

METABOLISMO Y MENOPAUSIA



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SALDIAS PORRAS
MÉDICA NUTRIÓLOGA*





INTRODUCCIÓN



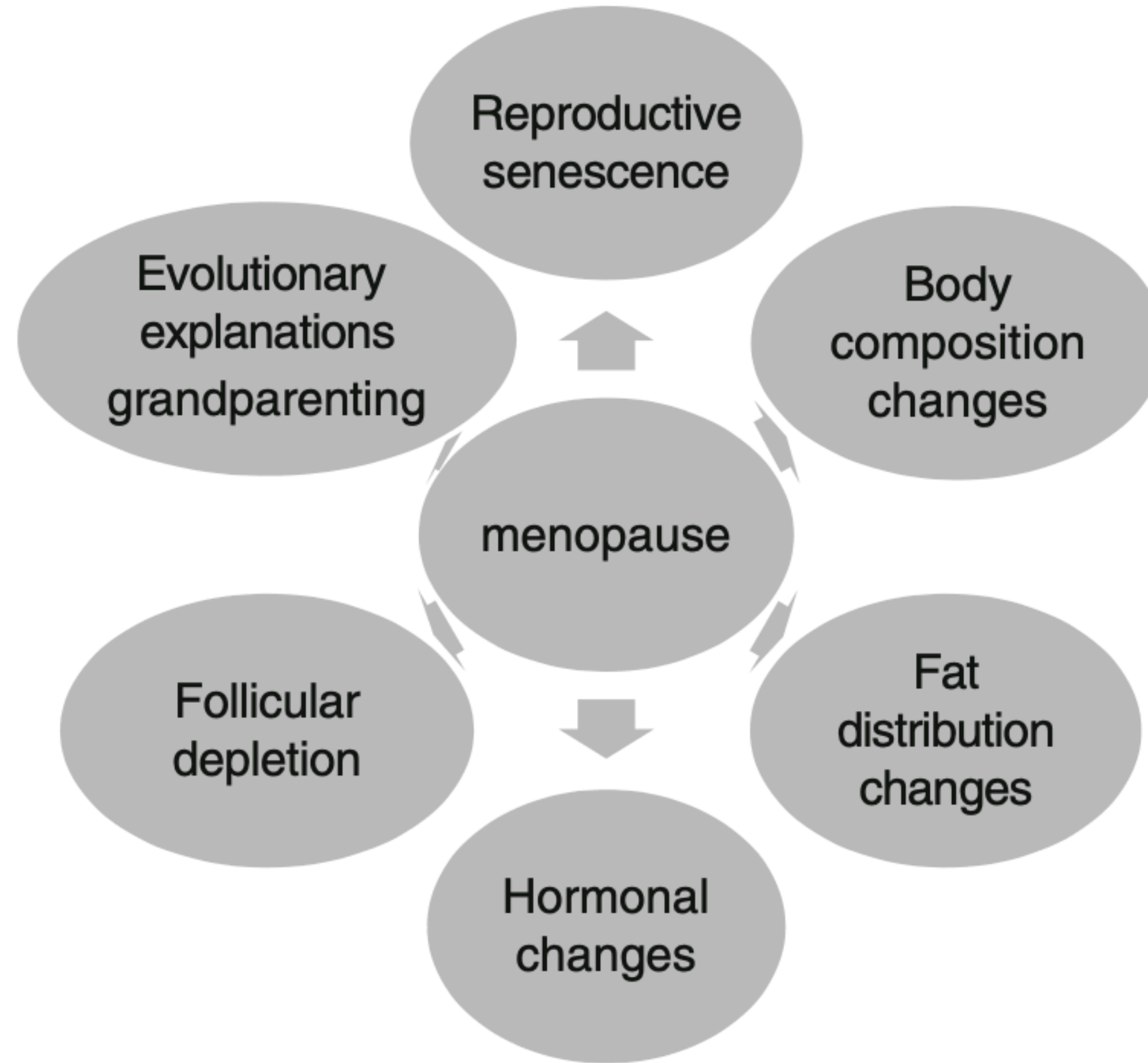
La transición a la menopausia
puede tener un impacto
significativo en muchas mujeres

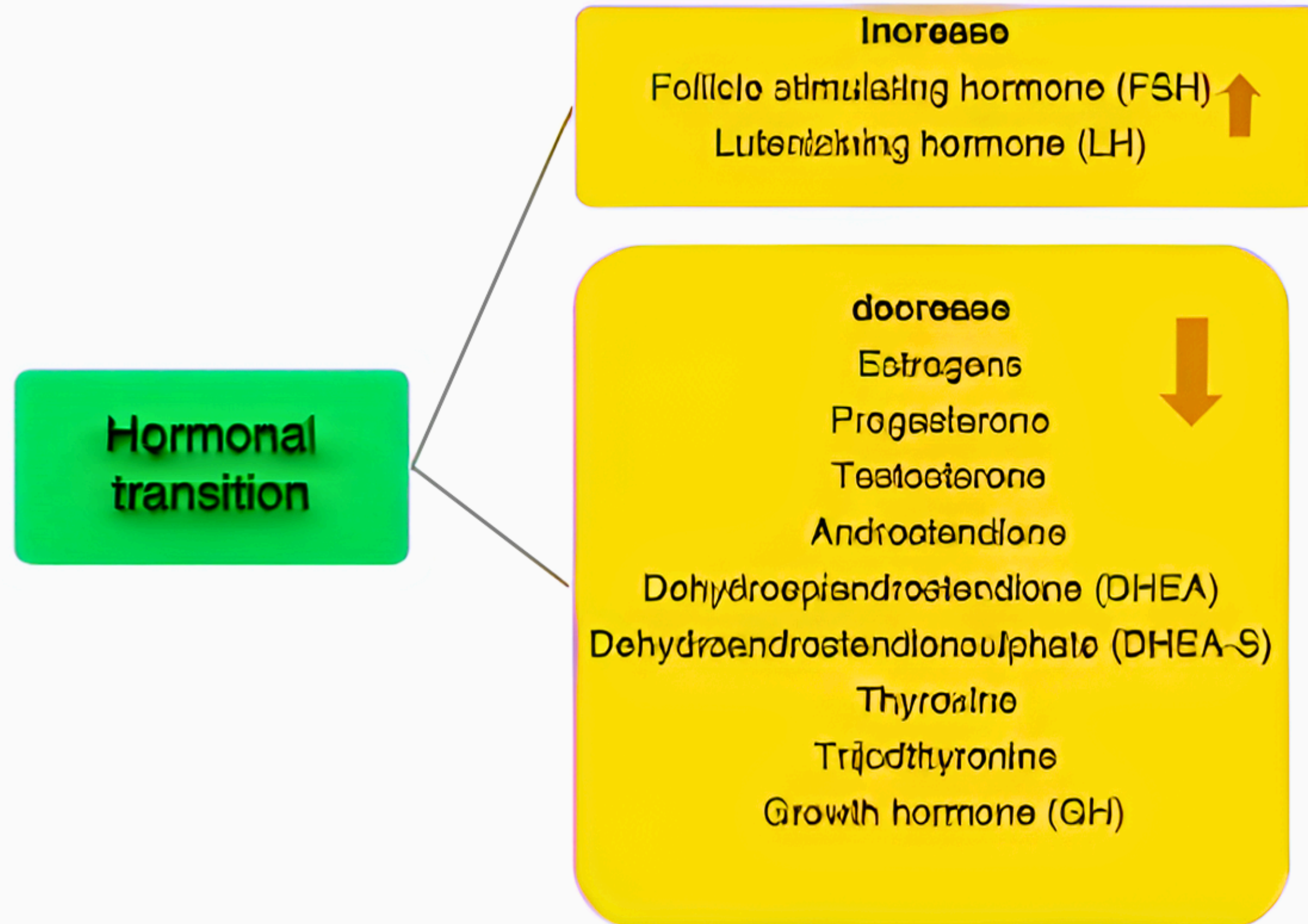
y en este proceso, la pérdida de
estrógeno puede disminuir el
gasto de energía

