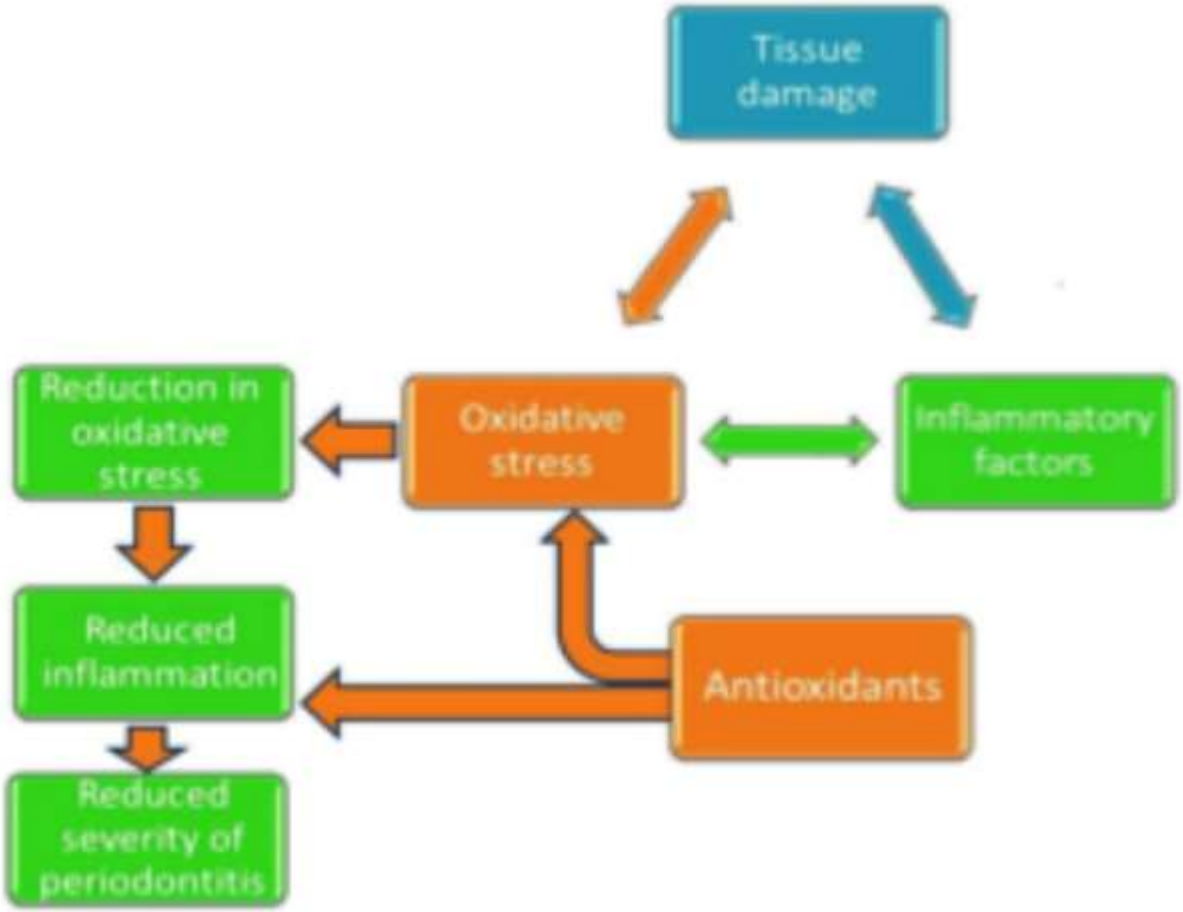


Nutrient	Dietary Source(s)	Importance in Periodontal Heath	Reported Improvement in PD and CAL (Mean mm, SD)	References
Vitamin A	Cod liver oil, carrots, capsicum, liver, sweet potato, broccoli, leafy vegetables	Not clear. Research indicates insignificant improvement in periodontal health upon supplementation.	PD: 0.52 ± 0.03 CAL: n.d.	[33,65]
B-vitamins	B_1—Liver, oats, pork, potatoes, eggs B_2—Bananas, dairy, green beans B_3—Eggs, fish, meat, mushrooms, nuts B_5—Avocados, meat, broccoli B_6—Meat, vegetables, nuts, banana B_7—Raw egg, liver, leafy vegetables, peanuts B_9—Cereals, leafy vegetables B_{12}—Animal products	Supplementation may accelerate post-surgical healing.	PD: 1.57 ± 0.34 CAL: 0.41 ± 0.12	[56]
Vitamin C	Citrus fruits, vegetables, liver	Gingival bleeding and inflammation are hallmarks of scurvy. Supplementation may improve outcomes of periodontal therapy.	PD: 0.58 ± 0.14 CAL: n.d.	[66]
