

2005

1.6 milliárd

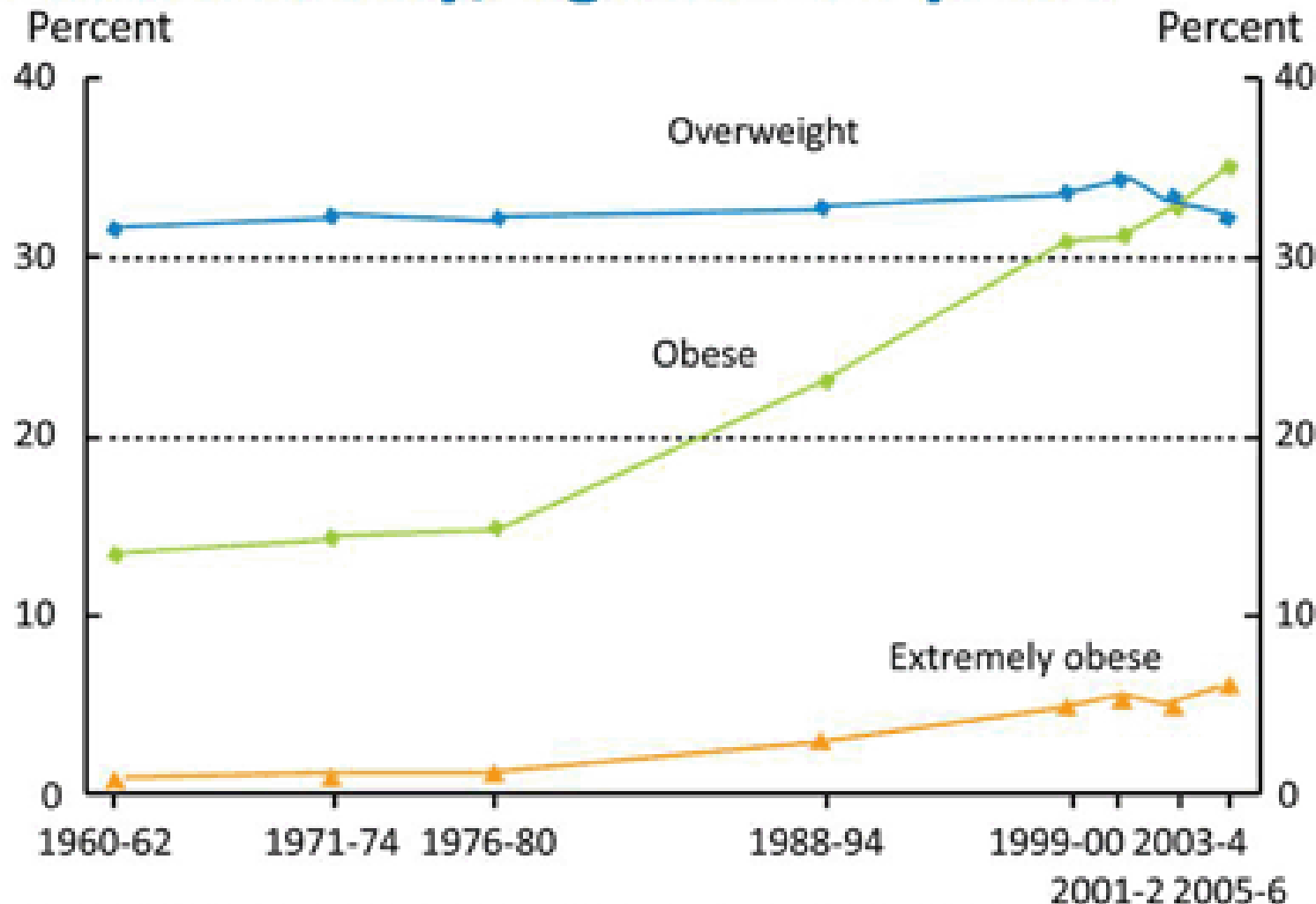
0.4 milliárd

2015

2.7 milliárd

0.7 milliárd








Trends in Overweight, Obesity, and Extreme Obesity, Ages 20-74 years

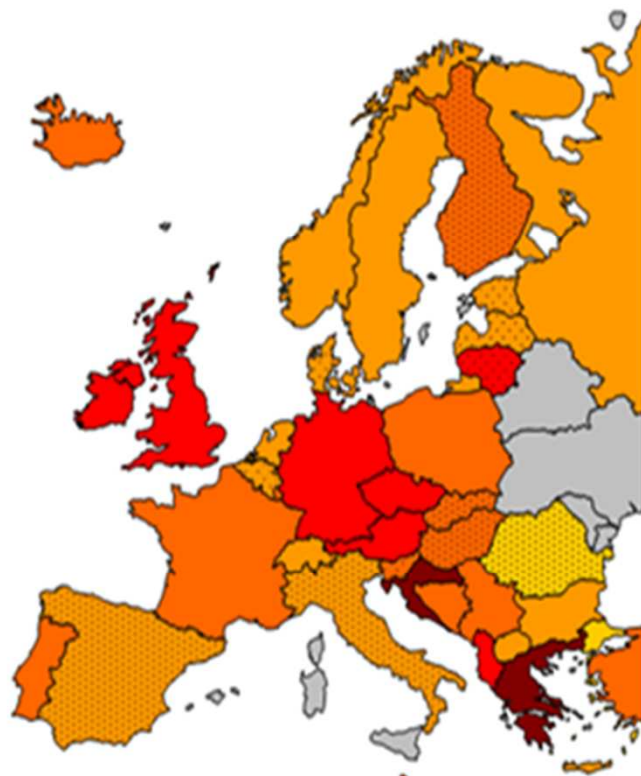


Age-adjusted by the direct method to the year 2000 US Bureau of the Census using age groups 20-39, 40-59, and 60-74 years. Pregnant females excluded. Overweight defined as $25 \text{ kg/m}^2 \leq \text{BMI} < 30 \text{ kg/m}^2$; obesity defined as $\text{BMI} \geq 30 \text{ kg/m}^2$; extreme obesity defined as $\text{BMI} \geq 40 \text{ kg/m}^2$.