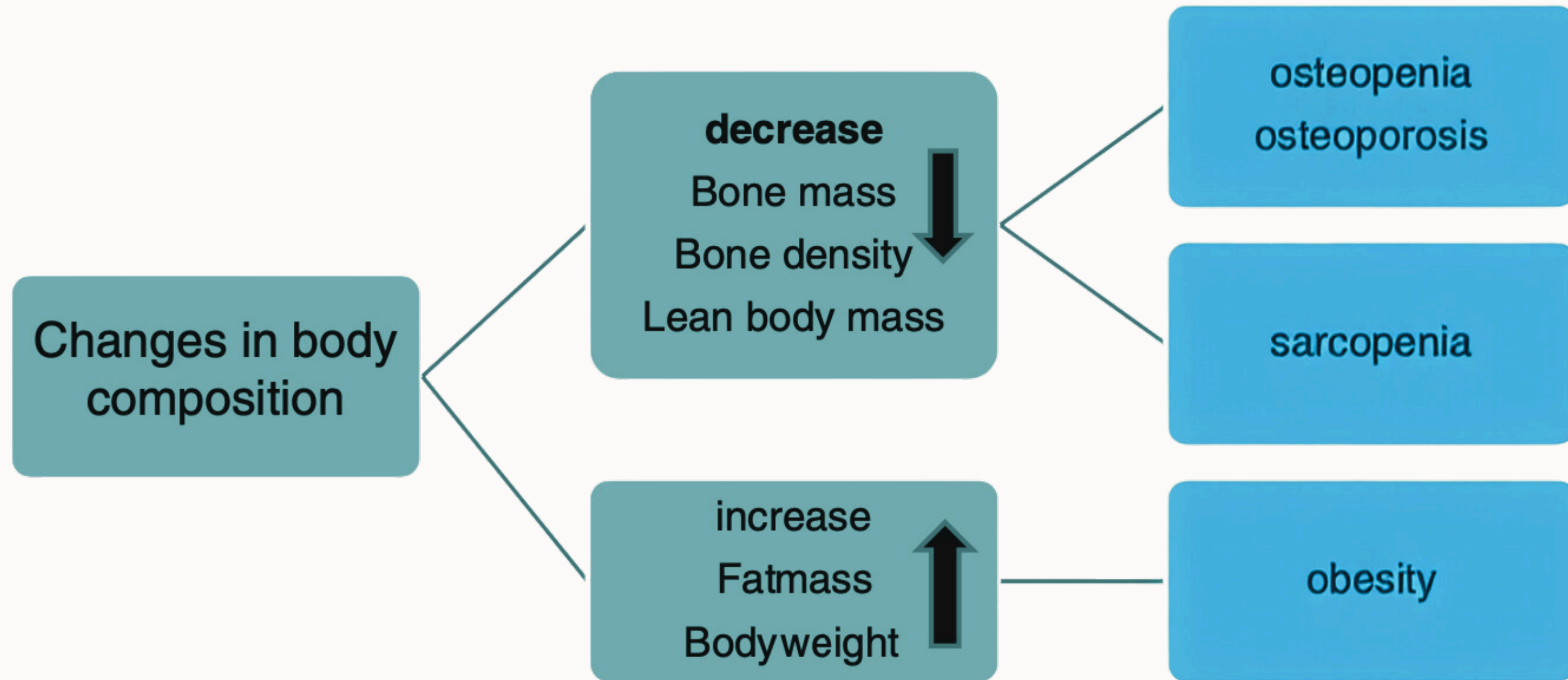
Menarche					FMP (0)					
Stage	-5	-4	-3b	-3a	-2	-1	+1 a	+1b	+1c	+2
Terminology	REPRODUCTIVE				MENOPAUSAL TRANSITION		POSTMENOPAUSE			
	Early	Peak	Late		Early	Late	Early			Late
					Perimenopause					
Duration	variable				variable	1-3 years	2 years (1+1)	3-6 years	Remaining lifespan	
PRINCIPAL CRITERIA										
Menstrual Cycle	Variable to regular	Regular	Regular	Subtle changes in Flow/ Length	Variable Length Persistent ≥7- day difference in length of consecutive cycles	Interval of amenorrhea ≥ 90 days				
SUPPORTIVE CRITERIA										
Endocrine FSH AMH Inhibin B			Low Low	Variable Low Low	↑ Variable Low Low	↑ >25 IU/L** Low Low	↑ Variable Low Low	Stabilizes Very Low Very Low		
Antral Follicle Count			Low	Low	Low	Low	Very Low	Very Low		
DESCRIPTIVE CHARACTERISTICS										
Symptoms						Vasomotor symptoms Likely	Vasomotor symptoms Most Likely		Increasing symptoms of urogenital atrophy	

* Blood draw on cycle days 2-5 ↑ = elevated

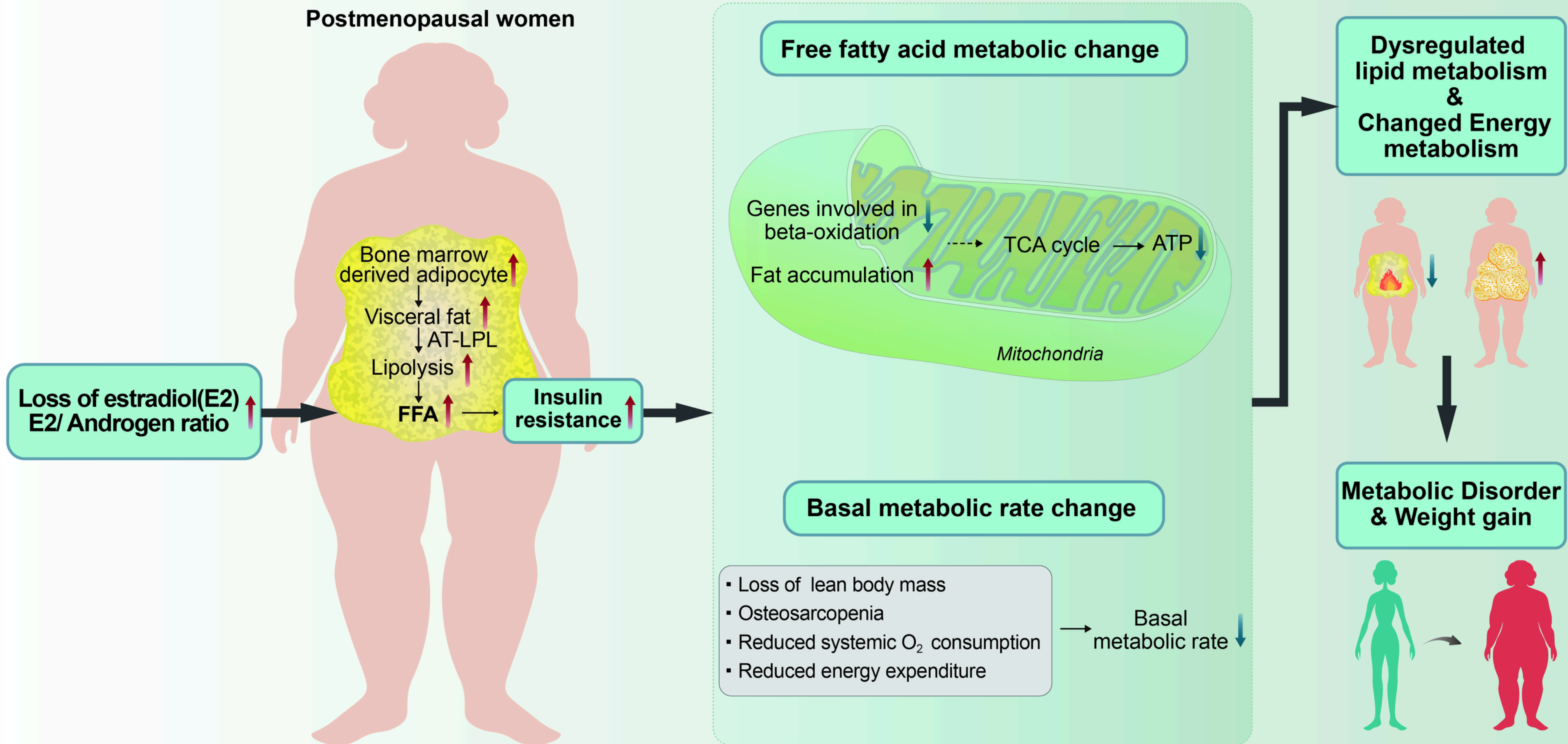
**Approximate expected level based on assays using current international pituitary standard⁶⁷⁻⁶⁹