Vitamin D	Fish eggs, mushrooms, liver, milk	Deficiency may lead to delayed post-surgical healing. Local application may accelerate post-surgical healing/osseointegration	PD: 1.35 (SD n.d.) CAL: 1.4 (SD n.d.)	[34,56,57,67]
Vitamin E	poultry, meat, fish, nuts, seeds and cereals	Impaired gingival wound healing	PD: 0.39 ± 0.18 CAL: n.d.	[33,68–70]
Vitamin K	Green vegetables, egg yolk	Deficiency may lead to gingival bleeding. No known effects on periodontal therapy if supplementation	n.d.	[71–73]

The Role of Nutrition in Periodontal Health: An Update

Nutrients **2016**, *8*, 530; doi:10.3390/nu8090530

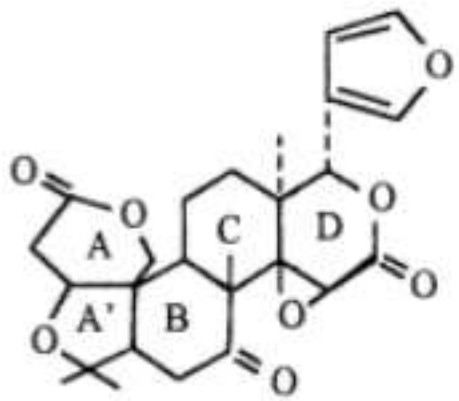
Esquema sobre la salud de las encías



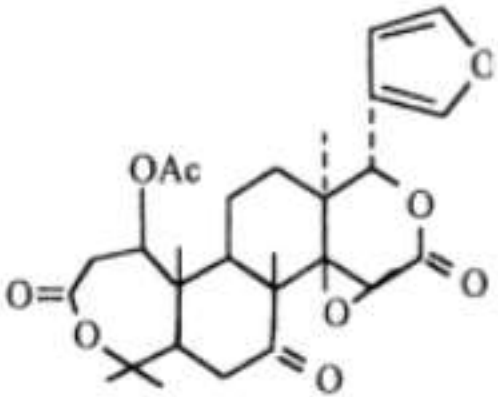
Dietary antioxidants and their indispensable rol in periodontal health