CDC/NCHS. http://www.cdc.gov/nchs/data/hestat/overweight/overweight_adult.pdf

Medscape CME

Elhízási (%)	
	< 5 %
	5-9.9%
	10-14.9%
	15-19.9%
	20-24.9%
	≥ 25%
	Önbevallás

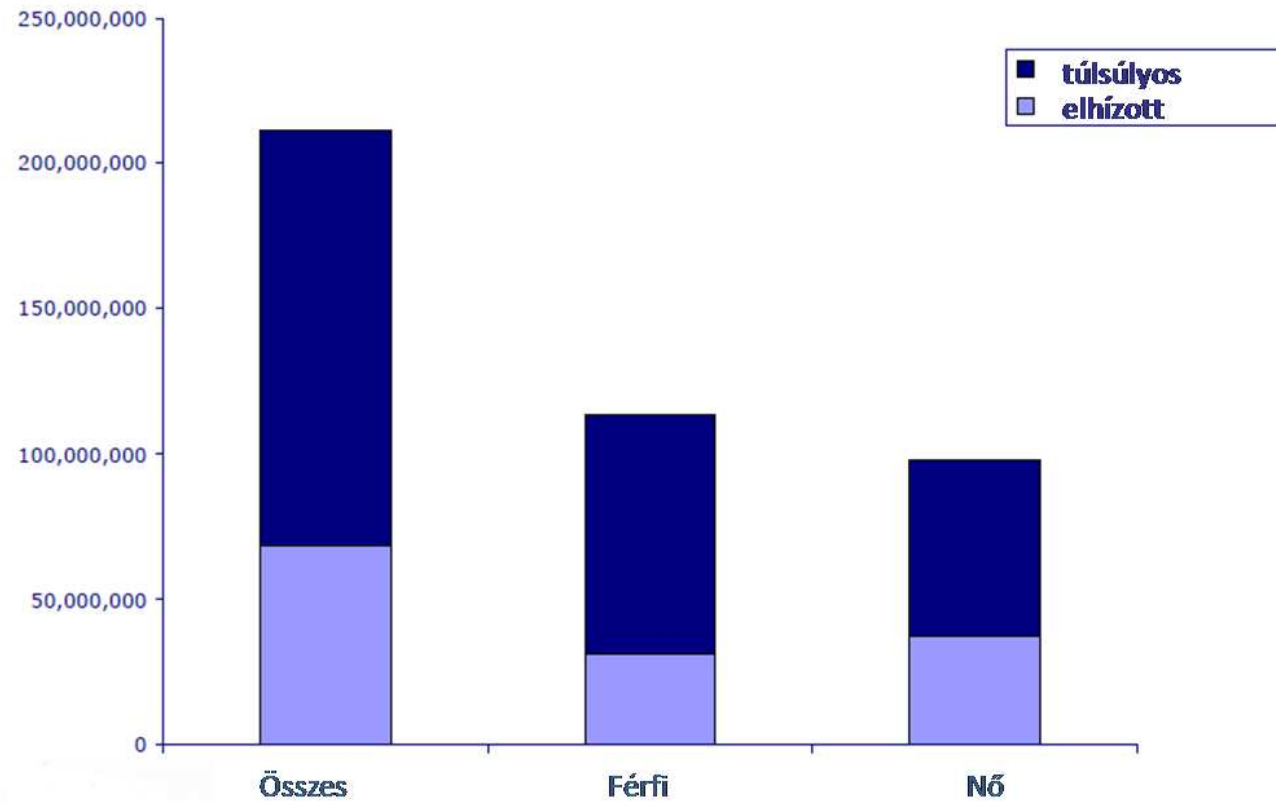


Férfiak

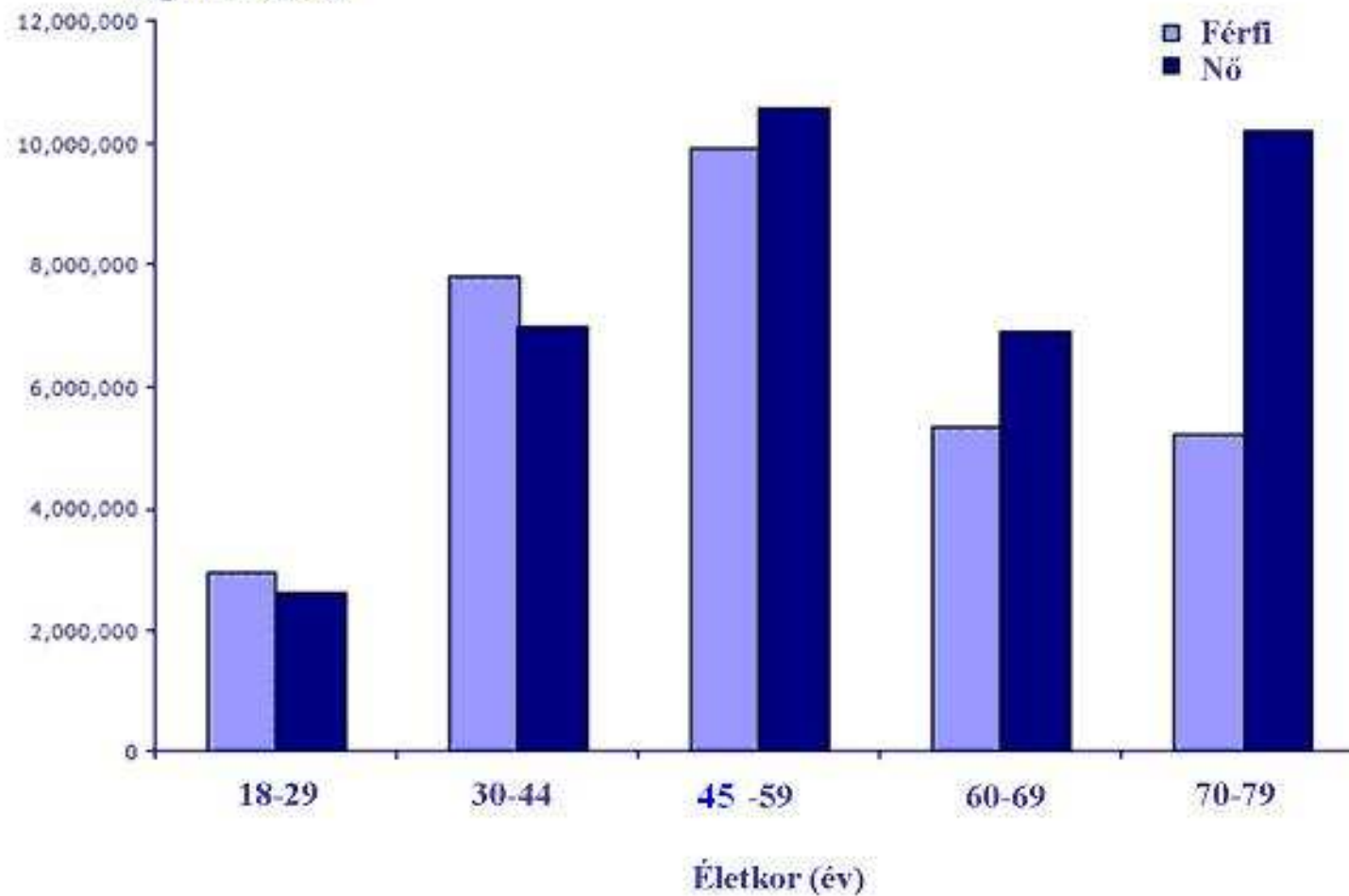


Nők

Túlsúly (BMI 25-29.9 kg/m²) és az elhízás (BMI =>30 kg/m²) előfordulása az EU 27 tagállamokban felnőtteknél