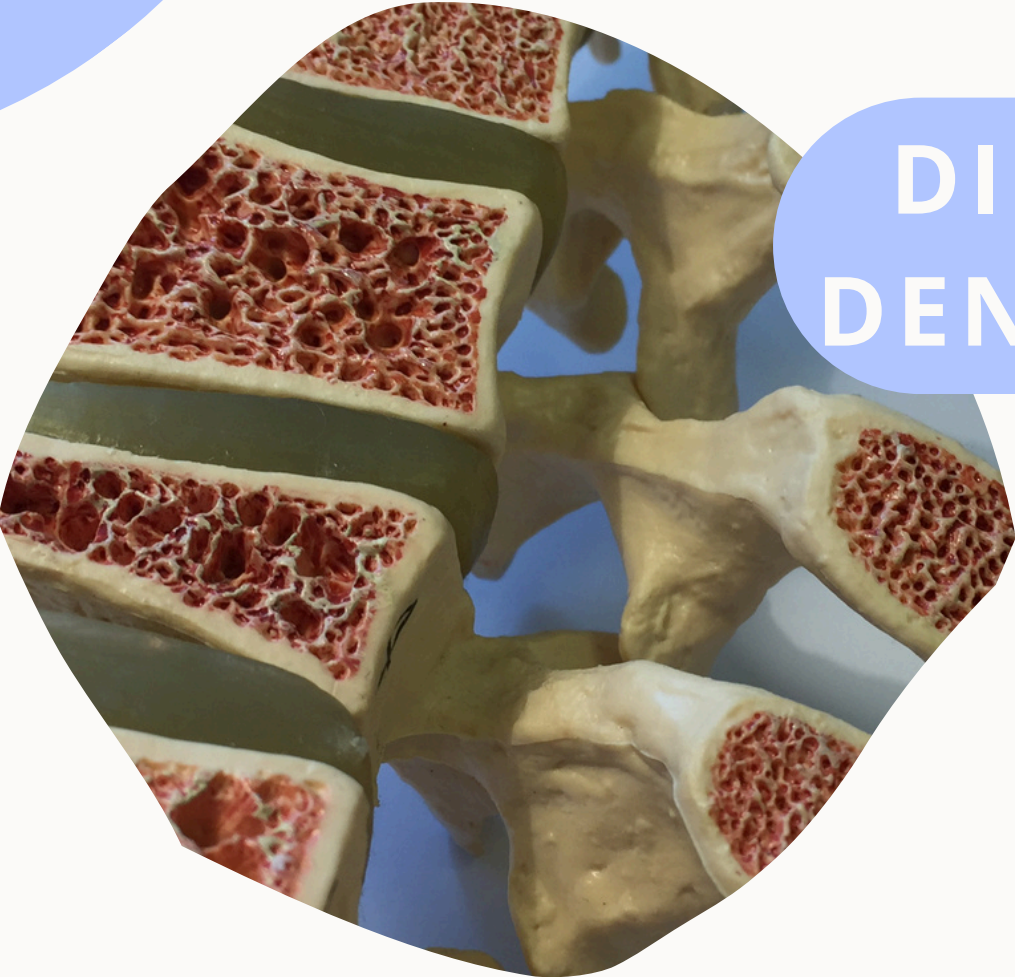


Postmenopausal women





GRANDES CAMBIOS



DISMINUCION
DENSIDAD OSEA

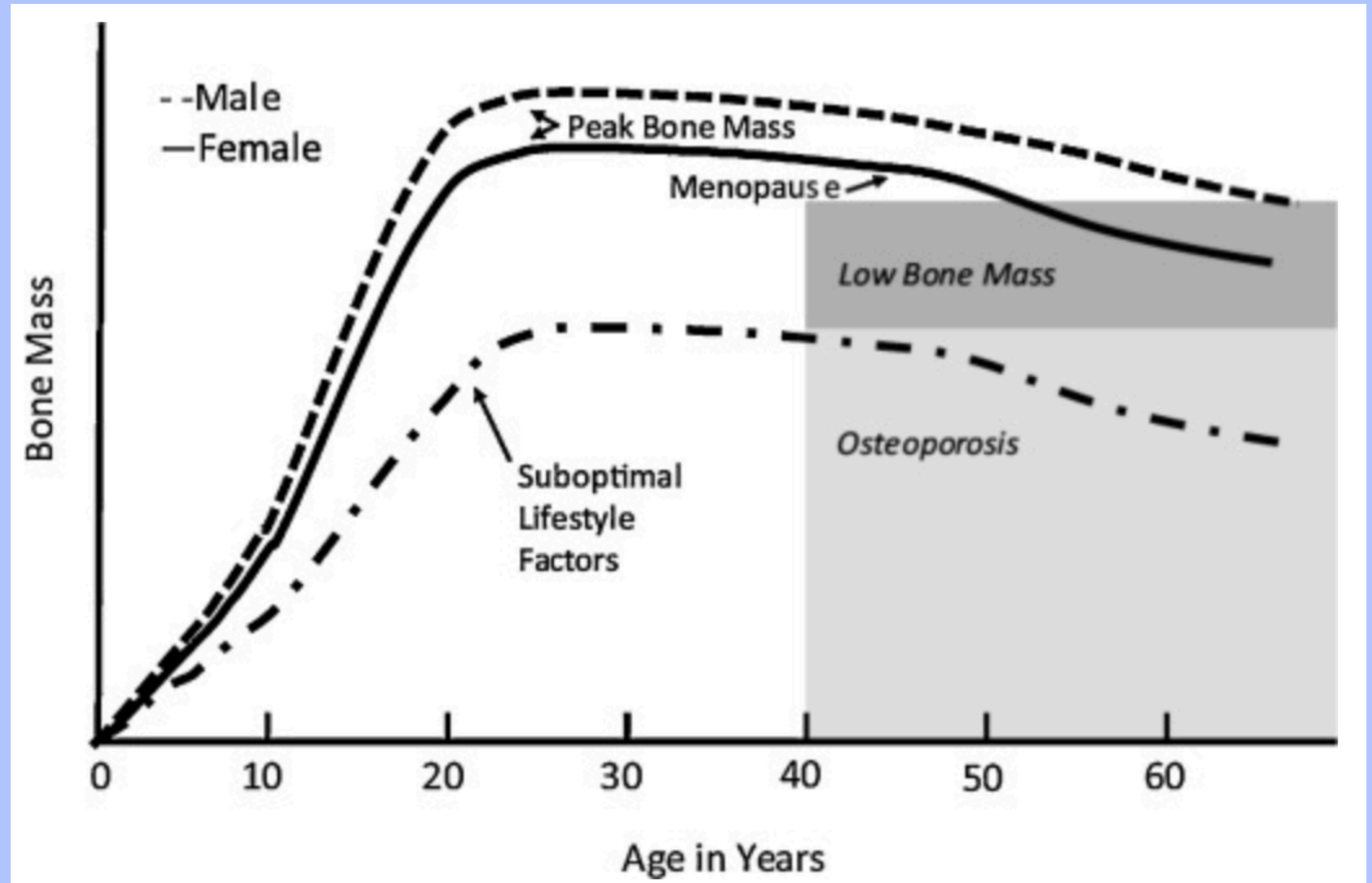
AUMENTO DE GRASA
CORPORAL Y CAMBIO
DISTRIBUCIÓN



DISMINUCION MASA
CORPORAL MAGRA Y
SARCOPENIA



DENSIDAD OSEA

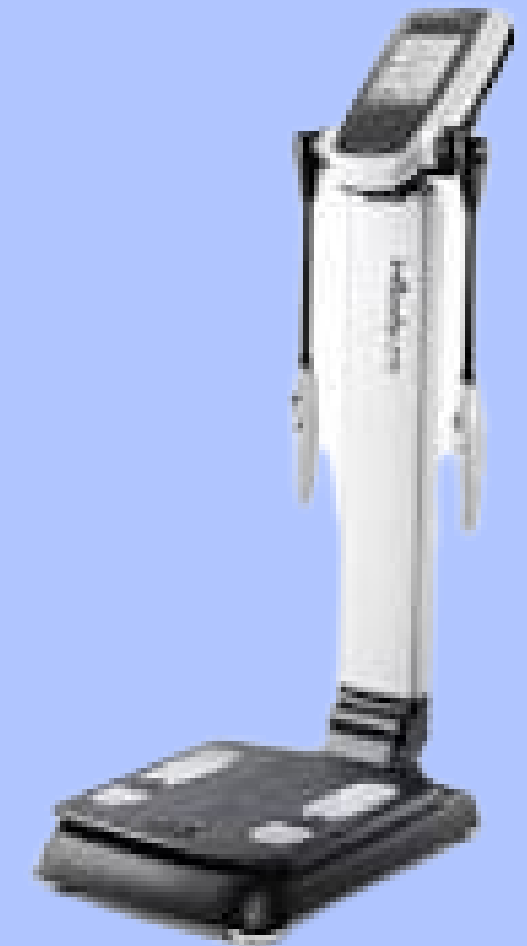