JOURNAL OF FOOD AND DRUG ANALYSIS 24 (2016) 239–246

Limonoides
Flavonoides
B-Carotenos
Acido ascórbico
Acido fólico
Fibra



Limonin



Nomilin

Asia Pacific J Clin Nutr (2002) 11(1): 79–84

Review Article

Anticancer and health protective properties of citrus fruit components

CITRICOS Y DIABETES

Fibra
glicemia
Control ROS …Degeneración celular

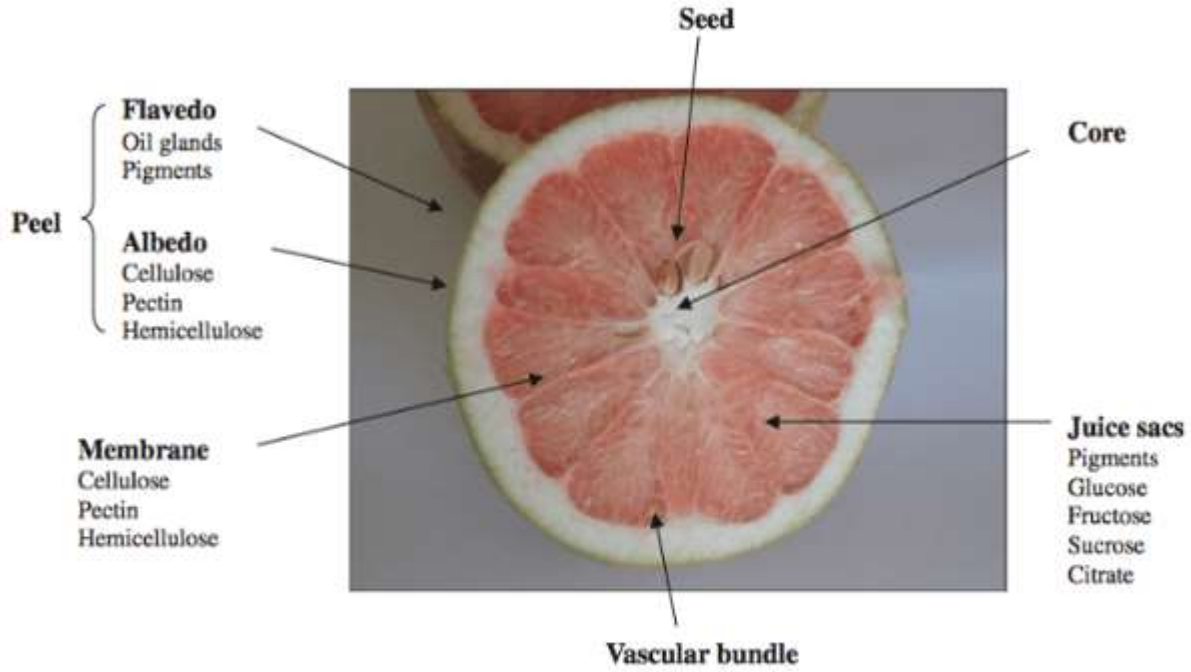


Fig. 1. Equatorial cross-section through a citrus fruit. Adapted from Ramful et al. (2010a,b).

Functional benefits of citrus fruits in the management of diabetes

Preventive Medicine 54 (2012) S12–S16

Citricos y anemia

Mejoran absorción de hierro dietario
Mejoran sintesis de hemoglobina

Citricos y dislipidemia

Aumentan eliminación intestinal de CHOL

Citricos y constipación

Aumentan velocidad de transito intestinal

Ejemplo de una experiencia exitosa que incorpora en su manejo los cítricos : Retinitis Pigmentosa

- Disminuir ingesta de carga ROS de la alimentación: Eliminar grasas, frituras, alimentos envasados con colorantes o de muy larga duración
- Incrementar índice ORAC: Jugos recién hechos, frutas fresca, semillas para variación de vitaminas antioxidantes
- Incorporar alimentos en dosis una vez organizado el resto de la alimentación para evitar cambios de isomerías

- Ej: Dosis calculadas para paciente
- 100-200 grs de salmón x 3 veces a la semana ?
- 4 capsulas de algotene ?
- 500 mg curcumina x 2 veces al día ?
- Jugo fresco de citricos o berries 2 veces al día

Conclusiones

- **Existe abundante evidencia del rol positivos de los citricos en la salud de las personas**
- **Por sus caracteristicas se transforman en una excelente herramienta de prevención en salud**
- **Es necesario desarrollar mas investigación en Chile para apoyar las mejoras del perfil epidemiológico con el aumento del consumo de cítricos**
- **Existe un enorme potencial en el desarrollo de la industria de citricos asociado a la salud**

No olvidar:

- Disminuyen enfermedades cardiovasculares
- Previenen el cáncer
- Apoyan el normal desarrollo fetal
- Disminuyen la anemia
- Reducen la formación de cálculos renales
- Mejora función cognitiva en adultos
- Colaboran en el manejo de la diabetes… entre otros

Muchas Gracias…..

Citrus, altius, fortius
¿Porqué consumir citricos?

Nut. Prof. EFI Juan Tejo Cárdenas

Centro de Alto Rendimiento

MEDS / USACH