Az elhízottak (BMI \geq 30 kg/m²) száma különböző életkorokban az EU 27 tagállamokban



- A. Increases in insulin resistance
 - 1) Glucose intolerance
 - 2) Metabolic syndrome
 - 3) Type 2 diabetes mellitus
- B. Hypertension
- C. Dyslipidemia
- D. Abnormal left ventricular geometry
 - 1) Concentric remodeling
 - 2) Left ventricular hypertrophy
- E. Endothelial dysfunction
- F. Increased systemic inflammation and prothrombotic state
- G. Systolic and diastolic dysfunction
- H. Heart failure
- I. Coronary heart disease
- J. Atrial fibrillation
- K. Obstructive sleep apnea/sleep-disordered breathing
- L. Albuminuria
- M. Osteoarthritis
- N. Cancers

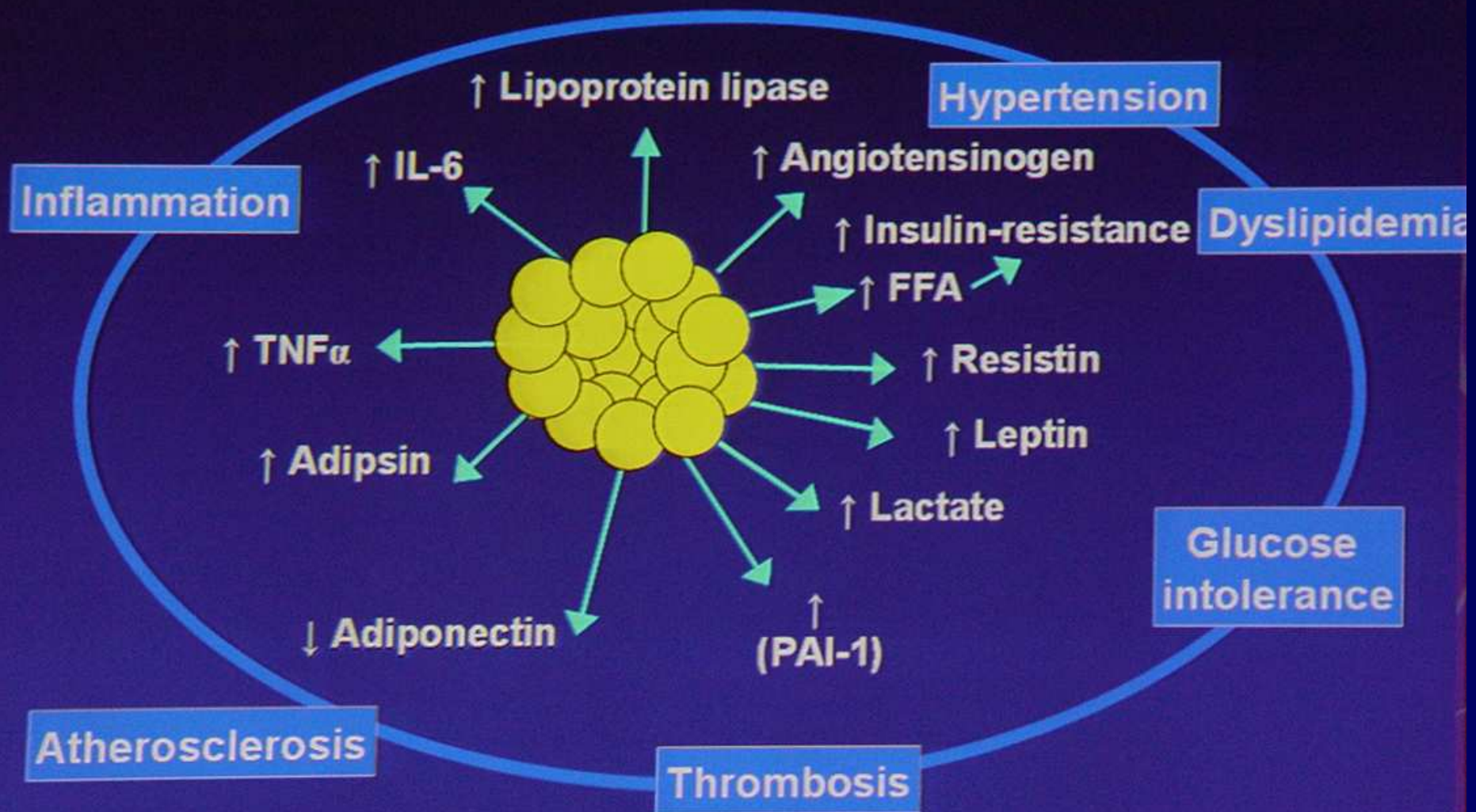
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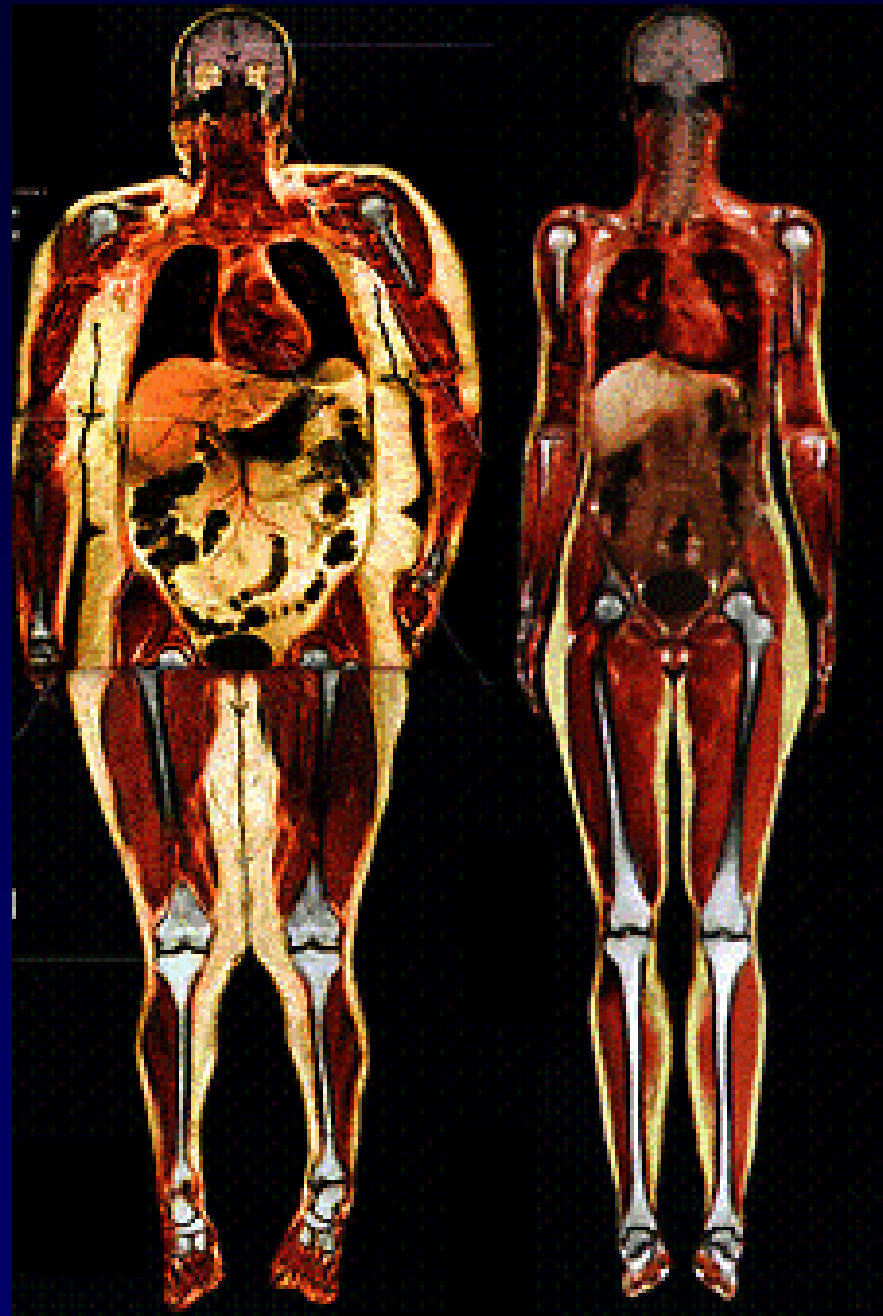
TESTTÖMEG INDEX (kg/m²)