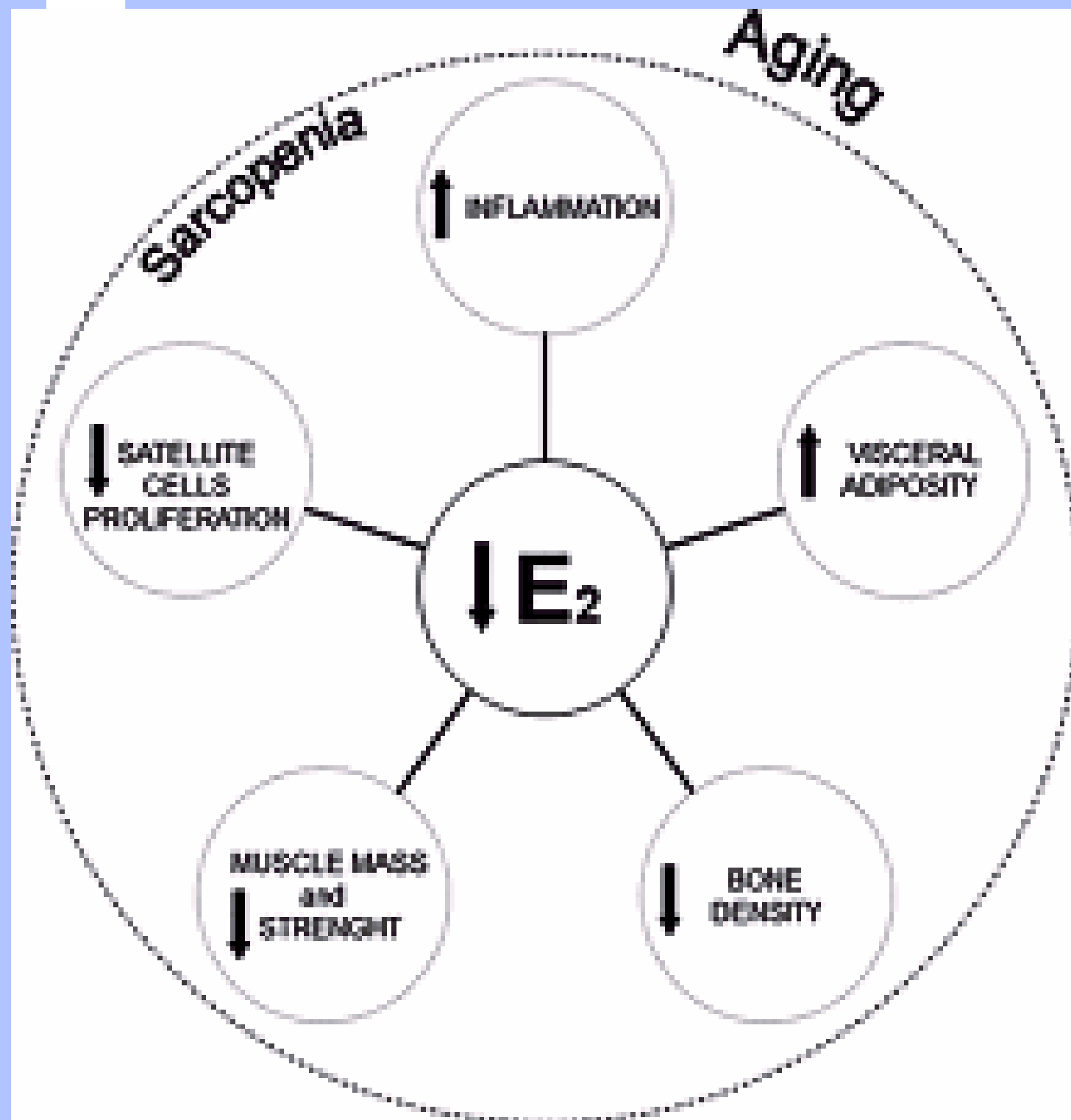


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MASA CORPORAL MAGRA Y SARCOPENIA

Disminucion por ende de calidad de vida



GRASA CORPORAL Y DISTRIBUCIÓN



Premenopause **Perimenopause** **Postmenopause**
Gynoid fat distribution Intermediate fat distribution Android fat distribution

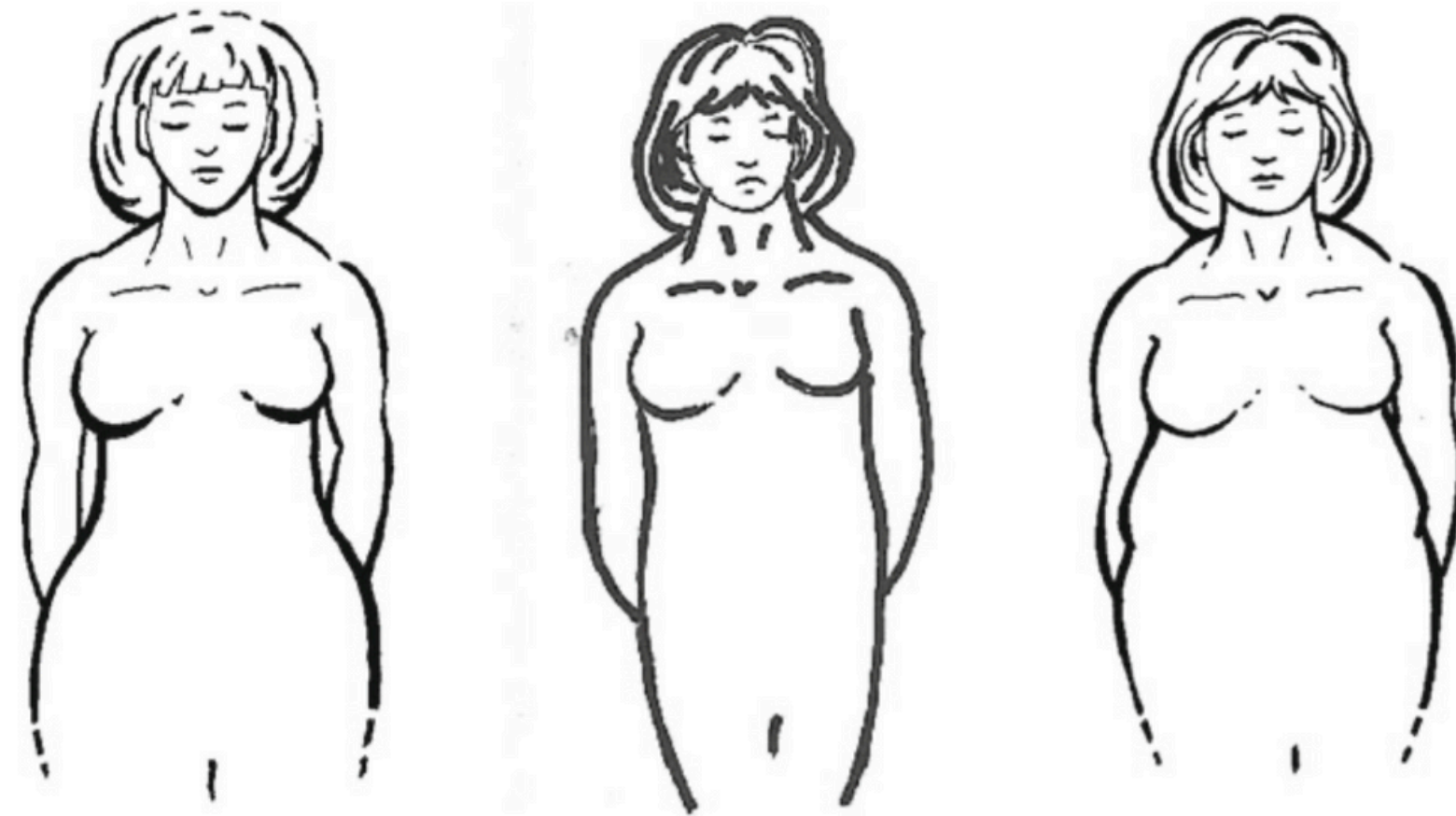


Fig. 2.7 Changes in fat distribution patterns during menopausal transition

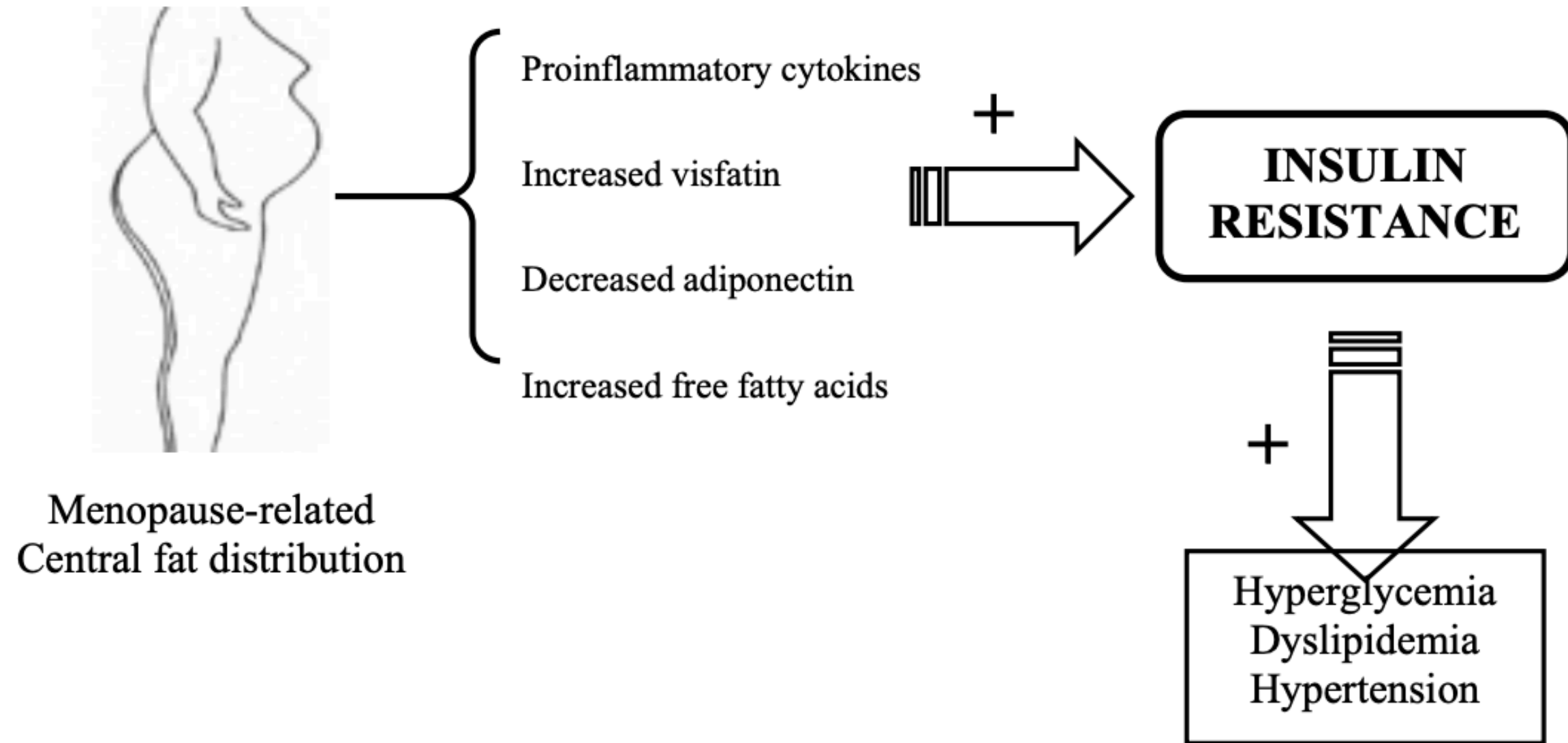
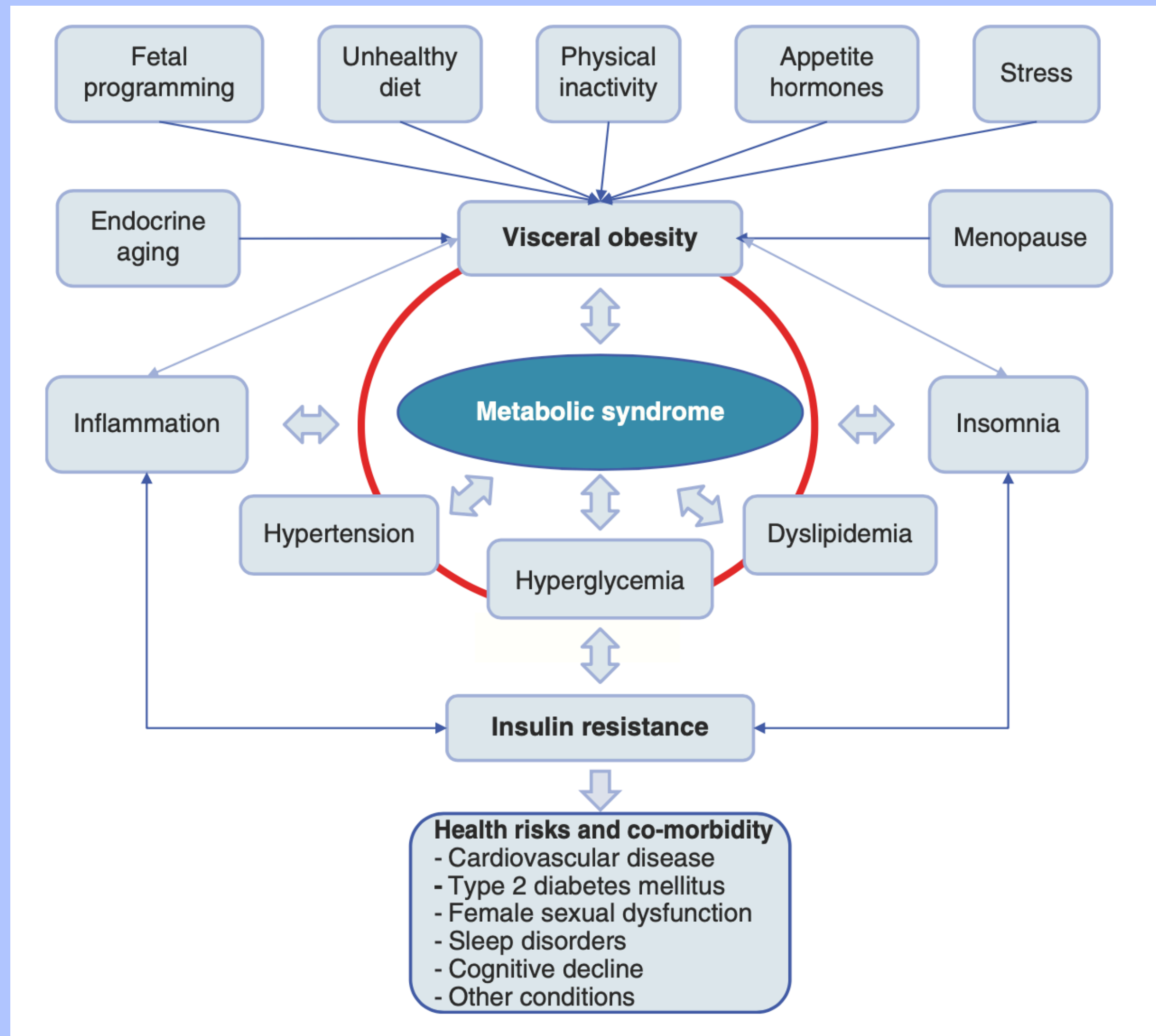


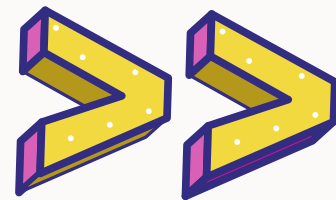