26 27 28 29 30 31 32 33 34 35

Összmortalitás (vs BMI <19)		60%		110%				120%		
Szív eredetű halálozás (vs BMI <19)		210%		360%				480%		
Daganatos halálozás (vs BMI <19)			80%					110%		
2-es típusú diabetes (vs BMI 22-23)		1480%		2660%		3930%		5300%		
Magas vérnyomás (vs BMI <23)		180%		260%				350%		
Degeneratív arthritis (vs BMI <25)								400%		
Epekő (vs BMI <24)		150%						270%		
Neonatalis idegrendszeri károsodások (vs BMI 19-27)								90%		

Adverse cardiometabolic effects of products of adipocytes



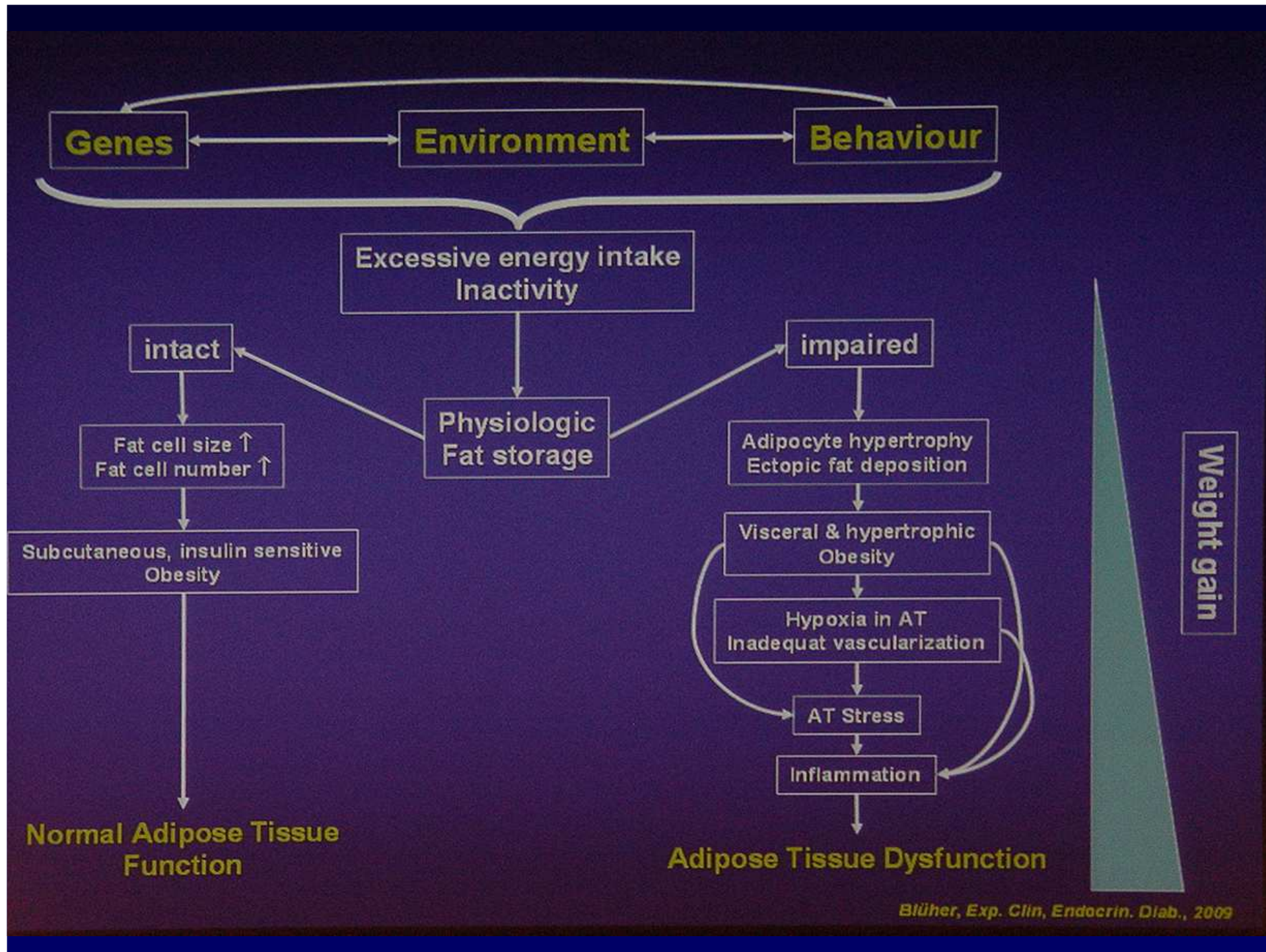


Zsigeri zsirszövet

Nagy volumenű gömb alakú adipocytá
Nem érzékeny az insulin adipogenetikus hatására
Kifejezett a lipolitikus hatás , FFA kiáramlást segíti
Elősegíti az FFA áramlását a máj felé
Több Il-6- és PAI-1 termelés
Több glikocorticoid receptor
Magas denzitású androgén receptorok

Szubcután zsirszövet

Kicsi adipocytá
Insulin szenzitiv sejt
Újratöltheti a visceralis zsirdepokat
Leptint termel
Adiponectin
Protektiv hatás (oestrogen)



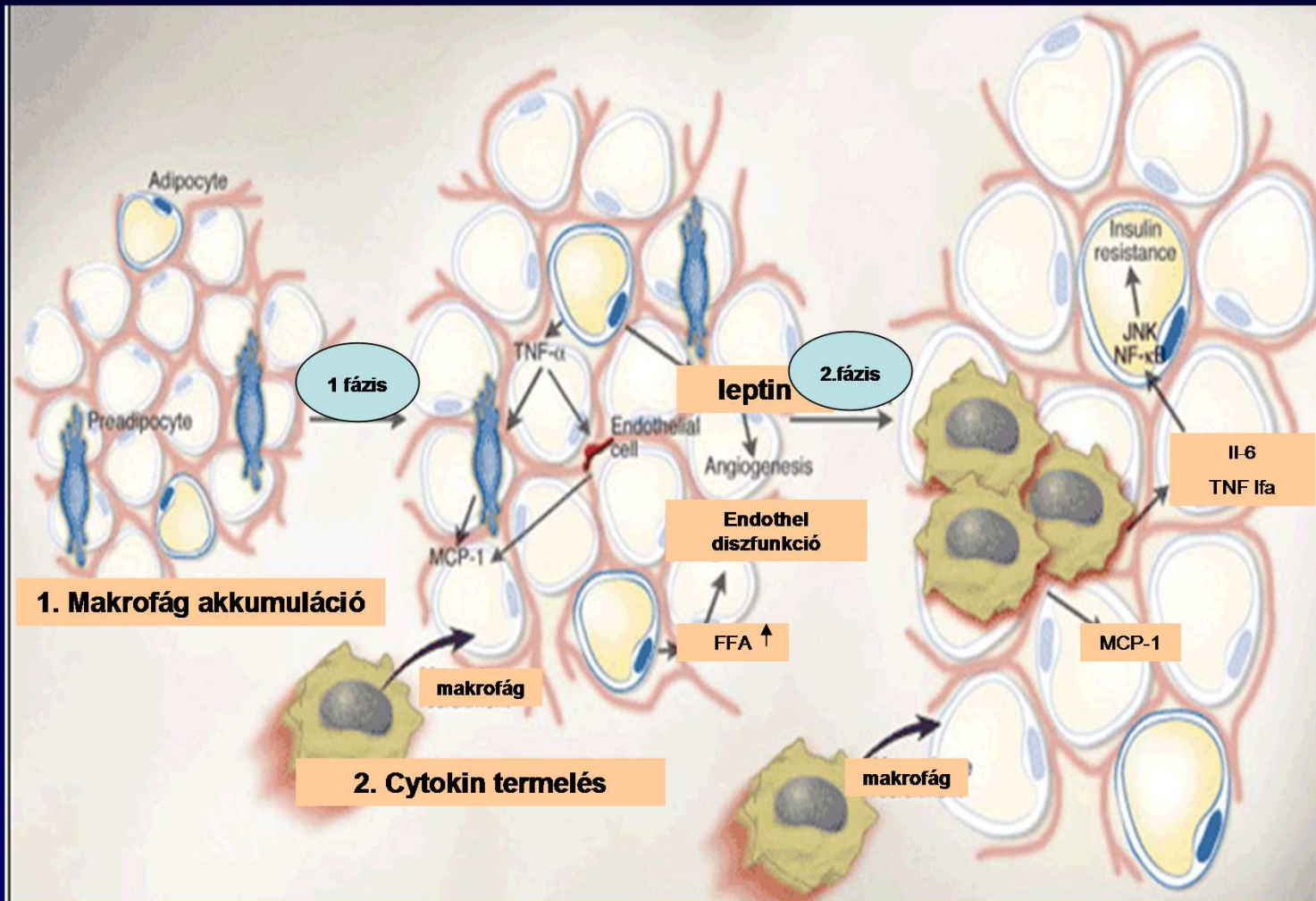
Factors involved in inflammation

α 1 Acid Glycoprotein,
Serum Amyloid A, PTX-3, 24p3
TNF α , IL-6, MCP-1

The Adipocyte: A "professional" secretory cell

Factors involved in energy homeostasis:

Adiponectin/Acrp30,
Leptin, RBP4, Resistin,
Adipsin, ASP

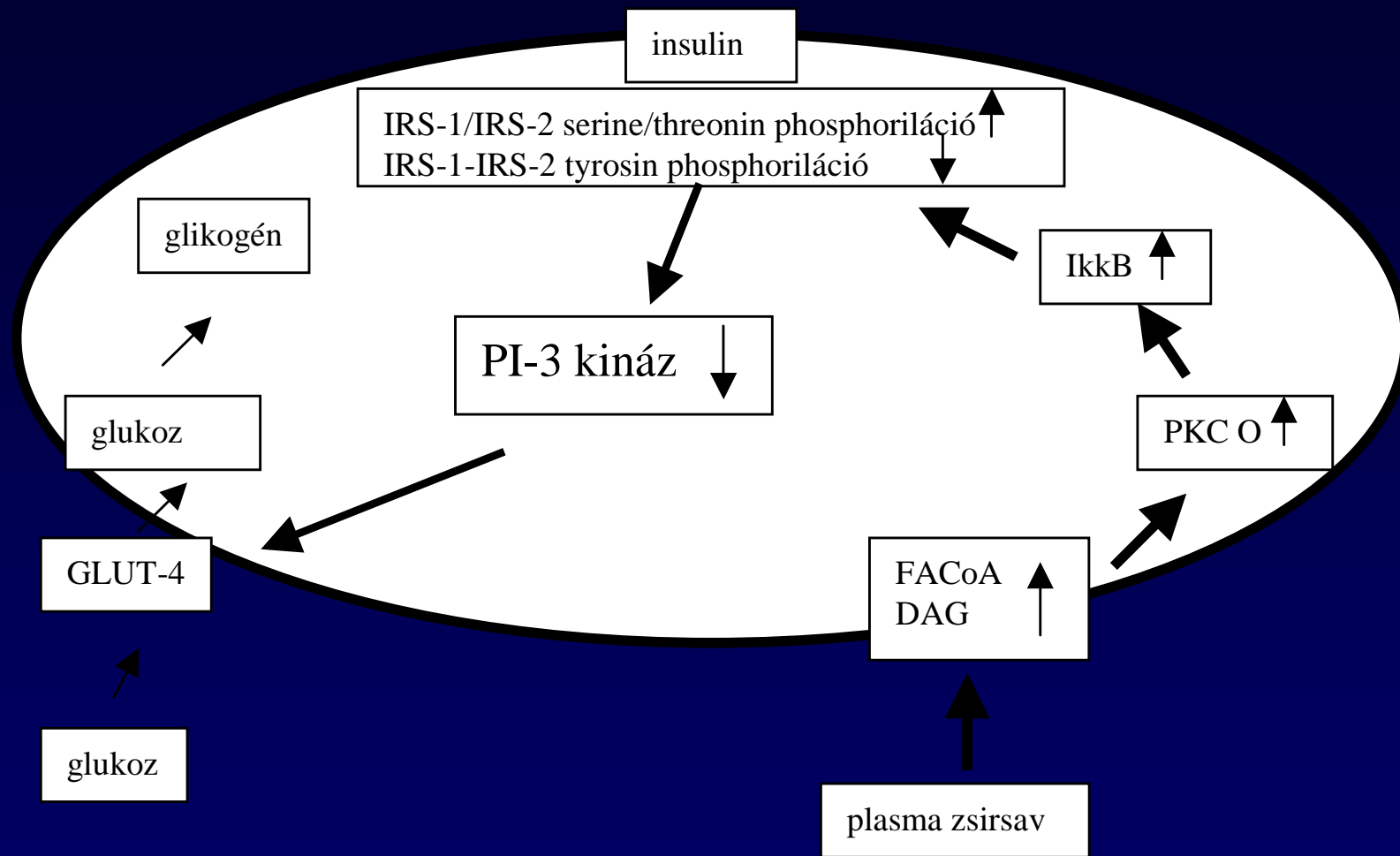


Adipose Tissue Products can Cause Insulin Resistance and Inflammation

Rocha, VZ &
Libby, P.
Thyroid 2008

TABLE 1. SECRETED ADIPOSE TISSUE FACTORS

<i>Adipose tissue products</i>	<i>Status in obesity</i>	<i>Comments</i>
Leptin	↑	Inhibits food intake; obesity characterized by resistance to leptin
Adiponectin	↓	Insulin sensitizer; antiinflammatory action
Resistin	↑	Induces insulin resistance. In humans secreted by macrophages
RBP4	↑	Might promote insulin resistance
Visfatin	↑	Insulin-mimetic action
Omentin (102)	↓	Insulin sensitizer. Likely secreted by SVC rather than adipocytes
TNF- α	↑	Induces insulin resistance
IL-6	↑	Induces insulin resistance
IL-1 β	↑	Together with IL-6, predicts risk for T2D
MCP-1	↑	Induces insulin resistance and promotes macrophage infiltration
CRP	↑	Proinflammatory. Increases the risk of CV events
MIF (103)	↑	Proinflammatory
PAI-1	↑	Fibrinolysis inhibitor. Increase risk of CV events



Diseases Associated With Obesity Secondary to Low-Grade Inflammation

- Osteoarthritis of the hands
- Asthma
- Heart disease
- Insulin resistance

MENOPAUSA ÉS OBESITAS

SWAN

Am J Epidemiol 2010; 171:1203

Reproduktív hormon status és BMI (életkor, etnikai jellemzők)

Jelenlegi: 9 éves követéses analízis (basalis és longitudinalis)

n= 4542 kor: 46 év pre- és perimenopausa

MENOPAUSA ÉS OBESITAS

< 30 kg/m² >

Nem OB#

OB

ESTRADIOL

>

SHBG

>

TESZTOSZTERON

<

SZABAD ANDROGÉN INDEX

<

FSH

>

DHEAS

>

#életkortól függetlenített értékek

MENOPAUSA ÉS OBESITAS

Longitudinális kapcsolat (obesitas és súlyos obesitas):