Figure 2: A summary of the major pathogenetic mechanisms underlying the relationship of menopause with metabolic syndrome.



GASTO CALORICO

1

disminucion de
la actividad
fisica

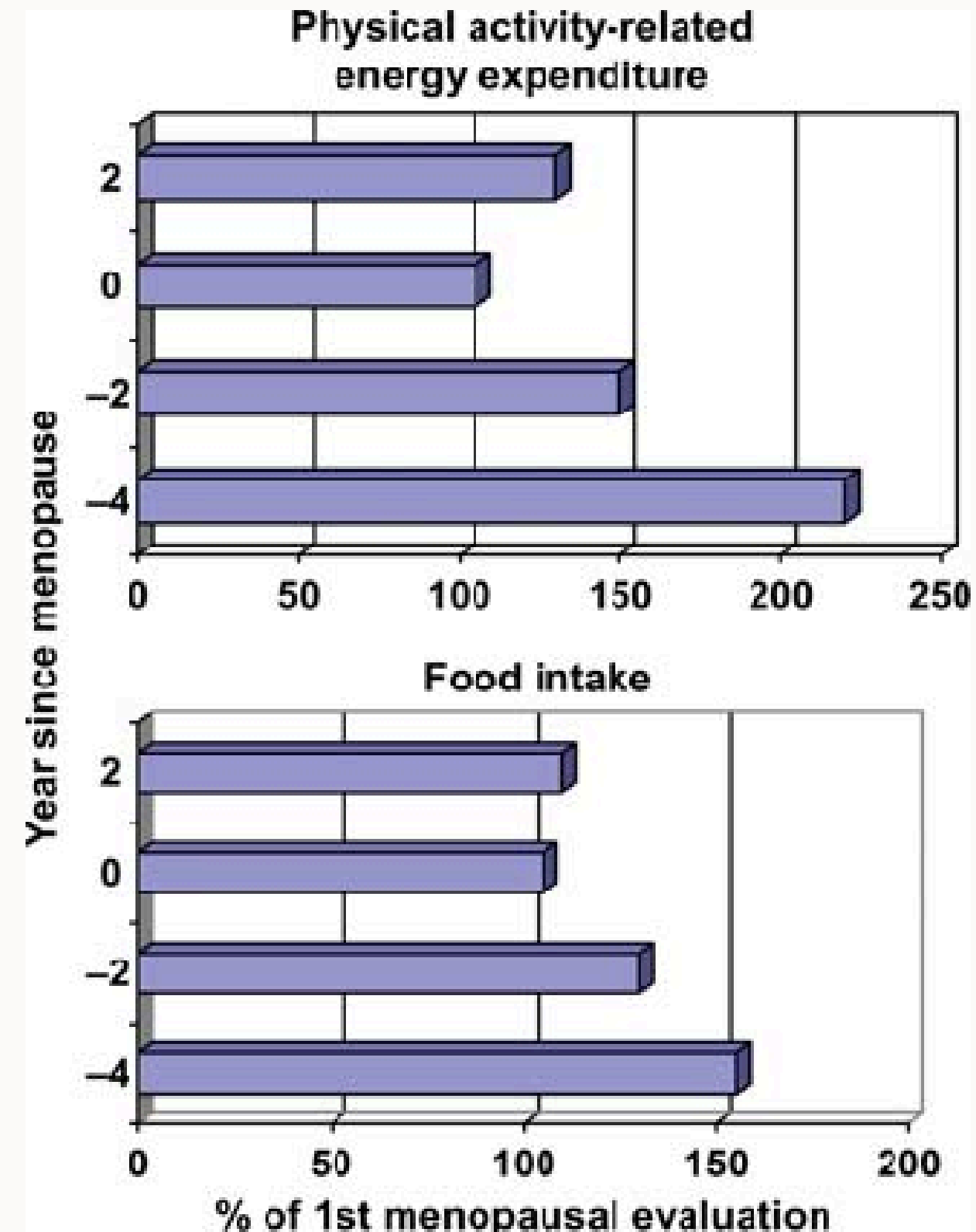


2

disminucion de
la ingesta

3

cambio
oxidación
grasas?



*caída en la tasa
metabólica y la
oxidación de grasas,
independiente de los
cambios en la masa
corporal magra*

MICROBIOMA

estroboloma

*modular la circulación
enterohepática de los
estrógenos*

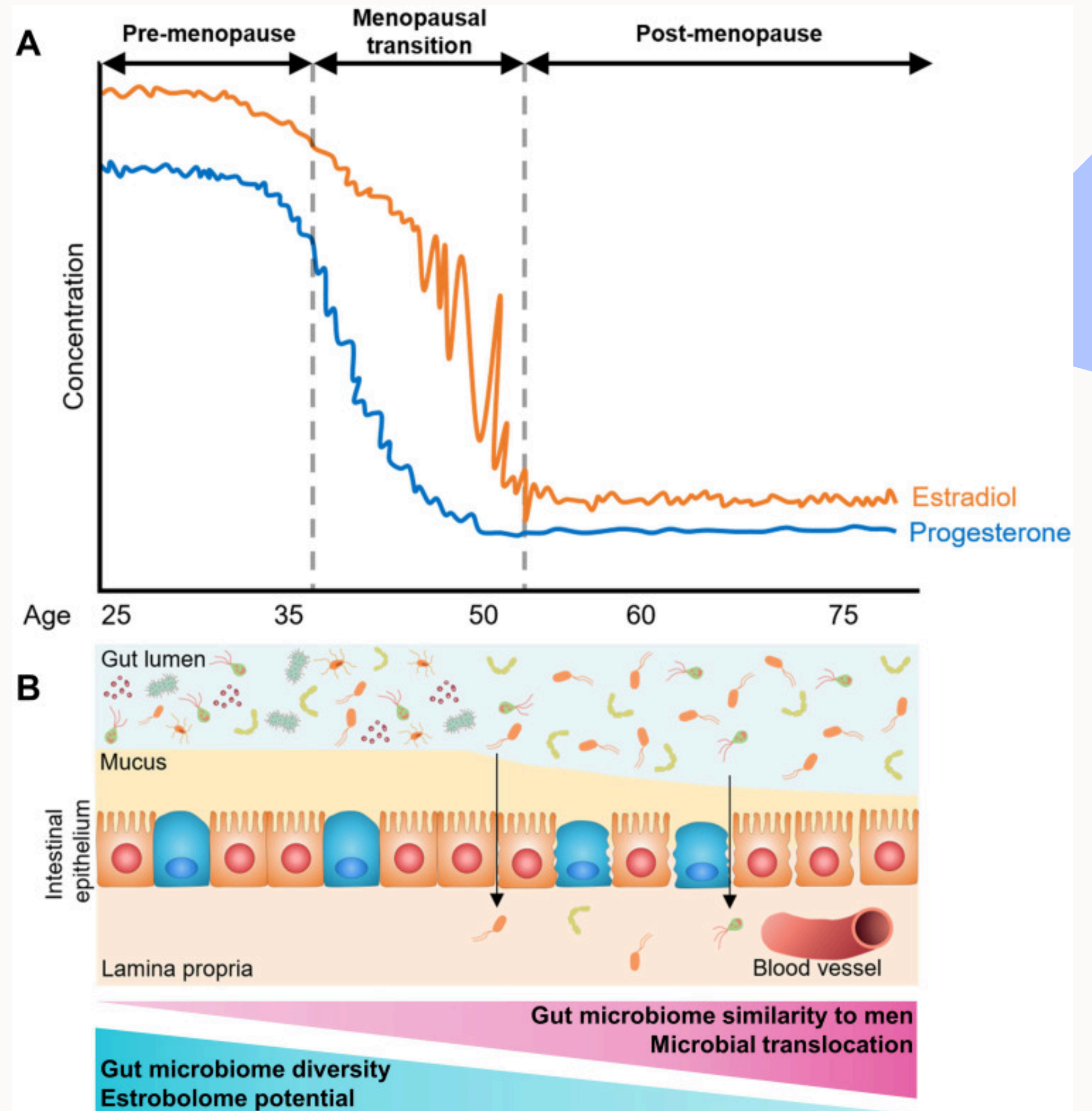






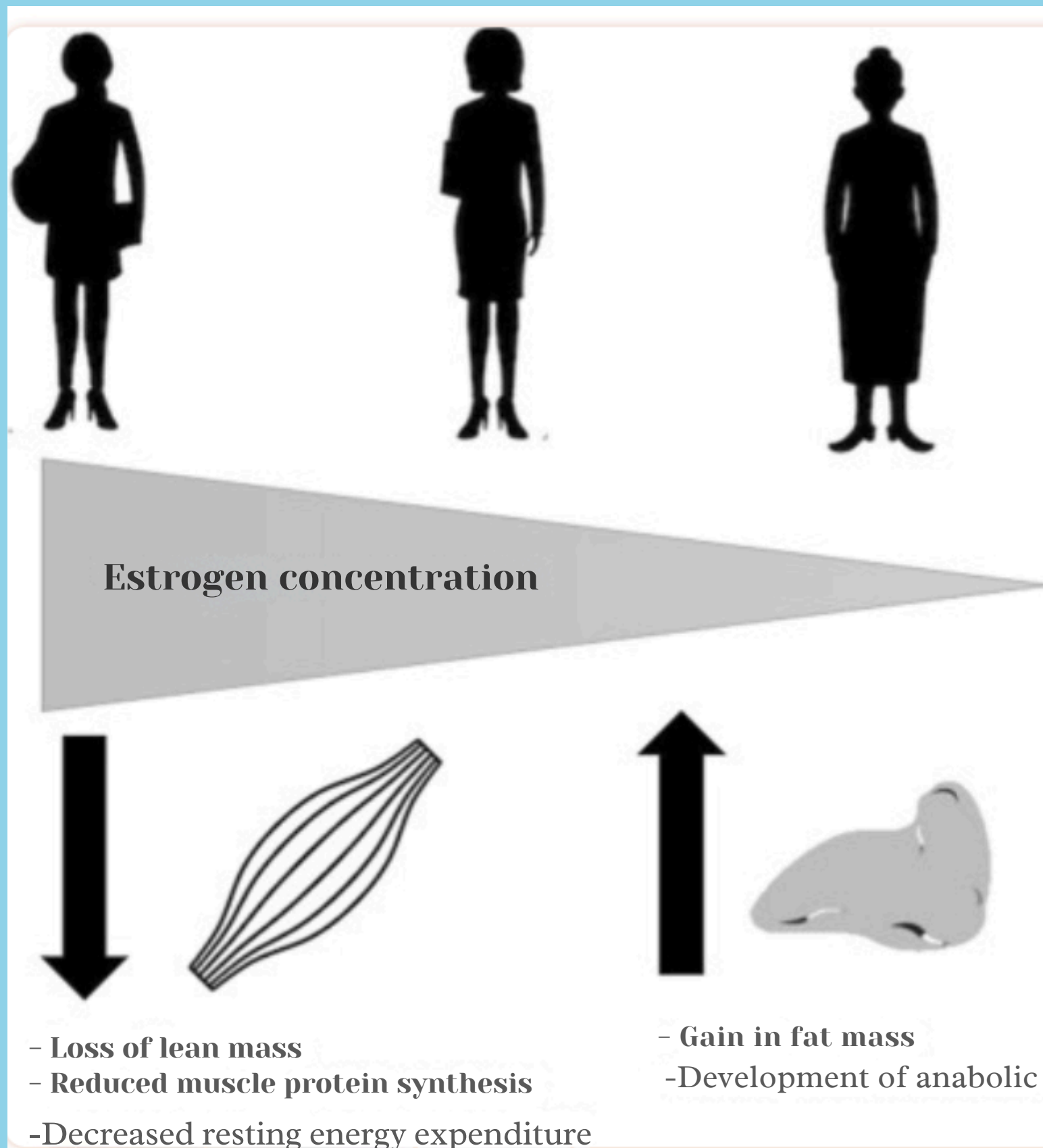
Table 13.4 Recommended amount of physical exercise in the postmenopausal population (Adapted from [36])