SZADAB ANDROGÉN INDEX NÖVEKEDÉSE

SHBG CSÖKKENÉSE

HORMONTERÁPIA

OOPHORECTOMIA

MENOPAUSA ÉS OBESITAS

POLICYSTAS OVARIUM SYNDROMA: LH EMELKEDÉS

ANDROGÉN EMELKEDÉS

SHBG ALACSONY

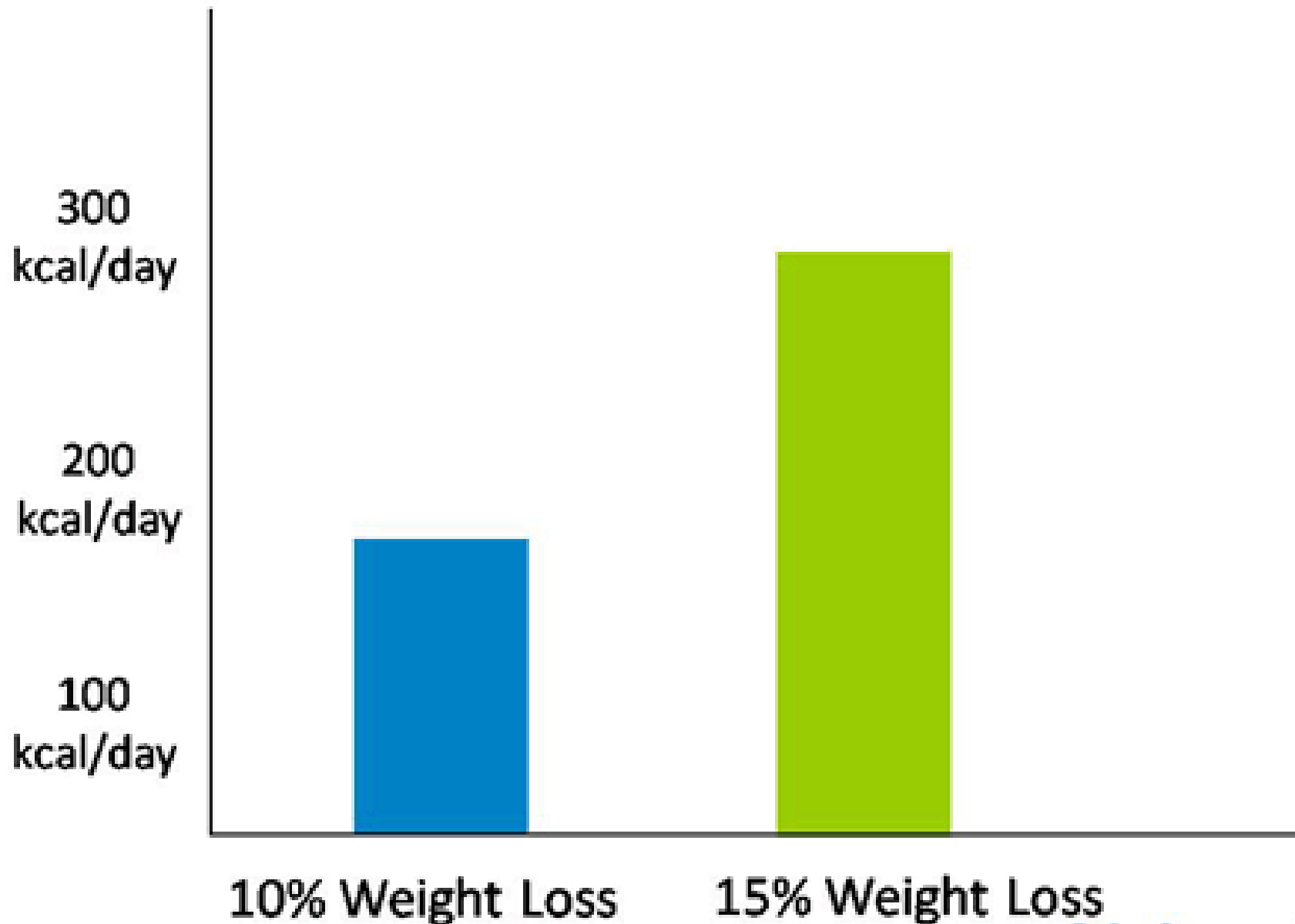
METABOLIKUS SZINDRÓMA
INZULIN REZISZTENCIA

CIRCULUS VITIOSUS:

ADIPOSITAS -- 17béta-hidroxiszteroid DH --- ANDROGÉN TERMELÉS

ANDROGÉN -- SHBG csökkenés, inzulin rezisztencia

Energy Gaps for Weight Loss



Successful Weight Losers and Maintainers

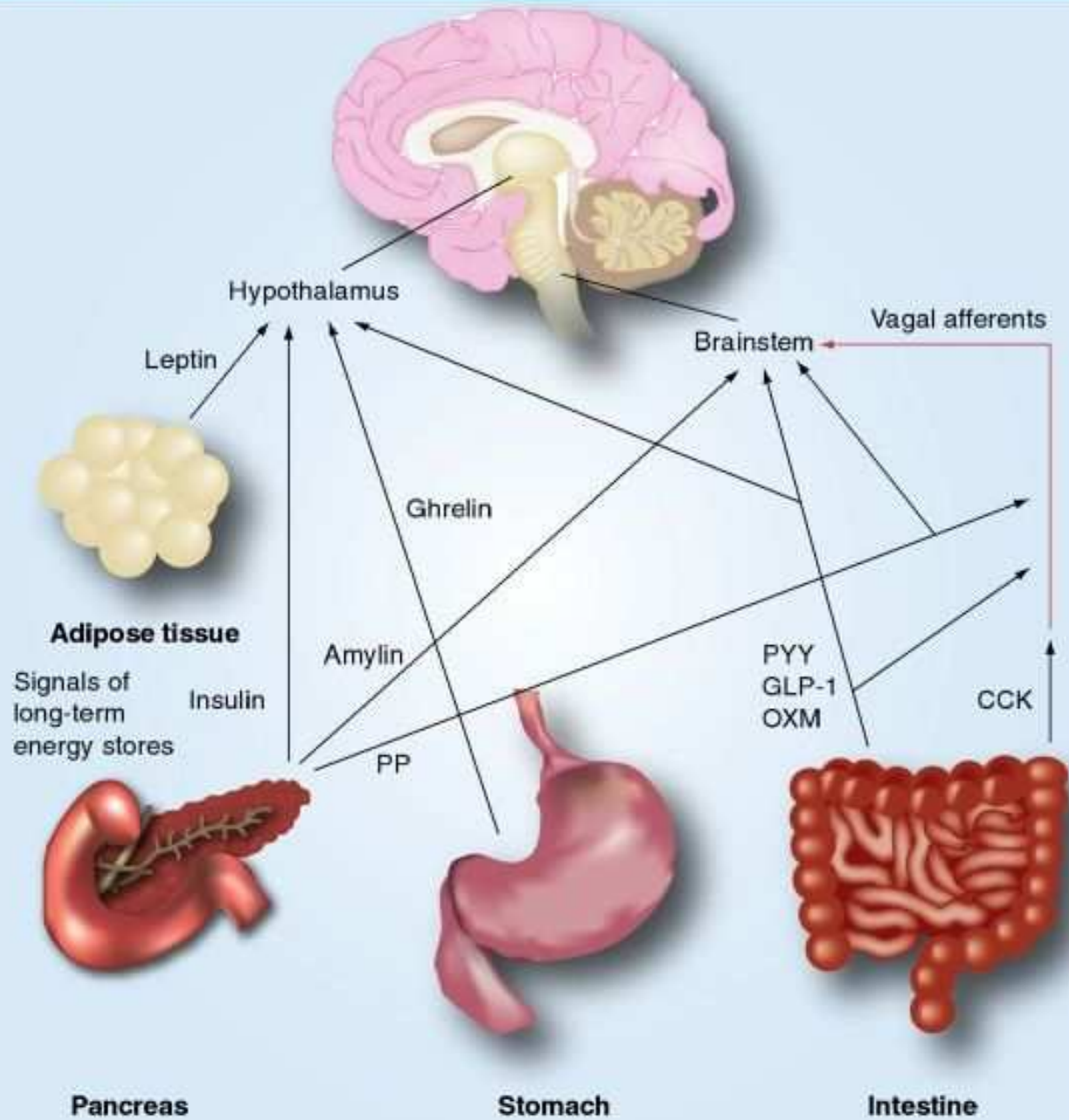
National Weight Control Registry

1-800-606-NWCR

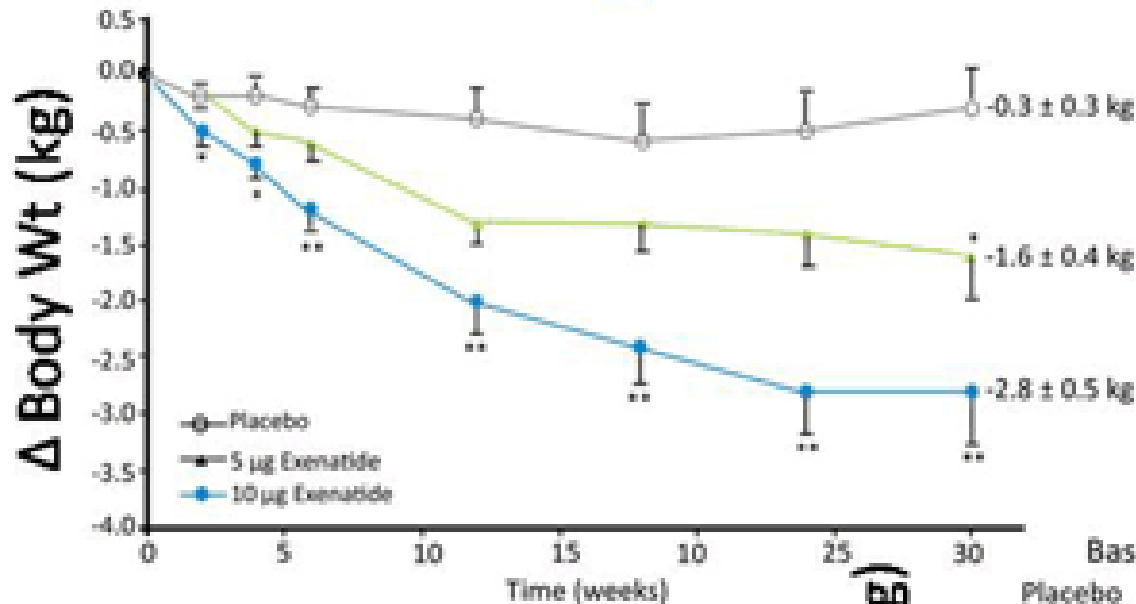
- 78% eat breakfast every day
- 75% weigh themselves at least once a week
- 62% watch less than 10 hours of TV per week
- 90% exercise, on average, about 1 hour per day

Average NWCR Registrant

- Over 5000 registrants (80% are women)
- Keeping off 66-lb weight loss for 5.5 years
- 45% lost weight on their own

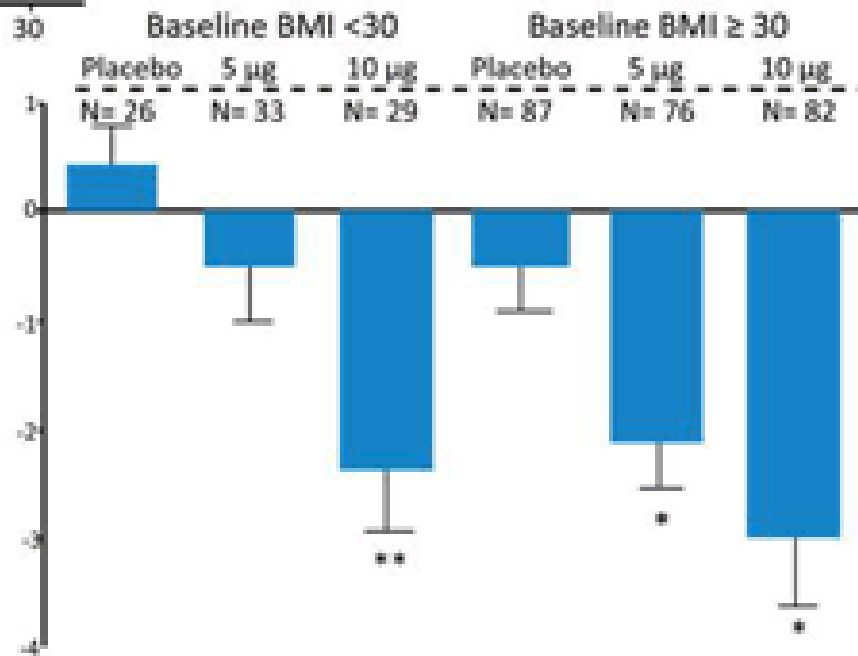


GLP-1 and Weight Loss



* $P \leq .05$ compared with placebo
 ** $P \leq .001$ compared with placebo

Δ Body Wt at Wk 30 (kg)



Changes in body weight (mean) from randomization to week 20*

Measure	Placebo	Liraglutide (mg)				Orlistat
		1.2	1.8	2.4	3	
Weight, kg	-2.8	-4.8	-5.5	-6.3	-7.2	-4.1

*Values are for full intention-to-treat population with last observation carried forward