Physical activity recommendations
At least 150 min of moderate-intensity aerobic physical activity or at least 75 min of vigorous-intensity aerobic physical activity throughout the week
Aerobic activity should be performed in bouts of at least 10 min duration
Muscle-strengthening activities should be done involving major muscle groups on 2 or more days a week

Table 13.5 Beneficial exercise programs for cardiovascular conditioning and body composition improvement in menopause

Type of exercise	Frequency	Intensity	Duration (min)	Reference
Walking	Daily	40–60% maximal heart rate	45–60	Ma et al. [37]
Swimming	3–4 times/week	Mild	30–60	Nualnum et al. [38]
Running	3–4 times/week	40–60% maximal heart rate	20–40	Williams [39]
Resistance training	3–4 times/week	50% maximal heart rate	45–60	Conceicao et al. [34]

CONSEJOS



Nutritional Targets

Protein intake
Minimum of 1.6 g/kg/day

Essential Amino Acids
3-9 grams per day

Carbohydrate to Protein Ratio
2:160 g carbohydrate to 30 g protein

Protein Timing
Consumption of protein pre-post exercise



La menopausia y el envejecimiento se asocian de forma independiente con el aumento de peso, la adiposidad central y la sarcopenia, condiciones que aumentan el riesgo de enfermedad crónica y discapacidad.

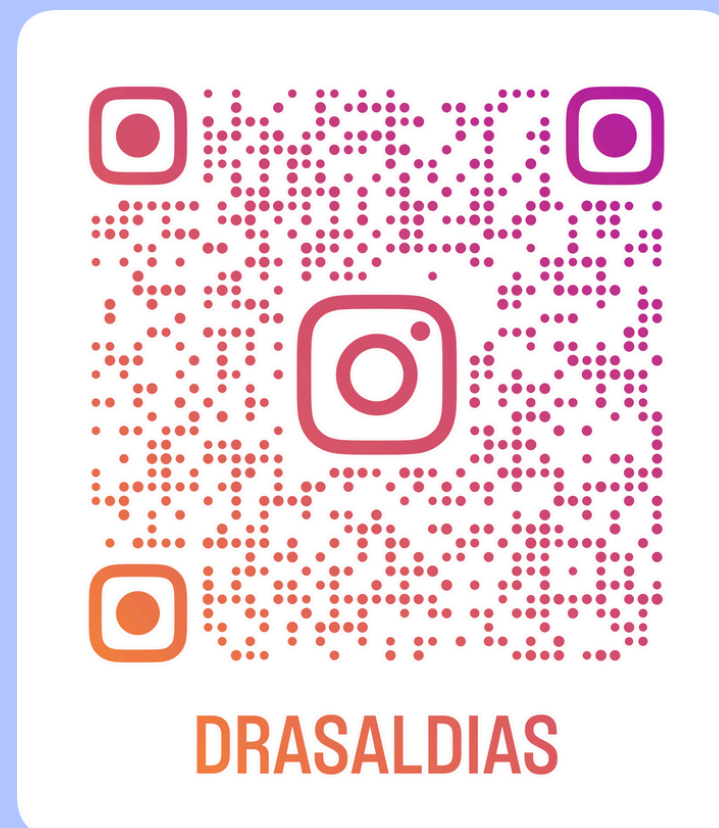
Este riesgo puede reducirse drásticamente mediante modificaciones apropiadas del estilo de vida, que consisten en:

- Consumo de productos integrales, frutas y verduras combinados con suficiente ingesta de proteínas de pescado, huevo y productos lácteos
- Actividad física incorporada en la rutina de un individuo que consiste en al menos 150 minutos de actividad moderada o 75 minutos de ejercicio de actividad vigorosa por semana

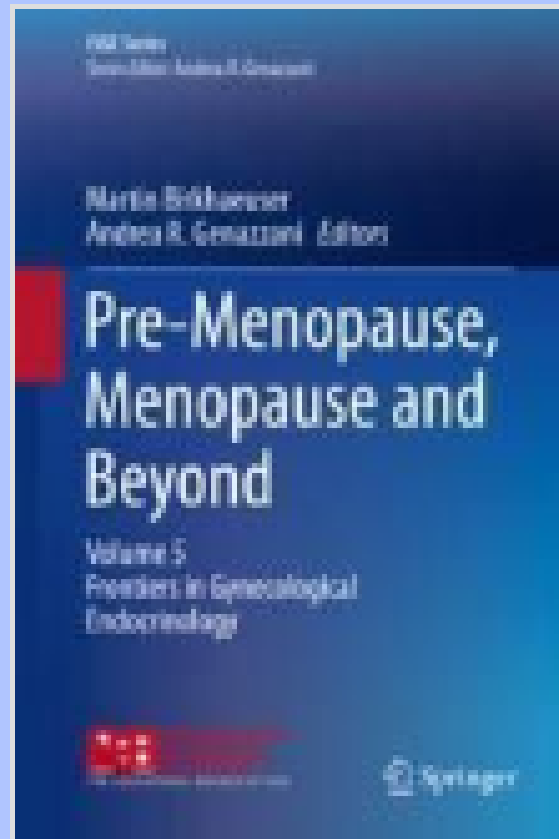
“ El poder no está en los
hábitos sino en cuánto
tiempo se mantienen estos.”



 Médico Nutrióloga
Dra. Saldias



@drasaldias



Pre-Menopause, Menopause and Beyond

This volume represents an up-to-date overview on pre-Menopause and Menopause, with their respective...

link.springer.com

Cano, A. (2017). Menopause: A Comprehensive Approach. Springer.

Martins, R. A. et al. (2023). "The effects of exercise training on body composition in postmenopausal women: a systematic review and meta-analysis". Frontiers in Endocrinology, 14, 1183765.

Zhou, W., et al. (2022). "Effect of Whey Protein Supplementation in Postmenopausal Women: A Systematic Review and Meta-Analysis". Nutrients, 14(4210), 1–15.

Park, H. M., & Park, E. (2020). Menopause-Associated Lipid Metabolic Disorders and Foods Beneficial for Postmenopausal Women. Nutrients, 12(2), 202.

